

Employment Conditions and Health Inequalities

Final Report to the WHO

Commission on Social Determinants of Health (CSDH)

[Employment Conditions Knowledge Network \(EMCONET\)](#)

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Preliminary notes:

Because of time constraints, not all members of EMCONET have seen the latest version of this document. A complete list of participants and institutions will be included into the Final Report and a larger version of this Report (Extended Report) to be prepared in the following months.

By and large, this study has followed the recommendations from the "Guide for the Knowledge Networks for the presentation of reports and evidence about the Social Determinants of Health" prepared by the Measurement and Evidence Knowledge Network (MEKN). In order to make this Report more understandable, part of its outcomes and findings have been structured in the form of messages, findings and references.

EMCONET has gathered a large number of case studies, examples, and experiences on many subjects and from many countries and locations. However, given constraints of time and length, some contents of this Report are not yet completed or need to be refined. Thus, important key issues such as sections on policies, conclusions and recommendations and other important country case studies are not fully included. Thus, only a selection of 26 case studies has been included in this Report. All case studies will be incorporated into the Extended Report. Likewise, important contributions and reviews from Civil Society Groups are still pending. All these contributions will be fully developed and completed in the Extended Report. Additionally, it is expected that data on a number of maps, tables and figures included in this Report will be updated in the Extended Report.

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Executive summary

The aim of this Report is to provide a rigorous analysis on how employment relations affect different population groups, and how this knowledge may help identify and promote worldwide effective policies and institutional changes to reduce health inequalities derived from these employment relations. Consequently, the report incorporates the political, cultural, and economic context to provide a comprehensive account of the current international situation of labour markets and employment conditions.

How inequalities in health are understood and approached by any society is a political issue. They can be accepted as the inevitable result of individual differences in genetic determinants, individual behaviours, or market transactions, or they can be seen as an avoidable outcome that needs to be remedied. Inequalities in health derived from employment are closely linked to other kinds of social inequalities including inequalities in wealth, political participation, and education. Thus, through regulating employment conditions, main political actors can not only redistribute resources affecting social stratification, but also have an impact on the life experiences of different social groups including opportunities for well-being, exposure to hazards leading to disease, and access to health care. Although there is abundant literature on specific employment and working conditions and health, the literature rarely focuses directly on the important role played by employment conditions as a key social determinant in shaping health inequalities. This report is a contribution toward filling these gaps in knowledge, hoping that a better understanding of these mechanisms will facilitate the task of making well-informed political decisions over such a crucial issue.

Employment conditions and working conditions are two different yet interrelated issues. The former constitutes the relationship between an employer that hires workers who perform labour to sell a profitable good or service, and an employee who contributes with labour to the enterprise, usually in return for payment of wages. Some important elements of employment conditions are the power relations between employers and employees and the level of social protection that employees can count on. In developed countries, employment conditions are often subject to the provisions of the law or a contract of hire. In these societies, the government is often the largest single employer, but most of the work force is employed in small and medium businesses in the private sector. In developing and poor countries, however, most employment agreements are not explicitly subject to any formal contract, and a high proportion of total employment is in the informal economy. On the other hand, working conditions are related to the tasks performed by workers, the way the work is organised, the physical and chemical work environment, ergonomics, the psychosocial work environment, and the technology being used.

Because employment conditions greatly vary greatly in nature, both within and between countries, the analysis that we present here is based on a classification of the employment conditions into "dimensions" of global scope, thus incorporating: unemployment, precarious employment, informal employment and informal jobs, child labour, and slavery/bonded labour. In addition, a new dimension called "fair employment", a term that complements the International Labour Organization's concept of "decent work", has also been included. Fair employment implies a just relation between employers and employees that requires that certain features be present: (1) freedom from coercion; (2) job security in terms of contracts and safe employment conditions; (3) fair income; (4) job protection and the availability of social benefits including provisions that allow harmony between working life and family life, and retirement income; (5) respect and dignity at work; (6) workplace participation; and (7) enrichment and lack of alienation.

The approach to methods used in this report, although including systematic reviews of the scientific and grey literature available on the topic, tries to overcome the major limitations of systematic reviews by using a "realist perspective" based on two main approaches: transdisciplinary knowledge and theory building. Reaching a comprehensive

understanding of worldwide employment dimensions associated with health inequalities is such a complex and challenging task that a transdisciplinary approach is necessary. The second approach aims at clarifying concepts and creating a theoretical model (presented in the report in two frameworks) that shows the interaction between key employment dimensions, social mechanisms, and health inequalities outcomes in multilevel contexts.

A first "macro" framework in the model refers to power relations, labour markets, and welfare state pathways. It incorporates the dimension of power over the labour market, in government and in civil society, its ensuing labour market characteristics such as labour regulations, collective bargaining, and the power of trade unions, as well as the level of development of the welfare state, that is, the extent to which the state exerts its distributive power through the implementation of social policies. This framework implies that workers' welfare depends on both the functioning of the labour market and the social protection policies implemented by the state, modifying social stratification and therefore social inequalities. A second "micro" framework refers specifically to employment conditions, working conditions, and health inequalities, including direct and indirect pathways to individual health outcomes. This conceptual framework provides a tool for assessing the potential links between employment dimensions and health inequalities through a number of behavioural, psychosocial, and physiological pathways. Material deprivation and economic inequalities, exposures which are closely related to employment conditions (e.g., poor nutrition, poverty, inadequate housing, physical environment, etc.), may also have an important effect on chronic diseases and mental health via several psychosocial factors, life-style behaviours, and physio-pathological changes, as well as through access to health care and health systems.

Based on this theoretical model, and as a response to the need for dealing with the complex differences across the world economy, institutional arrangements, levels of inequality and labour market and welfare regime's functioning, we developed a typology of countries based on prevailing employment relations. This typology offers valuable information for the analysis of labour market regulations in the world system and it is a key piece of work to shed light into the global scenario of employment conditions. The typology shows that the clustering of countries according to labour market characteristics varies greatly between peripheral and semi peripheral countries on one hand and OECD countries, on the other. Semiperipheral countries are characterised by growing informality in their labour markets but they maintain some degree of stability and rule of law in labour market transactions, which approximates them to wealthier OECD countries. Some of them such as Chile have developed their own forms of welfare state institutions as well. Peripheral countries represent another level of labour market instability altogether. They range from high levels of informal work to severe labour market insecurity where the rule of law or labour market protections are sometimes impossible due to wars, political instability, authoritarian regimes and foreign interventions.

The health effects of particular work arrangements must be viewed in an historical context. Key influences affecting changes to employment dimensions over the past thirty years have been the growing influence of powerful corporations and abandonment of Keynesian economic policy and social compacts in favour of a neo-liberalism that places microeconomic rationality as the validating criterion for all aspects of social life and thereby universalises market dependence in society. In developed countries, the outcomes of these changes have been a reduced welfare net for the unemployed and disadvantaged; job losses; growth in job insecurity and precarious employment; a weakening (in practice) of regulatory protections and the historical re-emergence of an informal or black economy, including home-based work and some child labour. The impact has been complicated by increased female workforce participation and an ageing population in these countries. In developing and poor countries, the dominance of neo-liberalism has translated into a new model of economic development oriented toward productivity and supply of products to global markets (including "race to the bottom" working conditions to attract overseas capital and the use of corporate "friendly" low regulatory special export zones)

irrespective of the effects on the local economy, employment levels, rural dislocation and social and environmental sustainability. Budget cuts in the public sector have had significant implications for education, health expenditure, and economic inequality which in turn affects health. The formal economy has experienced downsizing/job insecurity and outsourcing analogous to those in developed countries while the already substantial informal economy, exempt from most forms of social protection, has grown in many instances. Elaborate supply chains obfuscate the ultimate producer of goods and services in ways that help perpetuate work arrangement that often bear a close parallel to the exploitation of vulnerable workers (women, children and foreign-born workers) in developed countries over 100 years ago. Corporate interests; predominantly neoliberal policy instruments like the World Bank, World Trade Organisation, and International Monetary Fund, and the governments of some developed countries (providing aid) have in general not been sympathetic to the expansion or upgrading of social protection frameworks within developing countries.

Worldwide, unemployment remained at a historical high in 2006 despite strong global economic growth. Thus, growth failed to reduce global unemployment and even with continued strong global economic growth in 2007 there is serious concern about the prospects for fair job creation and reducing working poverty further. Without job opportunities or coverage by unemployment compensation, substandard work arrangements, mostly underpaid, are the only way to survive. Indeed, the working poor constitute around 25 per cent of the employed labour force in all developing and poor countries. In other words, one in every four employed persons belongs to a poor household. In addition, over the past two decades employment in the informal economy has risen rapidly in all regions of most mid- and low-income countries. Even before the Asian crisis of the late '90s, the share of informal economy in the non-agricultural workforce ranged from over 55 per cent in Latin America to 45-85 per cent in Asia and 80 per cent in Africa. A feature of informal employment is the lack of any statutory regulation to protect working conditions, wages occupational health and safety, or injury insurance. They also are less unionized or have limited access to the existent labour organizations. This situation is especially worrisome if one looks to the state of child labour and slavery, forced, and bonded labour, most of who are women and girls. Worldwide, 317 million children aged 5-17 are economically active and 218 are child labourers; of these, approximately 126 million are engaged in hazardous work. Globally, it is estimated that there are 27.9 million victims of slavery, and that 5.7 million children are in forced or bonded labour.

The consequences of these employment conditions for health and health inequalities are pervasive and should be incorporated in all decisions regarding labour markets and countries' patterns or strategies for economic growth. Indeed, pathways linking labour market situations to health outcomes can be identified both at the macro level and for every individual employment dimension. At the macro level, we have found that there is a strong association between labour market inequality and unfavourable population health outcomes. Among peripheral countries, higher labour market inequality results in higher probability of dying for men and women: higher under-5, infant, neonatal, and maternal mortality rates; and more deaths from cancer and injury. Years of life lost by communicable diseases (both sexes) were also highly significantly and positively associated with the labour market inequality. Similar relationships between labour market inequality and health were observed among semi-peripheral countries with a few exceptions.

Research on the aggregate level has shown that high levels of *unemployment* in both society and neighbourhood are correlated with poor health and increased mortality. Also, *precarious employees* may suffer adverse health effects through the action of material or social deprivation and hazardous work environments. Thus, the experience of various kinds of precarious jobs and the insecurity and vulnerability associated with them is likely to be associated to more hazardous working conditions and to higher income inequality. For example, temporary employees are exposed to hazardous working

conditions, work more often in painful and tiring positions, are more exposed to intense noise, perform more frequent repetitive movements, have less freedom to choose when to take personal leave and are far less likely to be represented on health and safety committees. A systematic review of studies of temporary employment and health suggests that temporary workers suffer from a higher risk of occupational injuries compared with permanent employees

The available evidence consistently shows that workers in the *informal economy* or having *informal employment* have less favourable health indicators than do those in the formal economy or holding formal jobs. For both men and women, there is a strong positive association between an increasing proportion of informal jobs in countries and death and disability years of life lost (DALY) for all diseases. Being in informal business and informal employment may cause mental illness and psychological stress, because of job insecurity (i.e., the threat to lose long-term stable jobs).

A growing number of studies have shown that health problems are one of the main negative effects of *child labour*. These effects vary in nature ranging from occupational-related diseases and injuries, directly related to hazards in the workplace or when commuting, to increased vulnerability to biological or toxic agents due to the immature immune system, ergonomic risks resulting from inadequate dimensions of tools and equipments, and impairment of physical, mental, and social development because of limited time for resting, playing, and studying, among other health and developmental problems. Therefore, child labour has been associated with problems related to the physical, physiological, mental and social development of children. Some of the reported health effects of child labour appear late in adulthood, such as those related to self-perceived health and reduced height and alcohol and drug abuse.

Given that politics are fundamental for health, as a cause of inequalities but also as the only remedy to end with these inequalities, we have devoted considerable effort to provide not only a political analysis of employment conditions, but also to provide some recommendations of what can be done to reduce inequalities in health related to employment conditions. Our recommendations place considerable emphasis on social welfare (poverty alleviation, universal education and public health facilities, government inspectorates) and regulation of labour markets (international standards/agreements, laws and enforcement). Governments and their agencies are in a position to provide comprehensive standards and laws, and to enforce them. Welfare policies also set a framework for community expectations that influence other actions. Voluntary measures by employers/corporations have a role to play but are too fragmented and weak to reshape employment conditions and lift standards generally. Historically, it has been government action, often in response to community pressure, that has set social standards. The combination of union and community pressure plays a vital role in ensuring government action. We hope that this report helps communities and unions, as well as interested governments, to make steps towards the realization of fair employment for all workers, independently of their place of origin, their class, their gender or their ethnic origins.

Contents of the Report:

The work of the Employment Conditions Knowledge Network (EMCONET) is part of the global effort put together by the WHO Commission on Social Determinants of Health that met for the first time in Chile in 2005 and that will present its final Report in May 2008.

EMCONET has gathered a large number of case studies, examples, and experiences on many subjects and from many countries. The Report presented herein is still in the draft stage. It is expected that some data will be updated, a number of issues will be refined and expanded, and contributions and reviews from civil society groups will be incorporated in subsequent drafts. These and other subjects will be included into an Extended Report, the final version to be released in December 2007.

This Report is organized into six sections: four main chapters, references, and an appendix.

Chapter 1 describes the contexts and defines the concepts underlying this study, and sets forth the main objectives of the study.

Chapter 2 describes the methods and strategies and the main sources of information that have been used.

Chapter 3 includes the outcomes and findings of EMCONET, divided into six sections. Section 3.1 presents the theoretical model developed by EMCONET to integrate the factors linking employment conditions and health inequalities, both at the macro and micro levels. Section 3.2 presents a historical and political review that provides a social context for the rest of the chapter. Section 3.3 discusses labour markets and welfare states from a country perspective, including selected country case studies. Section 3.4 contains a descriptive perspective of key employment relations including some information on power relations and labour regulations and industrial relations, and a more detail account of employment dimensions and working conditions in a global context. Section 3.5 presents an analytical view of the pathways and mechanisms that drive employment dimensions, working conditions, and health inequalities. Main findings concerning policies are shown in section 3.6, including a brief description of four key policy Entry Points for implementing policy changes to reduce health inequalities.

Chapter 4 summarises the conclusions and recommendations of the study.

Chapter 5 comprises the references used in this Report, and in Chapter 6 we include an appendix with other information of interest related to the report.

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1. Introduction

1.1. Contexts of this Report

To study how various employment and working conditions differently affect the health of populations we need, first, to clearly define the meaning of those concepts and, second, we need to understand both how society is structuring labour relations, labour/capital agreements, labour contracts or employment contracts and what are the social processes of production that affect the health of workers. Employment and working conditions are often treated as almost indistinguishable by public health researchers when in fact they are different concepts. We define “employment conditions” and “working conditions” as follows.

Employment conditions constitute the relationship between an employer that hires workers and has the intention of creating profits, and an employee who contributes with labour to the enterprise, usually in return for payment of wages. Some important elements of employment conditions are the power relations between employers and employees and the level of social protection that employees can count on. In developed countries, employment conditions are often subject to the provisions of the law or a contract of hire. In these societies, the government is often the largest single employer, but most of the work force is employed in small and medium businesses in the private sector. In developing and poor countries, most employment agreements are not explicitly subject to any contract, and a high proportion of total employment is in the informal sector.

Working conditions are related to the tasks that workers perform, the physical and chemical environment, the ergonomic conditions, the psychosocial factors of work, and the technology being used. To make the distinction between these two concepts more clear, it is useful to point out that two persons can perform the same job in the same enterprise, sharing the same working conditions, and nevertheless be under different employment conditions. One person may be a permanent and direct employee of the firm, while another is a temporary worker contracted by an external employer. The first worker may have a permanent contract while the second worker has a fixed-term contract, an on-call contract, or no formal contract at all. The first worker may be covered by the social security system while the second is only partially covered or perhaps not covered at all. The first worker may be a member of a trade union while the second is not.

The Employment Conditions Knowledge Network (EMCONET) incorporates the political, cultural, and economic context of work and employment in order to provide a comprehensive account of the current international situation of labour markets and employment conditions.

How inequalities in health are approached by any society is a political issue. They can be accepted as the inevitable result of individual differences in genetic determinants, individual behaviours, or the economic market, or they can be seen as a social product of society that needs to be remedied. Underpinning these different approaches to health inequalities are not only divergent views of what is scientifically or economically possible, but also differing political and ideological opinions about what is desirable (Bambra et al. 2005). Thus, the reduction of health inequalities, especially those interventions at the level of social policy, will depend in large part on the power distribution among key political actors and the role of the state. While in the social and political sciences there is extensive debate over the structure, functioning, and power of the state, this debate has yet to penetrate the public health arena, despite the state’s crucial influence on all health activities. We follow here a theory of power resources that identifies labour organizations and political parties as key determinants of differences in the impact of the welfare state across countries and over time (Korpi and Palme 2003).

In spite of growing scientific evidence of the effects of employment conditions on health, almost no conceptual models have been proposed to explain these effects and, in general, there is a great lack of research concerning the pathways and mechanisms that connect employment conditions with health inequalities (see Section 3.1.). There is

abundant literature on specific employment situations and health, but it rarely focuses directly on the important role played by employment conditions as a social determinant in shaping health inequalities. Social determinants of health and employment conditions in particular have been neglected for a number of reasons. Among them are, first, the lack of public health research in poor countries, the places where precisely the most worrisome employment conditions such as slavery or child labour are found. A second reason is the paucity of data in many countries, especially in low-income countries and the underdeveloped world. A third factor is the lack of sociological training of many epidemiologists and public health researchers in understanding how employment conditions can lead to health inequalities. A fourth reason is that researchers interested in controversial topics such as health inequalities, the politics of health care, or other class-based approaches, may have more difficulty obtaining research funds compared with other mainstream biomedical or clinical approaches (Navarro 2004). Finally, there is a notable lack of attention to development theories in epidemiology and public health research.

The scarcity of research and data coming from developing and poor countries makes it a real challenge to avoid taking only a western or developed countries' perspective on labour markets and employment conditions, but the historical experiences of production, employment, and work have varied considerably in different parts of the world. For example, the labour reforms that were implemented in the nineteenth and twentieth centuries in Europe, concerning minimum wages or hours of work, largely bypassed the former colonies in Asia, Africa, and Latin America. Bearing in mind these different socioeconomic pathways, this study tries to strike a balance that captures global reality, actively seeking out examples and lessons from the South. In order to deal affectively with such a diverse context, we have tried to identify common features and trends among countries while being specific enough so as not to rely on "one size fits all" descriptions or recommendations (see Sections 3.2 and 3.3).

1.2. Main employment dimensions

Definitions of key employment "dimensions" used in this report are the product of an extensive review of specialised epidemiologic and public health journals, along with other sources, with the aim of finding accepted and shared definitions in the scientific community of the most relevant concepts for the work of this Knowledge Network. The criteria used to select these definitions are, however, based on the Employment Conditions Knowledge Network's objectives and perspectives on health determinants in general, and employment and working conditions in particular. The discussion among the members of EMCONET and Civil Society groups has been a good opportunity to reach a consensus on a long list of related concepts, as well as to include some new ones.

In this Report we include only the following definitions of the key employment dimensions and the new concept of "fair employment"; while other related concepts can be found in a Glossary in the Extended Report.

Unemployment. The meaning of this term varies by country. In the UK, for example, there have been many definitions, changed over time to suit the political purposes of successive governments. Roughly speaking, the unemployment rate amounts to the proportion of all those of working age in a given area who do not have a job and are actively seeking one. It often leaves out large numbers of people who would like to work but are prevented even from looking for work, such as many people with long-term illness who could work if working conditions were better, and parents who could work if child care services were adequate.

(Bartley and Ferrie 2001)

Precarious employment. This term has been used to signify employment forms that might reduce social security and stability for workers. Flexible, contingent, non-standard, temporary work contracts do not necessarily provide an inferior status as far as economic welfare is concerned. Precarious work forms are located on a continuum, with the standard of social security provided by a standard (full-time, year-round, unlimited duration, with

benefits) employment contract at one end and a high degree of precariousness at the other. Precarious employment might also be considered a multidimensional construct defined according to dimensions such as temporality, powerlessness, lack of benefits, and low income. Historically, precarious employment was once common but declined in the now-developed economies with increased government regulation and political influence of labour, and with changes in technology that favour more stable work relations. Currently, precarious employment is becoming more common in developed economies and is widespread in developing economies.

(Hadden et al. 2007)

Informal employment and informal jobs. Non-regulated placement in the labour market which usually involves an informal arrangement between the employee and employer (informal employment) or self-employment (informal jobs), which imply not a market exchange of labour force, but rather products or services. Informal employment and informal jobs prevail in the informal economy but non-formal job contracts may occur in legal, registered firms. In several countries, the workers' entitlement for social benefits such as paid retirement, sick or maternity leave, or access to health care, require a formal job contract. There are also employment warranties for formally employed workers, such as work-time legal limits, compensations at firing, etc., not available for informal workers. Therefore, informal employment is a particular type of precariousness because it expresses a sub-standard form of placement into the labour force. It is clear that employees cannot be discriminated based only on the formal nature of their job contracts, which usually is a demonstration of mechanisms to avoid tax payment by the employers. Besides lack of social benefits, workers holding informal employment or informal jobs have lower salaries, high turnover, lack of security, non-defined work-time, and limited unionization.

(Harding and Jenkins 1989; Santana and Loomis 2004; Williams and Windebank 1998)

Child labour. International organisations share a common understanding of a child as any person under 18 years of age. There is no consensus, however, about the definition of child labour. For instance, according to UNICEF (2006), child labour means children below 12 years of age working in any type of economic activity, or those from 12 to 14 years of age engaged in occupational duties not considered "light work". For ILO, child labor is defined according to its effects, that is, work activities that are mentally, physically, socially, or morally harmful and that affect schooling. In 1999, the ILO Convention No. 182, and Recommendation No. 190, define the worst forms of child labor as those involving slavery or compulsory labor, prostitution, pornography, human trafficking, war, drug dealing or trafficking, or any illicit activity. There are also recommendations concerning hazardous occupations for children, such as those involving toxic chemicals or carrying or lifting heavy loads, among others.

(ILO; United States Fund for UNICEF)

Slavery and bonded labour. Millions of men, women and children around the world are forced to live as slaves. Although this exploitation is often not called slavery, the conditions are the same. People are sold like objects, forced to work for little or no pay, and are at the mercy of their "employers". According to Anti-slavery International, a slave is someone who is forced to work through mental or physical threat, owned or controlled by an "employer", usually through mental or physical abuse or threatened abuse, dehumanised, treated as a commodity or bought and sold as "property", or is physically constrained or has restrictions placed on his/her freedom of movement. Examples of slavery include bonded labour, early and forced marriage, forced labour, slavery by descent, trafficking, and the worst forms of child labour. Debt bondage was first defined in Article 1 (a) of the UN Supplementary Convention on the Abolition of Slavery, the Slave Trade and Institutions and Practices Similar to Slavery (1956) as: " the status or condition arising from a pledge by a debtor of his personal services or those of a person under his control as security for a debt, if the value of those services as reasonably assessed is not applied towards the liquidation of the debt or the length and nature of those services are not respectively limited and defined". The 1956 Supplementary Convention specifies that debt bondage is a practice similar to slavery. The Convention's definition clearly distinguishes bonded labour from a normal situation in which a worker accepts credit for whatever reason and then repays the amount by working. In the latter situation the repayment terms are fixed and the capital sum borrowed is only subject to reasonable interest rates. In bonded labour cases these safeguards do not exist, as the

terms and conditions are either unspecified or not followed, leaving the bonded labourer at the mercy of the employer or creditor. In these circumstances bonded labourers can be forced to work very long hours for little or no wages. The employer may also adjust interest rates or simply add interest; impose high charges for food, accommodation, transportation, or tools; and charge workers for days lost through sickness. In such cases workers may not have been told in advance that they will have to repay these expenses. Bonded labourers may take additional loans to pay for medicines, food, funerals, or weddings, resulting in further debt.

(Anti-slavery International; Anti-Slavery International and International Confederation of Free Trade Unions)

Fair employment. Employment and working conditions take place in historical contexts deeply influenced by institutions and social relations, including power relations. To study how jobs affect health we need to understand both how society is structuring labour relations, labour/capital agreements, or labour and employment contracts, and what are the social processes of production affecting workers' health. The term "fair employment" complements that of the International Labour Organization's concept of "decent work". Fair employment implies a just relation between employers and employees. Much of the history of employment relations has been characterised by unequal power and conflict between labour and capital, the former often represented by unions demanding higher wages, shorter hours, and better working conditions with strikes, and the latter resisting those demands through firings, lockouts, or court injunctions. Fair employment requires that certain features be present: (1) freedom from coercion, which excludes all forms of forced-labour such as bonded labour, slave labour, or child labour, as well as work arrangements that are so unbalanced that workers are unable or afraid to assert their rights; (2) job security in terms of contracts and safe employment conditions; (3) fair income, that is, sufficient to guarantee an adequate livelihood relative to the needs of society; (4) job protection and the availability of social benefits including provisions that allow harmony between working life and family life, and retirement income; (5) respect and dignity at work, so that workers are not discriminated against because of their gender, ethnicity, race, or social class; (6) workplace participation, a dimension that allows workers to have their own representatives and negotiate their employment and working conditions collectively within a regulated framework; and (7) enrichment and lack of alienation, where work is not only a means of sustenance; rather, jobs should be as much as possible an integral part of human existence that does not stifle the productive and creative capacities of human beings. Depending on the degree to which it endorses each of these characteristics, employment could be inserted in a continuum from the complete lack of these positive features to an "ideal job" with high levels in all of them. Finally, the concept of "fair employment" encompasses a public health perspective in which employment relations, that is, the relation between buyers and sellers of labor as well as all the behaviors, outcomes, practices and institutions that emanate or impinge upon the employment relationship, need to be understood as a key factor in the quality of worker health. For example, most workplaces are organized hierarchically, reflecting the distribution of power and control over production. Inequalities of power, therefore, will have a profound influence on employees and ultimately on health because power determines what can be considered acceptable levels of exposure to significant risk factors.

1.3. Aims

The goal of this report is to provide rigorous analysis on how employment relations affect worker health and how this knowledge may help identify and promote institutional changes and effective policies to reduce health inequalities. Specifically, the aims of this report are:

1. To provide a comprehensive description of key employment dimensions. Employment conditions in different countries, regions, or geographical areas are described according to five employment "dimensions": unemployment, precarious employment, informal employment, child labour, and slavery and bonded labour, taking into account five main cross-cutting issues or "axes": gender, social class, migration, age, and ethnicity. These axes will be discussed in more detail in the Extended Report.

2. To analyse main links between employment dimensions and health inequalities. Another important objective is to analyse the pathways and mechanisms linking employment conditions and health inequalities, as well as the potential magnitude of the impact of employment conditions on health inequalities.

3. To generate evidence on the effectiveness or potential effectiveness of employment-related policies and interventions to reduce inequalities in health. A related issue is to identify programmes or interventions designed according to the principles of democratic participation.

4. To translate this knowledge into health policy recommendations, disseminating the results and collaborating in the implementation of these recommendations. This requires, of course, that this issue first be introduced in the political agendas of the relevant social actors.

2. The process of knowledge generation

2.1. Methods and strategies

The methods and strategies used in this report are aimed at striking a balance that properly captures knowledge of a complex and dynamic reality, making a conscious effort to avoid a reductive narrow view framed by the employment standards of developed western societies.

2.1.1. The challenge to study a neglected global reality

Although there is a growing body of research showing how employment and working conditions influence health, knowledge on the links between these conditions and health inequalities is strikingly scarce, especially in some geographical locations and for particular workplaces and workers. Three key aspects need attention here. First, studies on employment and working conditions and health often do not focus on the impact on health inequalities and the pathways and mechanisms leading to them. Second, only a limited number of studies have been conducted in developing or poor countries. This point is important since these countries share important differences in comparison with high-income countries: (1) while non-standard forms of employment have increased in the past decades in wealthy countries, poor countries have always been characterised by a large variety of hidden or less known informal forms of employment as well as by extremely hazardous and unhealthy employment relations such as bonded labour, child labour, and forced sex work; (2) while employment in agriculture has sharply declined in developed countries, in mid- and low-income countries a large proportion of workers are engaged in agriculture, a labour sector where health consequences and possible prescriptions are very different from those that characterise the industrial and service sectors; (3) classical welfare state measures, including public health policies, have never taken hold in most poor countries; and (4) linking employment to health benefits is related to the level of development of health systems. In mid- and low-income countries, where precarious and informal forms of employment are the norm rather than the exception, employers do not assure access to health services as part of employment benefits. The final aspect is that while it is important to examine best practices and good examples to assess the effectiveness of policies and interventions to reduce the impact of employment and working conditions on health inequalities, knowledge is still very limited. To find out what works in different historical and political contexts is a matter of urgency as policy-makers face difficult political choices to deal with enduring health inequalities.

2.1.2. Evidence-based approach: features and limitations

Common scientific wisdom tells us that the best way to study the complex reality of our topic is by systematic review of findings published in peer reviewed scientific papers and an evidence-based research approach. Although the concrete meaning of “systematic review” is open to diverse interpretation, at a minimum it should include an extensive and systematic search of the research literature to find all relevant studies; a specific evaluation of the quality of these studies; and an accurate synthesis of the findings in those studies judged to be most valuable. This approach differs from traditional reviews and commentaries produced by “content experts” in that it uses a replicable, scientific, and transparent approach designed to minimize bias (Glanville and Sowden 2001). For example, systematic reviewers may use an explicit algorithm concerning criteria such as study design, the quality of research, or the consistency of the results that describes the relative strength of the evidence in the studies selected (e.g., insufficient, sufficient, or strong). By identifying, critically appraising, and summarizing the results of otherwise unmanageable quantities of research, systematic review would cover at least theoretically the research objectives of this report: (1) to provide a clear picture of the associations between key employment dimensions and health inequalities variables as well as the effectiveness of interventions to reduce inequalities; (2) to provide direction to future primary research by identifying gaps in knowledge (Glanville and Sowden 2001); (3) to inform policy and decision-making about the impact of specific policy instruments governing the labour contract, particularly when there is uncertainty regarding the potential benefits or harm of an intervention; and (4) to provide empirical answers to questions about the impact of specific policies on various employment experiences turning knowledge about employment conditions and health into actionable global and national agendas.

This standard scientific approach seems, however, ill-equipped to assess the main linkages and the key consequences of employment-related health inequalities in the broad societal domains that are the focus of this study (Killoran et al. 2006). Thus, in the past it has been pointed out that systematic reviews have a number of limitations (Asthana 2006) that sometimes can lead to anomalous results (Glasziou 2004): (1) they have a strong tendency to select studies on the basis of research design (e.g., randomized control trials focusing on downstream factors) rather than the quality of the study or the intervention per se (e.g., its theoretical basis, relevance to the target population, adequacy of resources, or duration) (Asthana 2006; Killoran et al. 2006); (2) the methods often underplay the role and the development of theory, emphasizing those studies that produce statistically significant outcomes rather than emphasizing the pathways or the process, that is, the mechanisms explaining the processes or the social circumstances in which interventions are effective and the population groups for which they may work (Asthana 2006); (3) there is a failure to control for adequacy of context, which is or should be a central focus of interest. In the case of interventions, for example, “a fundamental problem lies in the notion that methods found to be effective in one setting could be assumed to be effective in another (...) In answering the question ‘does this intervention work?’ it is always necessary to consider not only the intervention, the outcome and the link between the two but also the context” (Kemm 2006); and (4) this approach is incomplete and biased in various ways, including political and ideological ones, and not many scientific studies are available on important subjects and variables. For example, evidence is largely based on individualised interventions that focus on risk factors that analyze intra-individual variance in, for example, unemployment rather than focusing on overall levels of unemployment produced by different fiscal policies. For example, “there are almost no systematic reviews on the effects of redistributive national fiscal policies or of economic investment leading to a reduction in unemployment, on health” (Davey Smith et al. 2001).

2.1.3. Developing an alternative approach

Scientific evidence generated by academia has its own merit and confers essential rigor to the generation of knowledge. Information, data analysis, and interpretation, however, are far from being a value-free process. Rather, they are always influenced by a variety of perspectives, judgements, and choices, often framed in narrow perspectives. Given the complexity of the subject analysed, the lack of scientific information available, and the limitations of the standard scientific evidence-based approach, an alternative view is needed.

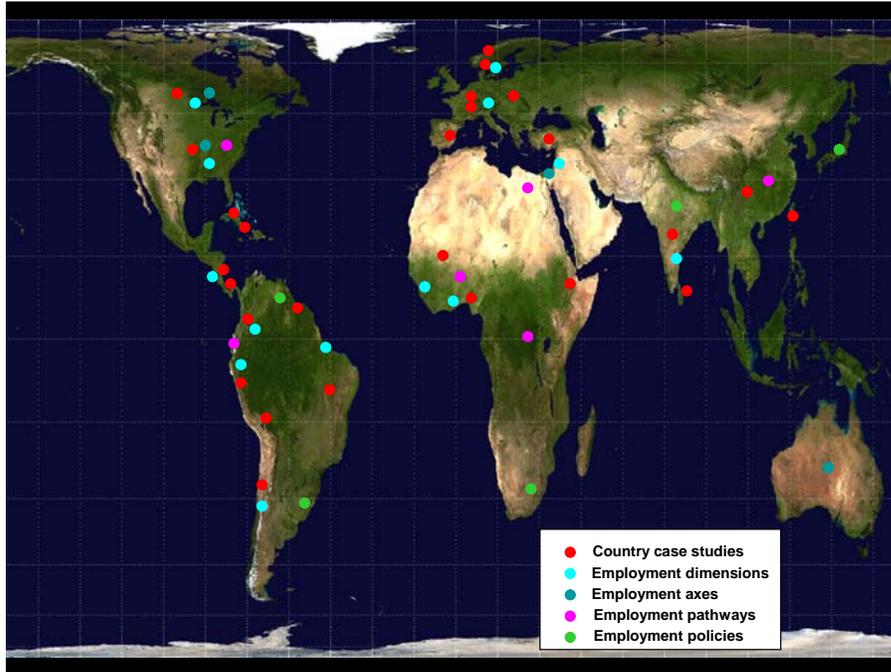
We aimed at overcoming the major limitations of systematic review by using a realist perspective based on two main approaches: theory building and transdisciplinary knowledge. The first approach starts with the clarification of concepts and the creation of a theoretical model (see Section 3.1) that shows the interaction between key employment dimensions, social mechanisms, and health inequalities outcomes in multilevel contexts. Specific elements of the model have been addressed in various scientific studies. Results have not always been consistent, however, and there are many gaps in the available knowledge. Therefore, interpretation of the findings needs to be undertaken from a perspective that takes into account the whole model. The end product of this approach is therefore a generic appraisal of the model rather than a judgment on whether or not a specific employment condition generates health inequalities. The second approach deals with the fact that reaching a comprehensive understanding of worldwide employment dimensions associated with health inequalities is such a complex and challenging task that a transdisciplinary approach is necessary (Gibbons et al. 1994; Somerville and Rapport 2000). Using many strategies of inquiry and search, a variety of methods, and multiple sources of data and evidence (including quantitative analyses, qualitative data, and narrative knowledge) (see map 1), this approach brings together many pieces of integrated knowledge from a range of disciplines. Therefore, in addition to the scientific knowledge provided by social and public health sciences such as epidemiology, sociology, and political science, valuable information can also arise from different social actors and institutions. These operate within a wide range of worldwide civil society experiences developed over decades by non-governmental organizations, social movements, and particular groups or communities inserted into specific social contexts. While sometimes very subjective in nature, this information also provides important pieces of hidden, or at least less well known, important knowledge.

Using this process, the whole outcome is thus not just greater than its derivative disciplinary parts, but it has qualitatively different features. An analogy helpful to describe this process of knowledge generation is to think of a gigantic photomosaic of a face built on multiple pictures, which themselves are made from multiple tiny photos. Since obtaining all the pieces of the face is truly impossible (in our case, worldwide employment dimensions related to health inequalities), the essence of this approach is to obtain enough pieces of information to identify the face.

We believe this innovative approach provides the most comprehensive knowledge available to identify and give proper responses to a number of important research and policy needs: (1) the need for a historical perspective on employment conditions, recognising the dynamic nature of the political systems that influence people's employment; (2) the need to identify the political actors and government decisions crucial to the development of upstream labour market and welfare state policies leading to specific employment dimensions; (3) the need to make a systematic assessment of employment-related policies and interventions leading to health inequalities; (4) the need to study these conditions in different labour market situations; (5) the need to identify and analyse the different pathways and mechanisms leading from employment conditions to a variety of health outcomes, including health inequalities; (6) the need to take into account all the axes of key social differences including social class, ethnicity/race, gender, age, and migration to ensure that information is sensitive to this range of crucial cross-cutting issues; (7) the need to understand that some policies and interventions may work in

certain political contexts and for certain groups of people and not in others and, therefore, that it is important to distinguish between potentially generalisable and conditionally successful interventions and to find contextual features that turn potential into successful outcomes; and (8) the need to identify a variety of sources of information as well as to allow the participation of a large number of social groups. The geographic locations involved for each of the main topics developed in this Report are shown in Map 1.

Map. 1. Geographic locations involved for each of the main topics developed in this Report.



2.1.4. Key strategies of a synthetic comprehensive participatory approach

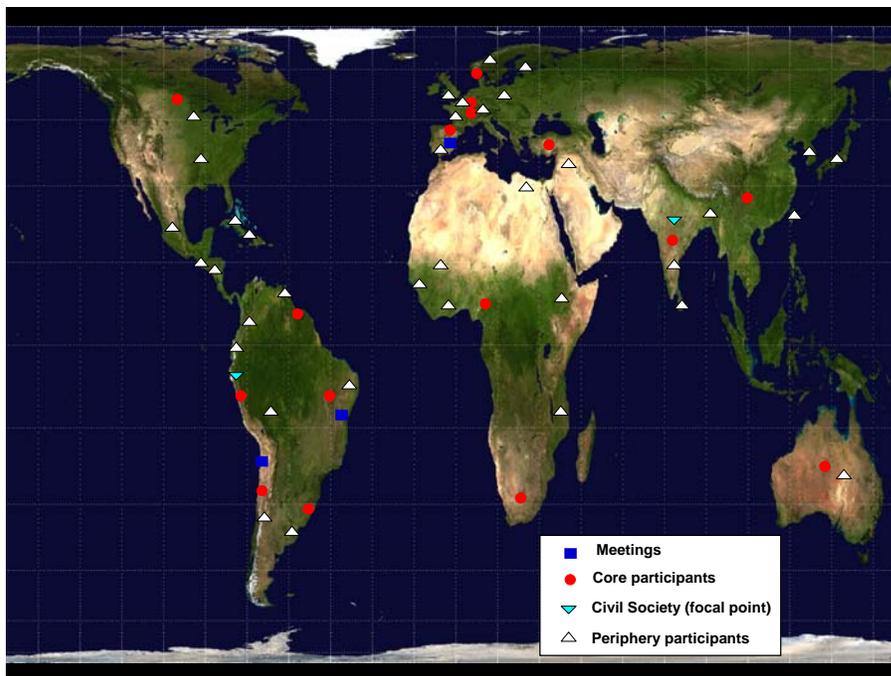
It has been necessary to reach a synthesis of knowledge through a variety of sources of information and data provided by a large number of participants in a very short period of time (about one year). The strategies used include: (1) to clarify the main concepts and develop the necessary theoretical frameworks linking the key variables involved in this study at both macro and micro levels; (2) to make a synthesis of quantitative, qualitative, and narrative data using historical, epidemiological, sociological, and anthropological evidence as well as natural policy experiments; (3) to make an explicitly comparative analysis that contextualizes and classifies the situation of different countries into similar frameworks; (4) to analyse single-country case studies by a systematic assessment of a common set of structures and institutional arrangements, identified by a theory-based approach; (5) to actively seek information, examples, and lessons in the grey literature mainly drawn from the large part of the world that does not follow the paradigm of labour relations typical of western societies; (6) to develop a diverse array of case studies that highlight or illustrate a variety of experiences and studies with the participation of social organizations, labour unions, the civil society, or study subjects themselves (all case studies will be included in the Extended Report); and (7) to select studies, case studies, and experiences with a proper quality threshold. While there is no fixed or simple formula, it is important to attempt to select studies based on the following criteria: the suitability of the study design; the quality and rigor of its methods, data, and analysis; whether the context of the study was considered in the analysis and interpretation of the findings; and the overall credibility, relevance and value of the study.

2.1.5. Participants involved and key activities carried out

To achieve a high level of participation as well as to obtain a worldwide inventory of case studies, two strategies have been implemented: first, a time-intensive high degree of involvement from the EMCONET core group members; and second, an extensive number of participants of a large periphery group including experts, researchers, activists, and participants from governments, international organisations, civil society groups, social movements, labour unions, and non-governmental institutions. Civil society groups have been encouraged not only to participate throughout all the process but also to provide input and a critical review of the findings.

Main activities of these participatory processes have included formal and informal meetings as well as the circulation and discussion of preliminary drafts and documents: (1) three formal EMCONET Network meetings in Barcelona (Spain) in June 2006, in Salvador de Bahia (Brazil) in January 2007, and in Santiago de Chile in May 2007; (2) informal meetings and teleconferences with civil society groups; (3) discussions of findings posted on the "Community Site"; and (4) application of findings, that is, some country work partners have worked together with EMCONET promoting workshops and other types of meetings to discuss and build bridges between diverse social actors, stakeholders, and policy makers, thus reinforcing the translation of knowledge into practice. A geographical perspective on the meetings and participants involved is shown in Map 2.

Map. 2. Geographical location of meetings and participants.



2.2. Sources of information

This section provides a comprehensive review of the information and sources available for the study of employment conditions as a determinant of health inequalities.

2.2.1. Systematic scientific literature review

The objective of this systematic review was to make an exhaustive search of scientific studies that have investigated employment dimensions in relation to health and health inequalities. Digital bibliographic databases explored include Medline, PsycInfo,

Sociological Abstracts, Social Sciences Abstracts, EconLit, American Business Inform, Business Abstracts, Public Administration Abstracts, Political Science, and Worldwide Political Science Abstracts. Strategies of search and key words were defined after a series of tests and qualitative evaluations of each one of the listings obtained; results were compared with listings of other reviews, always seeking a balance between comprehensiveness and specificity. All searches were limited by year of publication, from 1985 to 2006. The bibliographical search was made independently for each of our five employment dimensions in several languages (i.e., English, French, Spanish, Italian, and Portuguese). As a result of a preliminary search, we identified a large number of references: unemployment (n=975); precarious employment (n=611); child labour (n=121); informal employment (n=250); and forced labour (n=487). The majority of these references, however, did not focus on health inequalities.

2.2.2. Systematic grey literature review

A review of grey literature, books, reports, and other documents dealing with the theme of employment conditions and health inequalities was also conducted. Two main strategies to identify and select documents on-line were used to assure a balanced geographical and regional distribution of sources, as well as a varied and diverse presence of social actors and institutions. First was a *direct strategy* in which a search was done focusing on certain places or sites where it was assumed possible to find good information on each of the themes of this study. Lists of web sites by subject were made with regard to multilateral international organisms, Non-governmental organizations, and organizations representing workers. Second was a *non-direct strategy* in which a list was made of the more important searchers on the Internet according to their profile, topics, etc.. In addition, a number of "metasearchers" that allow users to obtain the maximum number of resources available on-line were selected. Five of the eleven metasearchers identified were selected as the most efficient and appropriate: IXQUICK, IPSELON, METACRAWLER SEARCH.COM, and KARTOO. To test its efficiency, the same search words were compared with results obtained through normal searchers such as Google, Yahoo, Altavista, and Prodigy/msn. A large number of potentially useful documents were identified and posted in EMCONET Community of Practice. A larger summary of the results will be provided in EMCONET Extended Report.

2.2.3. Other complementary sources of information

Other searched sources of information included an inventory of case studies, interviews, formal and informal contacts with key informants, and information provided from a variety of narrative sources. Knowledge network members covered an array of backgrounds and disciplines and were able to draw on the resources of their own networks. The ultimate goal of making an inventory of case studies was to select interesting, but otherwise not very known examples or experiences to be included in the Report. For doing so, we elaborated a standardised document that was distributed in order to collect potential case studies that are relevant because of the importance of the theme, its magnitude, groups affected, lessons learnt, etc. This approach has been a good opportunity to reach information from grassroots and civil society groups, community experiences, and include them as useful knowledge in "what is known" and "what works". Once we had a large inventory of potential case studies, an assessment was done in terms of selection of the best examples to be included in the final report. However, it is important to stress that due to the limited length of this Report as well as time constraints, only some cases are reported in this document while all case studies will be included into the "Extended Report".

3. Outcomes and findings

3.1. Theoretical model

There is a need to go beyond empirical observations and develop theory-based conceptual models (Muntaner 2001) for several reasons. First, they may help us understand the complex links between employment conditions and the health of workers and their families; second, models may help guide further observations and testing of potential social mechanisms linking employment conditions and health inequalities; and third, theoretical frameworks will also help identify the main “entry-points” (i.e., exogenous factors) to implement policies and interventions to reduce health inequalities. The Employment Conditions Knowledge Network has developed two frameworks based on a single theoretical model with the objective of understanding the origins and consequences of different employment conditions and relating them to key political and economic variables, working conditions, and health inequalities. The first model refers to power relations, labour markets, and welfare state interactions while the second refers specifically to employment conditions, working conditions, and health inequalities, including direct and indirect pathways to individual health outcomes. Some methodological points of caution need to be mentioned. First, the main focus of both frameworks is on factors related to employment conditions (EC), not on social determinants of health in general or other public health factors. Second, neither framework pretends to be an exhaustive compilation of all the interrelations or links between the factors involved; rather, they are intended to serve as a guideline to point out the key relations between the most important EC factors. And third, both frameworks are “static” and need therefore to be considered from a historical, ecological, and political view as well as from a dynamic life-course perspective.

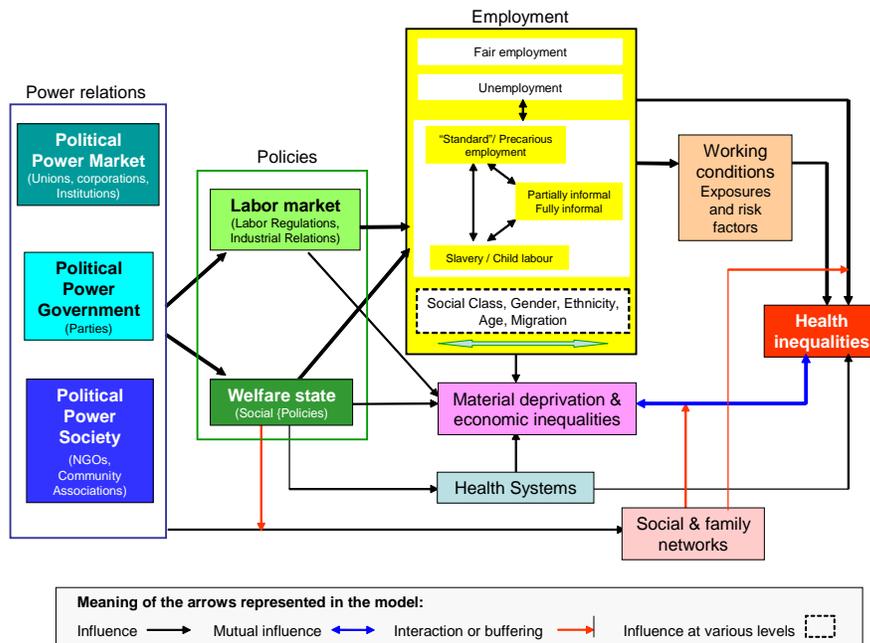
3.1.1. Macro structural framework

This framework reflects the notion that employment relations need to be put into their larger institutional context (Figure 1). Here we start with power relations, labour market, and social policies according to their level of social protection, active policies on employment, and general view (i.e., egalitarian, focus on family, individualistic). Different varieties of economic redistribution and social policy are the result of interactions between main social actors, leading to a distribution of power that benefits some social groups over others. Power relations are crucial to redistribute economic resources and thus to determine the level of equality present in a given society. Main political actors, however, not only redistribute resources affecting social stratification, but also have an impact on the life experience of different social groups including opportunities for well-being, exposure to hazards leading to disease, and access to health care. Social inequalities in health are therefore fundamentally the result of what might be called a “political economy of health” (Navarro and Muntaner 2004; Navarro 2002). An example of this is political parties, which implement different public policies when they are in office, which in turn have different outcomes related to public health (Navarro and Shi 2001; Navarro et al. 2006).

A first level of this framework refers to power over the labour market, in government and in civil society, its ensuing labour market characteristics such as labour regulations, collective bargaining and the power of trade unions, as well as to the level of development of the welfare state, that is, the extent to which the state exerts its distributive power through the implementation of social policies. Both institutions are fundamental for understanding employment conditions, given that workers’ welfare depends on both the functioning of the labour market and the social protection policies implemented by the state, modifying social stratification and therefore social inequalities. In our framework, *labour regulation* refers both to the specific regulation of the labour market (employment protection legislation) and to welfare state benefits related to the

salaried relationship, such as benefits for those involuntarily leaving the labour market, for example, income security measures for the unemployed. Collective bargaining refers to the various ways in which labour/capital relations can be conducted. Several studies have found that the most important factor in explaining pay dispersion is the level of wage-setting, i.e., whether wages are set at the level of the individual, the plant, the industry, or the entire private sector. The concentration of unions and the share of the labour force covered by collective bargaining agreements also matter. It has been shown, for example, that a far more severe decline in the unionization rate in the United States than in Canada accounts for two-thirds of the differential growth in wage inequality between the two countries.

Figure 1. Macro-theoretical framework of employment conditions and health inequalities.



The level of development of the welfare state determines the level of "decommodification", that is, the extent to which workers are able to maintain a livelihood in society without reliance on the market (Esping-Andersen 1990). The social policies implemented by the state through their lack of involvement into the market protect the work force from the insecurities of the labour market. The welfare state and the labour market are two institutions deeply inter-connected and it is not possible to understand the labour market without considering the welfare state institutions that surround it (Esping-Andersen and Regini 2001). Examples of welfare state social protection policies are those related to family, children, and people with disabilities. In the EU, for example, a significant proportion of social provisions in most member States consist of benefits that are designed to replace or supplement earnings which individuals cannot find in the labour market for temporary or more durable reasons. Income replacement schemes usually take the form of three distinct kinds of provisions: unemployment benefits (based upon previous earnings), unemployment assistance, and guaranteed minimum schemes. Other schemes include disability, employment injury and occupational disease (workers' compensation), maternity leave, and pension benefits. Various forms of welfare state regime coexist in today's world that typically follows different paths of development.

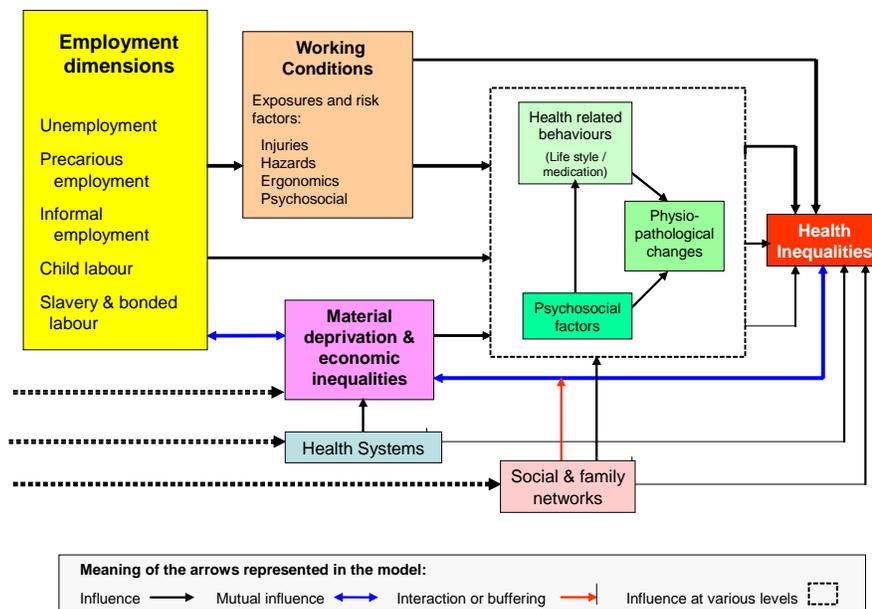
Although we acknowledge the difficulties inherent in establishing an overall framework that works for the entire world, this broad framework has sufficient generality to be applied to liberal-democratic countries and at different levels of aggregation

(national, regional, local). Both theoretical framework and indicators are contingent on specific social and historical contexts and processes (e.g., informal work may mean a situation of precariousness in the developed world but a situation of extreme poverty in poor countries).

3.1.2. Micro framework

Figure 2 provides a micro conceptual framework from which we can assess the potential links between employment dimensions and health inequalities through a number of behavioural, psychosocial, and physiological pathways. Potential risk factors are classified into four main categories: physical, chemical, ergonomic, and psychosocial, which include factors such as exposure to physical or chemical hazards, repetitive movements, work intensification, hard physical labour, shift-work, or lack of control.

Figure 2. Micro-theoretical framework of employment conditions and health inequalities.



While each risk factor may lead to different health outcomes through a number of complex pathways and specific mechanisms, some main points need to be emphasised here. First, axes such as social class, gender, and ethnicity are key relational mechanisms that explain why workers, and often their families, will be exposed differently to risk. For example, there is a growing body of scientific evidence showing that manual workers are much more exposed to physical and chemical hazards compared with owners or managers. Second, three of the key specific social mechanisms underlying class, gender, and ethnicity are the concepts of exploitation, domination, and discrimination (Muntaner 1999; Muntaner et al. 2006; Krieger 2000). Third, those cross-cutting axes (i.e., social class, gender, and ethnicity but also other aspects such as age, migration, or geographical location) may be linked to multiple disease outcomes through multiple risk-factor mechanisms. That means that the key axes generating work-related health inequalities can influence disease even though the profile of risk factors may vary dramatically (Link and Phelan 1996).

Material deprivation and economic inequalities, exposures which are closely related to employment conditions (e.g., nutrition, poverty, housing, income, etc.), may also have an important effect on chronic diseases and mental health via several psychosocial factors, life-style behaviours, and physio-pathological changes. For example, the length of time

children have been working may have an effect on growth, probably caused by the lack of adequate nutrition (Hawamdeh and Spencer 2003).

In addition to the key role played by these material factors, proponents of psychosocial theories have emphasised the central importance played by one's position in a hierarchy, that is, where one stands in relation to others. The two main psychosocial models that have analysed the role of psychosocial work environment in explaining health inequalities are the demand-control model, based on the balance between quantitative demand and low control (i.e., limited decision latitude and lack of skill discretion), and the effort-reward imbalance model, which claims that high efforts spent at work that are not met by adequate rewards (money, esteem, promotion prospects, job security) elicit recurrent stressful experience (Siegrist and Theorell 2006). Nevertheless, although discussion of material versus psychosocial factors may be important for research purposes as well as for the type of interventions to be considered, it has been argued that the dichotomy between both theories is basically false since most material phenomena have social meanings (Macleod and Davey Smith 2003). Thus, while all pathways can be separated for analytic purposes, in the real world most of these processes are intertwined and ideally should be integrated in a comprehensive framework. For example, sustained job insecurity due to precarious labour market position is also linked with poor health behaviours by way of declines in specific coping mechanisms. Finally, it is worth mentioning that we have explicitly avoided the issue of genetic susceptibility in this framework, for three reasons: first, because we focus mainly on factors that are currently amenable to policy change and social action; second, although genetic factors are important in the aetiology of many diseases, it is clear that genetic factors play a minor role in explaining the major links and impact that employment has in creating health inequalities; and finally, genetic factors are not social determinants of health and deserve their own specialised analysis.

3.2. An historical perspective on labour markets

3.2.1. Developed countries

Although it is a daunting task to synthesize the essence of an epoch, it is widely held that the apogee of certain forms of industrial production (Taylorism-Fordism), social provision (welfare states), and public economic intervention (Keynesianism) moulded the socio-economic order of the so called "Golden Age of welfare capitalism", although with notable international differences between wealthy and developing and poor countries. These shared patterns in industrial production and state intervention, however, were not without great variation among wealthy countries. Market-state interactions varied in every country or group of countries, as a plethora of literature on welfare state regimes and varieties of capitalism has stressed (Esping-Andersen 1990; Hall and Soskice 2001). These divergences among capitalist economies have been explained by a variety of factors or driving forces, such as: (1) the bargaining power associated with social relations of production, (2) the way in which industrialisation developed as the result of different forms of specialisation that privileged some sectors over others, (3) the adoption of different ways of firm coordination with other socio-economic actors to prosper, or (4) the differences in the degree of citizen's dependency upon market or state resources (Esping-Andersen 1990).

The expression "Mid-Century Compromise" has been used to describe the socio-economic order that was in place in Europe from the implementation of the Marshall Plan after WWII (late '40s, early '50s) until the oil crises of the '70s. With high aggregate demand and sustained productivity growth, workers profited from abundant and stable jobs with acceptable wages and social benefits for large strata of the labour force, low-skilled workers included (Esping-Andersen and Regini 2001). Employers sought to create a loyal and attached labour force, whereas unions' main concern was to protect wages and

jobs (Sengenberger 1991). This convergence of interests between labour and capital facilitated the enactment of labour legislation, giving rise to the predominance of secure full-time employment. Public spending not only improved the skills of the labour force through educational policies, but also provided the out-of-work population (unemployed and pensioners) benefits and purchase power, which stimulated more production in the economy, while conferring legitimacy to the Mid-Century Compromise. The family also played its part during this period. The relationship between employment and social protection emerged around the male breadwinner family model, that is, "a model in which the husband is the sole agent operating within the market sector, deploying his labour in order to secure the funds necessary to support a dependent wife and children" (Janssens 1998).

However, the oil crises of 1973-74 and 1978-79 altered this scenario of economic growth and abundant stable employment. The decline in real rates of the Gross Domestic Product and the increase in public deficit and inflation, together with a slowdown in productivity and profits and an increase in unemployment, gave way to a period of economic uncertainty that transformed the socio-economic order that prevailed during the period of the Mid-Century Compromise. During the 1980s a strong neo-liberal ideological offensive challenged the views and legitimacy upon which welfare states had previously developed and labour markets were subjected to regulatory reforms engaged by neoliberal ideas (see Section 3.6.2. Macro policies and health: a historical perspective). The need to maintain profitability under more restrictive economic conditions led employers to focus on achieving real productivity gains, expanding their markets, and engaging in organisational decentralisation. These aims made it necessary for employers to push for wider and more intensive processes of deregulation and employment flexibility that profoundly altered the previous labour scenario (Castells 1996). Thus, a new managerial strategy emerged, defined as the "flexible firm", dividing the labour force into a multi-skilled and functionally flexible protected core and a disposable periphery with fewer labour rights that resulted in a segmentation of the labour market (Atkinson and Meaguer 1986; Atkinson 1987). The acceptance of the overriding need for flexible markets as a key to creating employment in competitive contexts thus legitimated the use of part-time jobs, temporary work, and self-employment. The "overprotection" associated with permanent full-time employment was blamed as the factor responsible for the persistence of high unemployment rates, while numerical flexibility in the context of uncertain product markets and short-term fluctuations in demand was invoked as the only way out. To that end, part-time workers were considered a means to provide a closer relation between paid time and work time, short shifts being the solution to unproductive time on the job (Delsen 1993; Smith et al. 1998), and self-employment is a pragmatic option for the unemployed when changes in the labour market prompt mass unemployment (Staber and Bogenhold 1991). Yet, there are doubts about the positive effects of this kind of job creation. The business cycle may encourage the non-active population to participate in the labour market. When unemployment rapidly increases, workers may be more willing to accept part-time jobs to compensate for reductions in family income. In countries with low female participation it is likely that part-time jobs encourage women to enter the labour market and thus do little to reduce recorded levels of unemployment. Furthermore, the emergence of a new "sub-contracting" culture that stimulates the growth of self-employment may suggest that certain forms of self-employment do not represent an additional source of work but rather a substitution of dependent employment for that of the own-account type. An OECD study, for example, found no clear connection between levels of unemployment and the growth of self-employment, refuting other perspectives that identify self-employment with employment invigoration in times of mass unemployment (OECD 1996).

In advanced economies, in addition, imports from countries specialised in low-skilled manufactures and the spread of knowledge technologies have resulted in declining demand for low-skilled labour (Howell 2002). Low-skilled workers are now a highly

vulnerable group whose wages are likely to fall to the floor set by minimum wage regulations. Regulations to guarantee higher earnings may discourage employers from hiring them, and by extension increase the rates of unemployment among the low-skilled (Nickell 1997).

3.2.2. Developing / poor countries

While most Western economies achieved unprecedented prosperity, the rest of the world, trying to catch up in terms of economic development, was confronted with two rather antagonistic development paradigms: modernisation and dependency. In functionalist theory, which heavily influenced modernisation principles, economic development is seen as a process involving several successive stages. Industrialisation is the driving force of modernization and, by extension, the root cause for development, whereas the welfare state is the logical corollary of this process of industrialization and increasing economic growth. Since developed economies represented the superior phase of this development, those economies being in earlier stages should emulate the socio-economic order of the Western world (Rostow 1960). Yet, other authors saw that affluence in advanced economies came at the cost of poverty in the rest of the world. The periphery of this world system (Wallerstein 1979) is thus exploited and kept in a state of backwardness by a core of dominant countries that profit from poor countries' lack of sufficient skilled labour and industries to process raw materials locally. Peripheries are obliged to rely heavily on exporting on a single cheap commodity to accumulate foreign currency, frequently in the hands of Western multinational corporations. In this world economic system, poor countries are producers of raw materials and cheap labour and importers of expensive value-added products from developed economies. This unbalanced pattern of exchange and trade is consequently thought to impede the development of the peripheral countries. Between the two extremes lie the semi-peripheries. These areas represent either core regions in decline or peripheries attempting to improve their relative position in the world economic system. They often also served as buffers between the core and the peripheries.

The oil crisis affected peripheries in a more heterogeneous way. While they enhanced GDP growth in some North African and Middle East countries, some OPEP countries did not invest oil revenues in reforming their economic structures. Moreover, the poorest countries, heavily dependent on oil imports and external aid, were very affected by the crisis. These oil-importing developing and poor countries turned to private financial markets to pay for imports and cover deficits on their current account balances. All this resulted in an emerging debt crisis. All this resulted in an emerging debt crisis: between 1972 and 1974, total long-term debt service increased by 29.4% in average (World Bank 2007). Since the end of the oil crisis the world's situations has changed dramatically in many aspects, affecting labour standards throughout the world.

Some trends might suggest that developing and poor economies have been catching up in recent decades. For example, developing economies' share of world exports has significantly increased in the past fifteen years. In 1990, high-income countries represented 83 per cent of global exports, whereas fifteen years later that percentage was significantly lower (72 per cent). Moreover, there are signs of a reduction in poverty and working poverty. Thus, extreme working poverty has significantly decreased in recent decades, shifting from 40.3 per cent in 1980 to 19.7 per cent in 2003. Working poverty has also decreased, from 59.8 per cent in 1980 to 47.4 per cent in 2003 (ILO 2007). Can we conclude from these figures that developing economies are profiting from the new economic order? Indeed, there is no such thing as a global integration of economies, but rather a process of regional integration. While East Asia has seen its share of exports grow significantly (representing 4 per cent of total exports in 1990 and 11 per cent in 2004), other world regions have hardly increased their export participation or have not increased at all (Sub-Saharan Africa, South Asia, Middle East, and North Africa). The G-7 (high income economies), which represents 11.5 per cent of the world's population, produces 74

per cent of total GDP, whereas East Asia and the Pacific, representing 29.2 per cent of total population, produce less than 7 per cent, and Latin America and the Caribbean only 5.4 per cent. Furthermore, although the reduction of poverty is perceptible in aggregated terms, it has been particularly significant in East Asia, which shows an outstanding improvement in the reduction of working poverty, together with an increase in labour productivity. Yet, China and India have contributed significantly to this decline (ILO 2006). The situation in Sub-Saharan Africa and South Asia is particularly alarming, with 89 per cent of the employed population earning less than US\$2 per day. Moreover, Sub-Saharan Africa is the only region where working poverty has increased. In the same vein, inequality has been growing worldwide since the 1980s, both within regions and within countries. The sharpest rise has occurred in Eastern Europe, which was the region with the lowest inequality level until the mid-nineties. Inequality has continued to grow in regions that already had high inequality indexes, such as Latin America and Asia.

Indeed, major structural barriers persist for a significant improvement in the position of the poor and developing world relative to the developed economies in terms of a decrease in poverty and catching up economically with in the near future. One of these barriers lies in the agricultural sector. Agriculture is still a crucial sector in many developing and poor countries. While its contribution to the GDP is decreasing in other sectors (especially the services sector), it is still the main productive activity of the working population in many regions of the world. According to the UN Population Division, the rural population still comprised 59.5 per cent of the total population in less developed regions in 2000 (with an estimate of 56.8 per cent for 2005) and in the least developed economies the share was even higher at 74.8 per cent in 2000 and 72.3 per cent in 2005. Its output, however, represents only 16 per cent of GDP. These figures show how predominant low-productivity sectors are in some low-income economies. And although productivity has unquestionably increased in most of the regions (excluding Sub-Saharan Africa), this improvement has been slower than in Europe or the United States. The following is a telling example of this situation: 1 per cent of the agricultural labour force in North America produces 16 per cent of the total agricultural output. Several studies have shown the positive correlation between rural population (and the vast majority of rural population works in agriculture) and working poverty. Consequently, one important source of underdevelopment and poverty stems from low productivity associated with the spread of low value-added production in some regions.

In addition, poor countries struggle to cope with other important shortages and deficiencies: the specialisation in low value-added sectors in which low-skilled jobs predominate continues to be prevalent and there is a high presence of the informal economy. While in the developed economies the informal economy represents 15 per cent of total GDP and 20 per cent of the labour force, in low-income countries it represents more than 50 per cent of GDP and about 47 per cent of the workforce is working in the informal economy. In addition, there are important gaps in labour standards, such as in collective bargaining coverage rates. Child labour also constitutes a matter of concern, given that in some countries of Sub-Saharan Africa more than 50 per cent of children (5 to 14 years old) are workers (Togo, Niger, Guinea-Bissau, Cameroon, Central African Republic, and Chad). Figures above 30 per cent are common in other African and Asian economies and it remains high in some Latin-American countries. Moreover, working time in many countries approaches 47 to 50 hours per week. This is the case in Peru, with an average working time of 49.8 hours per week (2000), Hong-Kong (China) with an average of 48 hours per week (2005), and Philippines (about 45 hours per week in 2005) (ILO 2005).

Case study 1. Economic growth is not translated into decent job growth. Shengli Niu (ILO).

The number of unemployed people worldwide remained at a historical high in 2006 despite strong global economic growth. Even though more people are working globally than ever before, the number of unemployed remained at an all-time high of 195.2 million in 2006 or at a global rate of 6.3 per cent. There weren't enough decent and productive jobs to raise the world's 1.37 billion working poor and their families above the US\$2 poverty line. Growth has failed to reduce global unemployment and even with continued strong global economic growth in 2007 there is serious concern about the prospects for decent job creation and reducing working poverty further. For the past decade, economic growth has been reflected more in rising levels of productivity and less in growing employment. While world productivity increased by 26 per cent, the global number of those in employment rose by only 16.6 per cent. Creation of decent and productive jobs, not just any jobs, was a prerequisite for reducing unemployment and slashing the number of families working but still living in poverty. This in turn is a precondition for future development and economic growth. The strong economic growth of the past half decade has had only a slight impact on the reduction of the number of workers who live with their families in poverty and this was true in only a handful of countries. In 2006, the employment share of the service sector in total global employment progressed from 39.5 per cent to 40 per cent and, for the first time, overtook the share of agriculture. Unemployment hit young people (aged 15 to 24) the hardest, with 86.3 million young people representing 44 per cent of the world's total unemployed in 2006. The employment gap between women and men persists. In 2006, only 48.9 per cent of women aged 15+ were working compared with 49.6 per cent in 1996. The comparable male employment-to-population ratios were 75.7 in 1996 and 74.0 in 2006. In most regions, unemployment rates did not change markedly between 2005 and 2006. The largest decrease occurred in the region of the Developed Economies and the European Union, where the unemployment rate declined by 0.6 percentage points between 2005 and 2006 to 6.2 per cent. East Asia's unemployment rate was 3.6 per cent, thereby remaining the lowest in the world. South Asia's unemployment rate was 5.2 per cent and South-East Asia and the Pacific's was 6.6 per cent. The Middle East and North Africa remained the regions with the highest unemployment rate in the world at 12.2 per cent in 2006. Sub-Saharan Africa's rate stood at 9.8 per cent, the second highest in the world. The region also had the highest share in working poverty, with 8 out of 10 women and men living on less than \$2 a day with their families. This underscores that tackling the decent work deficit in Africa is a regional and global priority. Employment-to-population ratios the share of people employed within the working age population varied between regions. The Middle East and North Africa had the lowest ratio, at 47.3 per cent in 2006. East Asia had the highest ratio with 71.6 per cent in 2006, but its ratio has dropped by 3.5 percentage points over the past ten years. If caused by an increase in educational participation, as is the case in East Asia, a decrease of the employment-to-population ratio is a good thing. In Latin America the ratio gained 1.8 percentage points, up to 60.3 per cent of people employed within its working-age population in 2006. However, in this region non-agricultural employment is concentrated in low-productivity, low-wage sectors of the economy, with insufficient levels of social protection and exceptionally high levels of income inequality. Indeed, in Latin America, income inequality goes hand in hand with unequal access to education, health, and political power, and it involves widespread poverty. In all regions, the total number of working poor at the US\$1 level declined between 2001 and 2006 except in Sub-Saharan Africa where it increased by another 14 million, and in Latin America and the Middle East and North Africa where it stayed more or less unchanged. Over the same period, the total number of US\$2 a day working poor declined in Central and Eastern Europe (non-EU) and CIS, and most significantly in East Asia by 65 million. On the other hand, it increased in South-East Asia and the Pacific, South Asia, the Middle East and North Africa with the biggest rise, of 26 million, occurring in Sub-Saharan Africa. Young people have more difficulties in labour markets than adults; women do not get the same opportunities as men; the lack of decent work is still high; and the potential a population has to offer is not always used because of a lack of human capital development or a mismatch between the supply and the demand side in labour markets. Nowadays the widespread conviction is that decent work is the only sustainable way to reduce poverty, which is why the target of "full, productive and decent employment" will be a new target within the Millennium Development Goals in 2007. Now is the time for governments as well as the international community to make sure that the favourable economic conditions in most parts of the world will be translated into decent job growth.

Reference: International Labour Organization. Global Employment Trends Brief 2007. Geneva: January 2007.

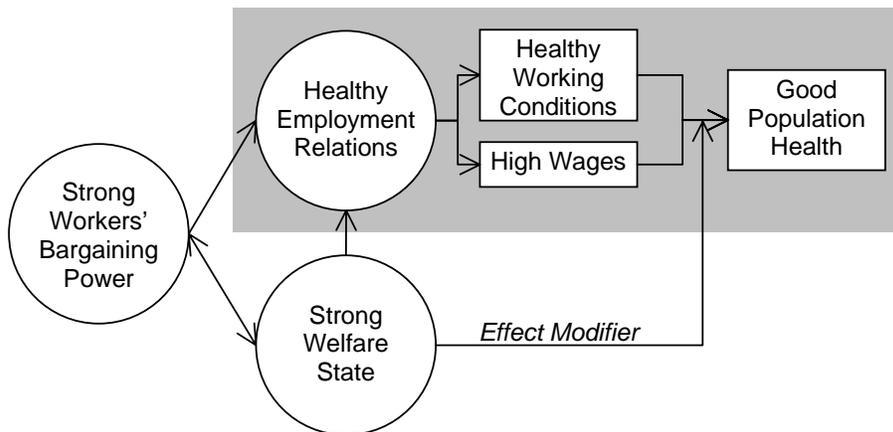
3.3. Labour markets and welfare states: a country perspective

This section has the purpose to develop a broad description of world labour markets and welfare state development. First, we present a typology of countries based on employment relations which summarizes the state of labour market regulations in the world system . Next, using this typology, we present selected country case studies to illustrate the main features of the country cluster's labour markets.

3.3.1. Country Typology of Employment Relations

While the vast majority of empirical studies on social determinants of health have generated frameworks and explanations including economic indicators (Wilkinson 2005), few scholars have investigated the macro-political and policy pathways through which the social determinants of health operate structurally (Muntaner and Chung 2005). Consequently, a new research program has emerged that focuses on the political determinants of health. Several scholars (Muntaner and Lynch 1999; Navarro and Shi 2001; Muntaner et al. 2002; Navarro et al. 2003; Navarro and Muntaner 2004; Navarro et al. 2006; Chung and Muntaner 2006, 2007; Muntaner et al. 2006) have singled out, first, the political process underlying social class formations in the labour market and, subsequently, the resulting welfare state as important determinants of population health. In this model, employment relations are at the core of the welfare state or welfare regime of a given country (Korpi 1983; Locke et al. 1995). Therefore, within the context of social determinants of health, the next step is to establish an empirical typology that centers on the role of employment relations as a determinant of population health status across countries. In Figure 3 we develop a model of employment relations and population health at the national level that can be generalized at the global level.

Figure 3. The relationship between workers' bargaining power, welfare state, employment relations, and health.



Employment relations have been considered a centerpiece of West European welfare states in advanced industrialized countries (Esping-Andersen 1990). The core of the employment relationships in these countries lies in the "social pact" which centers on power relationships between organized labour (trade union and collective bargaining), government (especially Social Democratic parties), and business associations. The power of labor, usually measured by union density or collective bargaining coverage, correlates approximately with the welfare state regime types (Chung 2006), providing sound empirical evidence for using union density and collective bargaining coverage as indicators for employment relations in these countries. The employment relation is therefore closely associated with welfare services. De-commodification of labor, that is, the degree to

which individuals or families can uphold a socially acceptable standard of living independent of market participation (Esping-Andersen 1990) allows workers to exit from the labor market at need, and in turn allows them to choose not to endure hazardous work environments (i.e., as it gives workers more bargaining power). Therefore, the key to understanding employment relations and their impact on workers' health is to understand the workers' bargaining power which gives them leverage to push for a stronger welfare state and healthier working conditions.

Employment relations affect workers' health via two different pathways. The first is related to the physical conditions of work at the point of production itself (i.e., the workplace), which has been traditionally the scope of industrial medicine and occupational health. The other pathway is an outcome of the labor process that affects workers' lives outside the workplace, namely, wages and benefits (vacations, pensions, workers' compensation). Thus, employment relations, their ensuing physical and psychosocial hazards, and various forms of economic compensation affect the health status of workers. These two outcomes of employment relations are modified by government-provided welfare services and result in the health status of the working population.

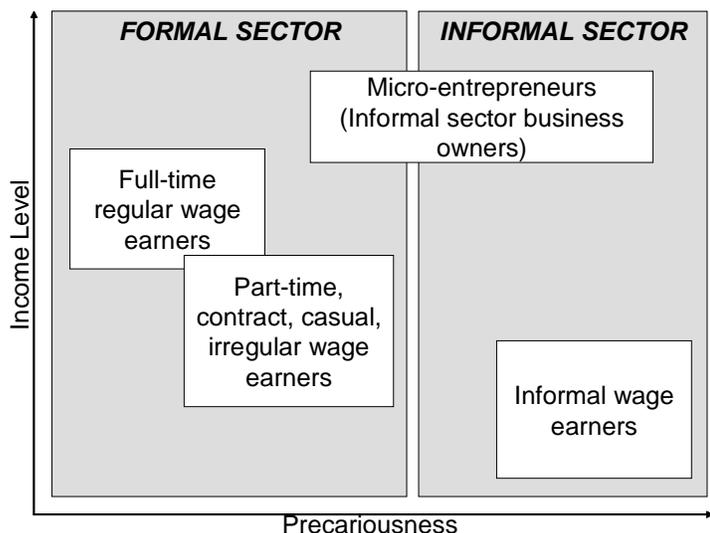
Extrapolating the welfare state typology and employment relations

This notion of workers' bargaining power becomes problematic when we look for indicators (i.e., union density, collective bargaining coverage) in less developed countries. The most notable difference is related to the high percentage of informal sector workers in low- to middle-income countries. Although the existence of an informal sector is not confined to less developed countries (Portes and Sassen-Koob 1987; Gërkhani 2004), the often dire working conditions in the informal sector, such as child labor, slave labor, and work at lower-than-subsistence compensation levels, are exacerbated in low- to middle-income countries. In addition, both in developed and developing countries, precarious employment relations have reduced the proportion of unionized workers, especially since the 1980s. These developments limit the validity of using indicators such as union density and collective bargaining coverage for characterizing the labor markets of low- and middle-income countries. Therefore, where the majority of workers are not covered by collective bargaining, alternative indicators should be developed. Figure 4 contains a diagram of types of employment relations in a hypothetical labour market. The labour market is made up of a formal sector and an informal sector. In the formal sector, there are full-time regular workers and irregular workers in precarious jobs, the latter being on the rise in recent decades. These labour markets are characterised by different rules and regulations, and therefore serve as rough breakpoints in employment relations. While the popular concept of informal economy connotes a uniform para-legal "underground" economy with appalling working conditions and no social security, several empirical studies have shown that there are at least two distinctive class positions in the informal sector: small entrepreneurs and informal wage earners. Since the income inequality between these two class positions is larger than in the formal sector, the health implications of working in the informal sector should reflect such greater economic inequality as well. However, assuming that there are many more workers than employers, we can predict that the average level of health in the informal sector will be worse than in the formal sector. Based on the above considerations, we expect that employment relations and working conditions in the informal sector are more hazardous than in the formal sector. In addition, compensation factors serve to mediate the impact of employment relations on population health. Thus, low wages and weak unemployment insurance mediate the negative impact of employment relations on health. In addition welfare state provisions such as social security benefits, universal access to health or anti poverty cash supplements are likely to moderate the impact of employment relations on health.

Following this conceptual framework, we develop a global typology of employment relations. This typology covers the whole world, as countries are divided into groups

according to their position in the world system (core, semi-periphery, and periphery) (Babones 2005; Arrighi and Drangel 1986), while three types of employment relations are generated by each position. The aim here is to outline the macro-political economic roots of employment relationships and their relationship with population health status at the global level. A macro-social approach to labor markets in the global context will provide a deeper social understanding of how variability in employment relations occurs.

Figure 4. Main type of employments in the labour market.



Summary of methods, data and analyses

Data from countries were compiled and analyses were conducted in three groups separately, based on the country's position in the world system (in tiers of the world's income distribution). For semi-peripheral and peripheral countries we applied a cluster analytical method. For core countries, we used well established typologies of labour markets based on welfare state (see Navarro et al. 2006; Chung and Muntaner 2007). Using data from the World Bank (2000), the International Labor Organization (ILO) (1990-1997 and 2003), and the World Health Organization (WHO) (2000, 2004), we conducted a series of cluster analysis of middle- and low-income countries in an effort to understand the relation between labour market conditions and health outcomes (see Section 3.5.2.). Because of the lack of data, we could not use key labour indicators in the formal sector (union density and collective bargaining coverage) for this analysis. Instead, we used indicators measuring the prominence of the informal sector in the labour market, the workers' wage level, and the inequality in the labour market. Among these, labour market characteristics were measured as a factor score that was composed of four variables of child labour (%), working poor (%), employment-to-population ratio (EPR), and labor force participation (LFP) gap. Variables and sources are given in Table 1.

Three positions in the world system. Using the analytical tool provided in Babones (2005), we divided countries into three groups by their position in the world system. We used population-weighted Gross National Product per capita (GNPpc), generated through the World Bank's Atlas Method (adjusted by exchange rate) for the classification. Figure A1 in Appendix shows three clear groups of countries as well as the cutpoint in log10 of GNPpc. Using five variables listed under the heading of "Labor market characteristics", we constructed a factor score. Factor analyses were conducted using a principle component method, and the reliability of the score was measured by Cronbach's alpha. Finally, factor

scores were constructed using the regression method. Using this factor score, we conducted a series of hierarchical cluster analyses to generate typologies of countries. This was achieved using Ward's method of measuring squared Euclidean distance. Analyses were conducted using SPSS Ver. 12.0.

Table 1. Variables used in the typology of countries.

Variables	Year	Source
Informal economy in % of GNP	2000	The World Bank
(Union density and collective bargaining coverage) <i>Did not use this variable due to small N</i>	Various, 1990~ 1996	World Labour Report 1996 (ILO)
Inequality factor score		
<ul style="list-style-type: none"> • Child labour (%) • Working Poor (%) • EPR (employment-to-population ratio) • LFP (labour force participation) gap - female vs. male 	1997 and 2003	Key Indicators of Labour Market (ILO)
Health outcomes	2002 or 2004	The World Health Report

Analyses were conducted using data from 88 peripheral and 49 semi-peripheral countries, for a total of 137 developing countries. When the variable "informal economy in % of GNP, 1999-2000" was used in the analysis to understand the implication of informal economy, from the sample was narrowed to 53 peripheral and 26 semi-peripheral countries (a total of 79 countries) because of missing data points. The descriptive statistics of explanatory variables are given in Table A1 in Appendix. The percentage of GNP generated through the informal sector is not as different in these two groups of countries, i.e., semi-periphery vs. periphery. Among labour market inequality factors, peripheral countries showed much higher child labor and working poor compared with their counterpart. In both the peripheral and the semi-peripheral group, there were countries that reported zero per cent of child labour and working poor. A list of these countries is given in Table A2 and Table A3 in Appendix. Labour market characteristics factor scores (LMC-F) are constructed by position in the World-System, therefore a total of two factor scores were constructed. Using the LMC-F, we conducted the cluster analyses which resulted in three clusters of countries for each position in the World-System (periphery and semi-periphery). Peripheral country-clusters are shown in Table A2. The cluster on the right-hand side of the table provides less secure and unhealthy employment relations to its workers compared to the one on the left-hand side. To understand the impact of informal economy, we also determined the association between the variable "% GNP from informal sector (Informal GNP)" and labor market indicators. Informal GNP is marginally significantly associated with some explanatory variables and LMC-F in peripheral countries while not associated with semi-peripheral country explanatory variables except EPR2003 (p-value=0.020). From this observation, we can argue that the relationship between size of informal sector and labor market characteristics by position in the world system.

The clustering of countries according to labor market characteristics varies greatly between peripheral and semi peripheral countries on the one hand, and OECD countries, on the other. Semi-peripheral countries are characterized by growing informality in their labor markets but maintain some degree of stability and rule of law in labor market transactions that approximates them to wealthier OECD countries. Some of them such as Chile have developed their own forms of emerging welfare state institutions as well.

Peripheral countries represent another level of labor market instability altogether. Starting from large levels of informal work, they end with severe labor market insecurity where the rule of law or labor market protections are sometimes impossible due to wars, political instability, authoritarian regimes and foreign interventions (Stubbs and Underhill 2006). Some general findings emerged from our analysis. First among them is the important distinction between labor institutions and informal labor markets. Labor institutions are closely related to the strength of the welfare state (Huber and Stephens 2001). Labor institutions refer to the state regulation of the labor market (e.g., collective bargaining), whereas informal labor markets refer to the situation where there is an absence of state intervention in the labor market (Majid 2001). Labor market equality is enhanced as state intervention and regulation of labor market increases and as the size of the informal labor market decreases. With regard to the labor market in peripheral countries, in many of them the majority of the workers labor in the informal sector (Majid 2001). Low-income wages force workers to sell their labor power at sub-subsistence level income. In addition an insufficient income earned by parents forces their children to venture into labor market at an early age. While the labor institution factors (i.e., union density) are scarcely recorded in these countries, LMC-Fs correlate significantly with size of the informal sector. Informal sector in these countries signifies deteriorating working conditions, which was revealed in our empirical analyses. Social security factors and income level should be taken into account to predict population health status with more accuracy in analytical studies. A second set of conclusions pertains to the Labor Market in Semi-Peripheral Countries. Union density and coverage should still be important in those countries, as some have emergent or residual welfare states (eg., Eastern block), but their effects could not be analyzed due to the small sample size. Finally the Labor Institutions in Wealthy Countries confirm previous studies (Chung and Muntaner 2006, 2007). Labor institutions, measured through union density and collective bargaining coverage correlate closely with welfare state regime type in wealthy countries. The integration of flexicurity labor market initiatives in Scandinavian countries and the varieties of capitalism approach could yield more refined labor institution typologies (Hall and Solskice 2001). The final working typology of countries classified by national economic level and labour market indicators is shown in Table 2.

Table 2. Typology of countries classified by national economic level and labour market policies.

	More Equal	LABOR MARKET	More Unequal
Core	Social Democratic Labor Institution	Corporatist Labor Institution	Liberal Labor Institution
	Sweden, Denmark, Norway	France, Germany, Austria, Spain	US, UK, Canada
Semi-periphery	Informal Labor Institution	Informal Labor Market, More Successful	Informal, Labor Market, Less Successful
	Chile, Hungary, Poland, Malaysia	Turkey, Thailand, South Africa, Venezuela	Botswana, Gabon, El Salvador
Periphery	Informal market, More successful	Insecurity	Maximum insecurity
	Indonesia, India, Armenia, Pakistan, Bulgaria, Tajikistan, Sudan, Sri Lanka, Mauritania	Nigeria, Jordan, Algeria, Morocco, Egypt, Arab Rep., Iran, Islamic Rep.,	Ethiopia, Ghana, Kenya, Bhutan, Nigeria, China, Bangladesh, Angola

The clustering of countries according to labour market characteristics varies greatly between peripheral and semi peripheral countries on the one hand, and OECD countries, on the other. Semiperipheral countries are characterised by growing informality in their labour markets but maintain some degree of stability and rule of law in labour market transactions that approximates them to wealthier OECD countries. Some of them such as Chile have developed their own forms of emerging welfare state institutions as well. Peripheral countries represent another level of labour market instability altogether. Starting from large levels of informal work, they end with severe labour market insecurity where the rule of law or labour market protections are sometimes impossible due to wars, political instability, authoritarian regimes and foreign interventions.

3.3.2. Selected country case studies

3.3.2.1. Sweden

Sweden is an example of the Nordic social democratic welfare regime, included in the cluster of “more equal” among the rich or core countries. In Sweden, social policy is characterised by universality and relative lack of targeting, and generous benefit levels with a high degree of income replacement. Welfare services are almost solely produced within the public sector, with a small share of private actors (SOU 2004). In 2005, 76 per cent of men and 72 per cent of women aged 16-64 were in employment (Labour Force Survey Statistics Sweden 2005). Unemployment was 6.2 % among men and 5.7 % among women. Among young people (16-24), the total figure is 14.3 per cent. Along with the other Nordic countries, Sweden has traditionally had a strong union movement, and still enjoys a high membership rate in all occupational groups, although lower among those privately employed. There is a long tradition of collective agreements instead of legal regulations, for instance, regarding minimum wage, hours of work, and the use of temporary employment, which has contributed to a strong union influence (Kjellberg 2003; Blom-Hansen 2000). Between 90 and 95 per cent of all Swedish employees are covered by collective agreements. In 1990, overall unionisation was 81 per cent compared with 80 per cent in 2002, having peaked at 85 per cent in 1993. While unions may have been weakened at peak level due to decentralisation of bargaining since the late 1980s, they continue to play an important role at the plant level. Labour market policy in Sweden has been part of the general economic policy and its main goals are to promote growth and full employment while restricting inflation (Thörnqvist 1999). Targeted groups within active unemployment policy (labour market programs) are disabled people, immigrants, young people, and the long-term unemployed, e.g., those who have special difficulties in finding a job due to being either newcomers, or far away from the regular labour market. This means, for example, that people under 25 have the right to participate in a labour market program (which may be education or work placement) after 100 days of open unemployment. Policies regarding hiring and firing provide that people on long periods of sick leave are covered by the same strong employment protection.

3.3.2.2. United States

The United States belongs to the cluster of core liberal countries with a more unequal social structure. Traditionally, the market has dominated over state regulation as the main mechanism for resource allocation in the country. Although historically there has been some variation concerning income distribution, in recent decades income inequality has been increasing in the United States, with a rising Gini index (measure of income inequality) from the 1960s to the 1990s, followed by a leveling of the index in the 1990s (Moss 2000). The Gini index increased 4 per cent from 1995 to 2005 (DeNavas-Walt et al. 2006). In the United States the top 1 per cent of the population accounts for 40 per cent of the wealth in the nation (Moss 2000). In a continuing downward trend over the past three

decades, only 13 per cent of workers were unionized in 2005 (U.S. Department of Labor 2006a). Blacks, men, and public sector workers were more likely to be union members (U.S. Department of Labor 2006a). In 2005, union workers' median weekly income was \$801 compared with \$622 for non-union workers (U.S. Department of Labor 2006a). The federal minimum wage has not been increased since 1996. Unions and anti-poverty organizations support the increase in the minimum wage, while small businesses and retailers oppose such an increase (Anonymous 2002). Many organizations support the introduction of a living wage, which more adequately and realistically meets the needs of cost of living of families (Pew Partnership for Civic Change 2006). Fifteen per cent of the population has no health insurance coverage (some 45 million Americans) including a growing number of workers and their families (Arheart et al. 2006) particularly in blue collar occupations, so there is a debate in the United States about the merits of creating a health care system with universal access (Rosenblatt 2005). In 2005, about 25 per cent of female workers were part-time compared with 11 per cent of male workers (U.S. Department of Labor 2006b). These female part-time workers are found among all different age groups, compared with male part-time workers who are more commonly younger workers. In the third quarter of 2006, full-time Black male workers made 80 per cent of what White men made, while Black female workers made 84 per cent of what White women made (U.S. Department of Labor 2006c). Hispanic salaries lagged behind those of Blacks, Whites, and Asians, respectively. From 2003 to 2005, there were 3.8 million workers age 20 and older displaced from their jobs. Of these, 49 per cent lost their jobs due to company or work site closings, 29 per cent because their job was abolished, and 22 per cent because of insufficient work (U.S. Department of Labor 2006d). About 40 per cent of these displaced workers received advance written notice of the displacement (U.S. Department of Labor 2006e). The largest group of displaced workers in the United States has been in the manufacturing field (28 per cent). Another diverse group of non-traditional workers is the contingent and alternate arrangement workers. This group includes workers who do not expect their job to last, or who report that their work is temporary. However, this group is diverse in that it includes independent contractors (7.4 per cent of those employed in 2005; largely white males, over age 35, with only 10 per cent preferring a more traditional work status), as well as on-call workers and temporary help agency workers (0.9 per cent of those employed in 2005; largely female, young, Black, and Hispanic, with 56 per cent preferring a more traditional work status) (U.S. Department of Labor 2005). All of these contingent and alternate arrangement workers were less likely to have health insurance or employment-based pension plans (U.S. Department of Labor 2005).

3.3.2.3. Chile

Chile stands out in the Latin American region as a country that is highly participating in the global economy, experiencing rapid economic growth in the last two decades. Chile belongs to the semi-periphery, according to the typology of countries, and to the cluster of "informal labour institutions", which means a more egalitarian society compared with countries such as Turkey or El Salvador. However, since the mid-1980s, Chile has followed a free-market economic model, with scant State regulation and a focus on exploitation of natural resources: copper mining, fisheries, fruit production, and forestry. Trade union membership has declined in Chile (10 per cent of salaried workers) and the unions are not very powerful, except among copper miners, public-sector employees, and in a number of strategic activities such as forestry. Collective bargaining in major conglomerates is also very limited, and restricted to well-paid jobs, with individual rather than collective bargaining being the rule. Health and working conditions are not open to negotiation, partly because the military government's labour plan excluded from negotiation any issues that might signify workers' participation in "the employers' prerogative to organize the enterprise" and partly because of the predominance in the country of a trade-union culture of focusing on wage claims. Concerning labour market provisions, two main

flexibilisation strategies have been predominant in the country: subcontracting of work or personnel (35 per cent of salaried work) and the lengthening of the working day beyond its customary limits (in 2003, in Chile, the number of hours worked annually was 25 per cent higher than in European countries, 15 per cent higher than in Japan and 14 per cent higher than in the United States). The labour market participation rate has increased over the past twenty-five years. The increase is almost exclusively due to women joining the labour force. In 2006, male participation attained 71.5 per cent and female only 38 per cent, with no improvement in the type of work available for women. The wage gap with men is 30 per cent. Almost three quarters of employees are salaried workers, while self-employed workers represent 27 per cent. Social security protection depends almost entirely on the written contract of employment, which is also the yardstick by which the level of formality of labour relations may be measured. Workers with no contract of employment make up 24 per cent of salaried workers. They are also precarious in terms of income; in 2003, their average wage was 60 per cent lower than that of workers with a formal contract of employment. Taking into account both criteria, 40 per cent of employment is precarious on account of the lack of protection and 32 per cent of salaried work is precarious on account of its instability.

3.3.2.4. Turkey

Turkey belongs to the semi-peripheral countries, and it is located in the cluster of middle countries, "informal labour market, more successful". Turkey is in a better situation than for example Botswana concerning a more egalitarian labour market structure, but lacks behind Chile in social protection and redistribution mechanism. According to national statistics, the relative poverty rate was 20.5 per cent in Turkey in 2005. The working poor population is 37.2 per cent among agricultural workers, 9.9 per cent among industry, and 8.9 per cent among workers in the service sector (Bulletin of Turkish Statistic Institution 2006). An export-oriented industrialization model has been implemented instead of import substitution, the development model of choice since the new constitution was approved in 1982. International Monetary Fund (IMF) and World Bank (WB) programmes, namely structural adjustment policies, have been launched. As the standard practice, like in other developing countries, it has involved free capital flows, trade liberalisation, privatisation, and deregulation of the labour market (Rosenblatt 2005). Labour unions have been weakened during the past twenty years. Labour unions are losing their representation power while being replaced by professional associations or similar non-governmental organizations. There are no reliable data on union membership in Turkey. The available data is widely contradictory, ranging from 10 per cent to 50 per cent (Çelik and Lordoglu 2006). Even the data from the unions are far from presenting clear figures. The unionization rate that includes collective bargaining, however, is presumed to be around 10 per cent. It should also be noted that civil servants do not have the right of collective bargaining. Turkey's social protection system is based on membership in the social security institutions. Informal labour, as it is not being registered by any social security institution, has been estimated to be 51.5 per cent in 2005. The ratio of informal employment to formal employment is 34 per cent in urban areas and as high as 76 per cent in rural areas. Some estimates have shown that formal workers earn twice as much as informal workers. There is only limited employment protection regarding dismissals in companies with thirty employees or more, which means that at least 75 per cent of the working population is not accounted for in this scheme. The current unemployment system provides benefits to merely 3 per cent of unemployed workers (Yigit 2005). The general unemployment rate is 10.3 per cent, higher in the non-agricultural sectors (13.6 per cent). This figure increased sharply after the 2001 economic crisis, remaining higher than at any of the pre-crisis periods. Although economic growth has been about 7 per cent for the past three years, unemployment has been steady around 10 per cent, which has been referred to as "jobless-growth". The unemployment rate among young workers (15-24 years old) is 19.3 per cent. Among the unemployed, approximately 56 per cent are long-term (more than six

months). Agricultural employment has decreased considerably during the past ten years. Currently 29.5 per cent of workers are employed in agriculture, whereas 19.4 per cent are in manufacturing, 5.3 per cent in construction and 45.8 per cent in services (Turkish Statistical Institute 2007). The cutback of state subsidies in the agricultural sector emanating from both national and international policies has caused a dramatic decline in the employment in this sector. Consequently, approximately 300,000 agricultural labourers have become redundant each year since the mid-90s. Since the demand for unskilled labour is low, this trend has gradually lowered the labour force participation rate. It has been estimated that 64 per cent of the working population has migrated due to unemployment or economic difficulties within the past twenty years. The rapid reduction in agricultural employment and the difficulties in generating new employment are among the most important problems challenging Turkey today. Regarding child labour, the percentage of economically active children is 10 per cent between the age of 6 and 17. More than half of those children work in agriculture (58 per cent), while 21 per cent work in industry and 20 per cent in trade and services. Approximately 52 per cent of the working children work more than 40 hours per week.

3.3.2.5. Nigeria

Nigeria belongs to the semi-peripheral countries and it is located in the "insecurity" cluster. This cluster includes a group of countries where labour market insecurity is not maximum but they lag behind "informal market, more successful" countries such as Sri Lanka. Once a large net exporter of food, Nigeria now imports food. Nigeria is over-dependent on the capital-intensive oil sector which provides 20 per cent of GDP, 95 per cent of foreign exchange earnings, and about 65 per cent of budget revenues. The largely subsistence agricultural sector has failed to keep up with rapid population growth. The active economic population of Nigeria is estimated at about 57 million (68 per cent) with 70 per cent of the labor force in agriculture, 10 per cent in manufacturing, and 20 per cent in the service industry. The economically active population in Nigeria is 67.9 per cent (48.9 per cent female and 87.5 per cent male). Employment circumstances are heavily influenced by the relative importance of agriculture (70 per cent of workers); female illiteracy (40 per cent); and extensive use of child labour in the informal economy. For decades, trade unionists have accused Nigerian governments of ignoring several core labour standards, which the country is obligated to comply with by international law. The International Confederation of Free Trade Unions (ICFTU) report "serious shortcomings in the application and enforcement of all eight core labour standards, particularly with regards to the lack of trade union rights of workers including the right to strike, discrimination and child labour." Further, trade union rights were restricted in Export Processing Zones and strikes were prohibited in such zones for a period of ten years, which is also contrary to ILO conventions. Both the ICFTU and the Nigeria Labour Congress (NLC) stated that "in view of the seriousness of these problems, there is need for a much stronger commitment to social dialogue by the federal government of Nigeria in order to achieve a culture of constructive engagement of labour over policies and government issues." Severe hazardous working conditions and high unemployment in rural Nigeria have given rise to dramatic increases in labour migration to urban settings. In turn, urban centers are experiencing shortages of housing and supporting infrastructures, making bonded labour even more prevalent in urban centers than ever before. Bonded labour consists mostly of domestic workers, although there are reports of similar employment conditions for temporary workers in private and commercial sectors. Government efforts are usually lacking; women are discriminated against and millions of children work. Child labour is a pervasive problem in Nigeria, with severe working conditions that offer limited or no stimulation for physical or mental development. In the year 2003, Nigeria was estimated to have 15 million child labourers (Dabalén et al. 2001; Siddiqi and Patrinos 2006) representing 23.9 per cent of children between the ages of 10 and 14. Three main forms of child labour outside of the home are farm work, street vending, and weaving.

Children as young as 6 years old trade in the streets, most of them between 9 and 14 years old. Studies (Global March against Child Labor 2005) show that children are trafficked from neighbouring countries (Niger, Benin, and Togo) to serve as domestic servants, market traders, and child beggars and prostitutes in Nigeria. The economic and political tensions in the country have remained largely under control over the past eight years but have not reduced worker vulnerabilities or improved working conditions, employment benefits, or health indices. Workplace exposures to hazards contribute to illnesses for many workers.

3.3.2.6. Ethiopia

Ethiopia belongs to the peripheral countries in the world economy and it is located in the cluster of "maximum insecurity" countries. These countries are among the world's poorest and most inegalitarian. Until 1974, Ethiopia was a monarchy state when a military junta deposed Emperor Haile Silasie, the last monarch of Ethiopia, and established a socialist state. Torn by a bloody coup, uprisings, recurrent drought, and refugee problems, the military regime was toppled in 1991 by a collusion of rebel forces, the Ethiopian People's Revolutionary Democratic Front (EPDRF). A transitional government was formed by a loosely affiliated liberation front which stayed in power up to 1994. Between 1995 and 2004, EPDRF assumed power through uncompetitive elections, under the newly created Federal Democratic Republic of Ethiopia. In May 2005, the first openly contested elections in Ethiopia's history were held, with remarkably high voter turnout. The political climate remains characterized by a lack of trust among the parties and the potential for further unrest. In parallel, the dispute between Ethiopia and Eritrea over the demarcation of their shared border remains unresolved, which has a negative effect on the economic and social development of the country. Ethiopia's economy remains heavily dependent on agriculture, accounting for about 50 per cent of the GDP, 90 per cent of export earnings, and 85 per cent of employment in the country (Oxford Policy Management 2004). Main exports include coffee and other cash crops such as cotton, oilseeds, sugar, and hides and skins. During the period of the military/socialist government (1974-90) all land and unoccupied houses, as well as large and medium private enterprises, were nationalized without compensation. Farmers were given rights to use farmland instead of their customary command ownership rights. There was a high degree of state ownership and control of the country's economy. Eventually, economic reforms were introduced by the EPDRF (the present government). EPDRF introduced Structural Adjustment Programs for poverty reduction under market economy principles. Foreign aid played a critical role in implementing this reform. However, the economy continued to be under constant threat of political instability, war, and recurrent drought, the country remaining underdeveloped and with high poverty levels (World Bank, 2004). Moreover, unemployment and underemployment have become serious problems. Although measuring unemployment in less developed countries such as Ethiopia is difficult because of the lack of reliable records and the existence of various informal types of work, some reports suggest that nearly 59 per cent of the urban work force is unemployed (51.1 per cent of men and 67.3 per cent of women), which would constitute the highest urban unemployment rate in the world (Oxford Policy Management 2004). Among the urban employed, 45.61 per cent are permanent employees, 8.07 per cent contract workers, and 46.31 per cent are casual workers. The rate of child involvement in economic activity is also among the highest in the world (World Bank Report 2004), being primarily a rural phenomenon in Ethiopia.

3.4. Employment relations and health: a descriptive view.

3.4.1. Introduction

The aim of this chapter is to provide a descriptive view of employment relations and their effects regarding health-related outcomes. The first section examines power relations and how the current global political and economic order might be facilitating the emergence and consolidation of powerful economic actors, such as corporations, which have a powerful influence on societies' patterns of regulation and redistribution, as well as on the distribution of health and disease. Secondly, we analyse how this global order is influencing employment regulations and labour-capital relations in some industries and places (through the example of Export Processing Zones). The third section presents the various employment dimensions. We provide information on the conceptualisation of these dimensions, their evolution and the global picture, and some data on how these employment dimensions relate to inequalities in health. Finally, we examine the relation between working conditions and health by examining the main risks associated with working conditions and the health-related outcomes.

3.4.2. Power relations

One of the aims of this report (see Section 3.1.), is to analyse the "political economy of health" (Navarro and Muntaner 2004; Navarro 2002), contextualising employment relations as an outcome of the interaction between powerful economic actors and political institutions. These actors have a significant impact on the life experiences of different social groups, influencing their differential exposure to hazards and their access to a healthy life. In an increasingly globalized market-based economic system, the political, economic, financial and trade decisions of a handful of institutions and corporations can have an effect on the daily lives of millions of people worldwide, setting up labour standards, occupational health and safety regulations, union protections, among other important aspects. Large corporations are particularly relevant actors in the contemporary political systems not only thanks to their growing power and resources but also through their pervasive influence on key economic decisions that have serious consequences in the production of disease (Wiist 2006). Of the world's largest 150 economic entities, 95 are corporations. The revenues of Wal-Mart, BP, Exxon Mobil, and Royal Dutch/Shell Group all rank above the GDP of countries such as Indonesia, Saudi Arabia, Norway or South Africa (World Bank 2005). Corporations manufacture many of the goods and services we consume, and they contract or subcontract millions of jobs, many of which have a negative impact on employees' health. Corporate behaviours may directly or indirectly promote disease through various practices, including advertising to create new customers; public relations to foster a positive image of their products or activities; litigation to delay, weaken, or overturn laws and regulations; sponsored research to support their points of view; or even using illegal strategies to advance their objectives. Also relevant are campaign contributions to finance and influence democratically elected governments and lobbying for legislation that furthers corporate economic interests (Freudenberg 2005). In 2002, for example, the drug industry in the United States contributed about \$22 million to Republicans and almost \$8 million to Democrats. In the European Union, the intense political lobbying of employers concerning legislation on chemical products (REACH, or Registration, Evaluation and Authorization of Chemicals) is much of the reason why the European Commission significantly watered down the chemical regulation reform. Many corporations and governments have made efforts to limit trade union membership and involvement in work organization and Occupational health and safety matters (Hogstedt et al. 2007). The result is a workplace environment where individual rather than collective concerns and actions are very often emphasized. We present here the case of the largest

retail company in the world (Wal-Mart). Another interesting case is provided in the appendix, case study A1. "Ikea, a (social) model to be dismantled".

Case Study 2. "Wal-Mart's nation": the impact on labour and health. Joan Benach (Pompeu Fabra University) and Carles Muntaner (University of Toronto).

Founded in 1962 in Rogers, Arkansas, Wal-Mart has become a ubiquitous component of the U.S. landscape (96 percent of the population live within 32 km of a Wal-Mart location), expanding steadily in countries such as Mexico, Japan, Canada, the United Kingdom, and China to become one of the world's largest "corporation nations." Wal-Mart's sales are bigger than the GDP of all but a few countries, having the largest labour force in the world with the exception of governmental employment (Zook and Graham 2006). Wal-Mart is thus the largest retail company in the world, employing 1.8 million people across the globe, including 1.3 million in the United States (more than GM, Ford, GE, and IBM combined), with revenues accounting for more than 2 percent of GDP. This commanding position has been achieved thanks in part to its pioneering low-price/high-volume business model that has squeezed competitors and suppliers alike by aggressively implementing supply-chain operating efficiencies, increasing productivity in distribution, and using its market power to dictate lower prices to its suppliers (Dube et al. 2005). Wal-Mart has been widely criticized for its policies and labour practices by labour unions, community groups, grassroots and religious organizations, and environmental groups. For example, it has been accused of wage abuse (e.g., workers earn on average a third less than their counterparts), bilking workers of due overtime pay, firing employees for discussing unionization, discriminating against female staffers, and not providing appropriate health insurance (Grimm 2003). In the United States, as recognized by the company itself, health coverage is inadequate and expensive for their employees (they spend 8 percent of their income on health care, nearly twice the national average), and Wal-Mart has a large percentage of employees and their children on public assistance (Greenhouse et al. 2005). Indeed, Wal-Mart encourages its low-income workers to benefit themselves of state public assistance and social services, particularly public health care benefits, so that citizens are truly subsidizing this wealthy corporation (Dube and Jacobs 2004). Not only does the company have aggressive plans to attack growth in employee benefit expenses, but it also controls its workforce by opposing unions and fighting efforts at unionization. When employees are hired they are immediately shown an antiunion video. Store managers are often held accountable for the success of union organising, and they have sometimes been accused of violating labour laws to stop it (Rose 2006). When workers at a Jonquière, Quebec, Wal-Mart voted to unionize, Wal-Mart closed the store five months later, citing weak profits (Bianco 2006). In developing countries, the situation is often worse. In China, workers in factories are often teenage girls and young women who work in sweatshop conditions, thirteen to sixteen hours a day, with wages well below subsistence level, and no enforcement of health and safety rules. In the Philippines, Wal-Mart has been accused of violating workers' freedom of association, forcing workers to take on 24-hour shifts, and not allowing workers to drink water or go to the bathroom during work hours. Moreover, the impact of Wal-Mart on labour and health goes beyond direct employees, having an impact on indirect workers subcontracted by third-party providers and on competitors' employees. The Wal-Mart model ensures a race to the bottom, pitting workers against each other as countries seek to keep labour costs low.

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- Zook MA, Graham M. Wal-Mart Nation: Mapping the Reach of a Retail Colossus. In: Brunn SD, ed. *Wal-Mart World. The World's biggest corporation in the global economy*. New York: Routledge, 2006:15-26.

3.4.3. Labour regulations and industrial relations

Under the claim that free market globalisation and an increased global economic competition require a continuous race to the bottom in costs, corporations and governments are pushing labour standards down to levels of brutal economic exploitation and slavery-like practices, especially in developing and poor countries. In this context, Export Processing Zones (EPZs) have become the symbol of the new global economic order and its potential effects on labour regulations, industrial relations, and workers' welfare. The ILO has defined an EPZ as an "industrial zone with special incentives set up to attract foreign investors, in which imported materials undergo some degree of processing before being re-exported." (ILO 2002). These EPZs have been called with different names such as free trade zones, especial economic zones, maquiladoras, etc. These zones are intended to attract foreign investment, and thus they are subjected to preferential treatment regarding fiscal and financial regulations. This preferential treatment often involves exemptions from part or all of the labour code, including Occupational Health and Safety Regulations.

In 2002, there were 116 countries with EPZs and a total number of 3000 EPZs. In this same year, 37 million people were working in EPZs. Only in China, there were 30 million people working in Export Processing Zones, amounting to about one-third of the ten-year growth in employment in China or a third of the whole industrial manufacturing workforce. Thus, EPZs have been claimed to be an efficient strategy for poor countries to develop their economies, create employment and improve their infrastructures. The effect on employment of the EPZs in China has been of particular importance for young women, who gain entry into the formal labor market through these jobs (Hogstedt et al. 2007). However, poor work environments and work practices have been a common concern, in China and elsewhere. Relentless hostility to trade unions is a constant feature of most EPZs around the world, and is among the arguments put forward by the authorities to attract investors (ICFTU 2003). Threats of dismissal, physical assault or even dead threats are used to discourage workers from joining the unions. Several countries, moreover, prohibit strike action in EPZs. Other kinds of abuses that have been reported are un-paid overtime work, inhuman working hours and deficient health and safety. For example, in some factories workers are locked into the workplace during working hours. In some cases, workers have died in fires while being locked into the premises. Poor ventilation, the failure to provide medical attention, lack of proper accommodation and the creation of social "guettos" in barrack-style living quarters are other examples of EPZs employment practices.

Case Study 3. What are the origins and consequences of *maquilas*? María Menéndez (Catalonian Workers Commissions, Girona, Spain) and Joan Benach (Pompeu Fabra University, Barcelona, Spain).

Maquilas is the short form of *maquiladoras*, originally associated with the process of milling, that later became common parlance, together with *sweatshop*, to mean the industrial plants built by multinationals in poor countries to take advantage of the much lower cost of doing business there. Currently, millions of clothes, car stereos, shoes, and children's toys are produced in these plants. This phenomenon started in the mid-1960s, when about 185,000 Mexicans returned to Mexico after the United States ended permits for "guest workers" (*braceros*) to work as farm workers. This scenario facilitated the creation of a so-called free trade zone where U.S. firms set up assembly plants on the Mexican side of the border (Border Industrialization Program). These factories were thus allowed to import components and raw materials duty-free and re-export the finished product to the United States (Williams et al. 2001). During the 1980s, *maquilas* spread out in Central America, mainly in Nicaragua, Honduras, Guatemala, El Salvador, Dominican Republic, and in the 1990s in the south-east of Asia and the north of Morocco, to cover the U.S. and the European markets, respectively. Today, in Mexico, Honduras, and Nicaragua, about 1.5 million workers are employed in *maquilas*. Local governments and multinationals claim that these factories are a source of wealth and economic development in the country, promoting the creation of jobs, technological advances, and workers' training that contribute to the improvement of people's living conditions. The reality, however, is quite different. While the company management enjoys exceptional legislative and economic conditions, those employed in *maquilas* are not paid enough to support

their families with dignity, facing dangerous and exploitative conditions, and often suffering from exposure to health and safety hazards, lack of benefits, arbitrary discipline, and sexual and moral harassment. In the life of a standard *maquila* worker in a "tax-free" area, work never ends. It likely starts at 4 a.m. with housework, continuing on to the bus stop at 5 a.m. to go to the factory to work in a chain production with only twenty minutes to rest during the lunch break, and it is often prolonged even after arriving home at 9 p.m. Low wages, long hours, unpaid overtime, a lack of environmental or labour regulations is a clear example of labour rights violation which is reinforced with the infringement of the workers' basic human rights to form independent trade unions. Unionized workers or his leaders are intimidated and repressed in what sometimes have been called "enterprises free of syndicalism." In this context of absolute domination of labour and absence of control of the state and worker's organization, the employers do not have the concern about the dependence of obtaining surplus value on healthy worker's labour because the social economic context allows them to have a workers turn over. The human right to health does not exist in these workplaces. As in most regions, occupational health in Central America is not a governmental priority, and work-related health problems are almost always underreported, misdiagnosed, and not recognized as such (Wesseling et al. 2002). Furthermore, there is a lack of research on the situation of *maquilas* owing to the extreme difficulty of investigating often miserable employment and working conditions within non-democratically accountable firms.

References:

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- Wesseling C, Aragon A, Morgado H, Elgstrand K, Hogstedt C, Partanen T. Occupational health in Central America. *Int J Occup Environ Health*. 2002;8:125-36.
- Williams DM, Homedes N. The impact of the maquiladoras on health and health policy along the U.S.-Mexico border. *J Public Health Policy*. 2001;22:320-37.

3.4.4. Employment dimensions

3.4.4.1. Unemployment

The global economic growth of the beginning of the 21st century has failed to reduce significantly unemployment among those in work. Unemployment hits harder poor countries, women, and young population. Unemployed workers of less developed countries push into informal jobs in search of work facing high uncertainty due to the lack of unemployment benefits or social security coverage.

Overall, in 2006 there were more about 195 million unemployed in the world, an all time high (6.3 per cent). In many non-industrialized countries, estimates of unemployment are around 30 per cent, while in developed countries unemployment is often around 4-12 per cent. Women are more likely to be unemployed than men (6.6 vs. 6.1 per cent respectively). There are over 85 million unemployed youth (aged 15 to 24) around the world, comprising nearly half of the world's total unemployment, though this age group makes up only 25% of the working age population. Compared to adults, youth are more than three times as likely to be unemployed.

- International Labour Organization (ILO). Global Employment Trends Brief 2007. Geneva: January 2007.
- Global employment trends for youth Brief. International Labour Office. Geneva. 2006.

The distribution of unemployment is more concentrated among the least educated. In 2003, a person in the developed economies with only primary education was at least three times as likely to be unemployed as a person with tertiary education. The pattern reflects the increase in demand for more highly educated and skilled workers in developed economies and the declining demand for workers with low education.

- International Labour Organization (ILO). Key Indicators Labour Market (KILM). 4th edition.

According to an international definition (1982), an unemployed person is a person above a specified age who during a reference period was without work, currently available for work, and seeking work.

Unemployment figures indicate how many people are not working for pay but seeking employment for pay. It is only indirectly connected with the number of people who are actually not working at all or working without pay. Typically, unemployed are defined as people without work of at least one hour in a reference week. This means that many workers in the developing world who have no regular work or income, but in the absence of any other means of support must find a way to generate the means to survive, do not fall within the unemployed category.

This definition leaves out a large numbers of people who would like to work but are prevented even from looking for work, such as those with long term illness who could work if working conditions were better, and parents (most often mothers) who could work if child care services were adequate. Likewise, this definition is not counting population incarcerated in prisons, those who are self-employed in the informal economy, involuntary early retirees, and those who work for payment for as little as one hour per week OR MORE but would like a full-time permanent job ("involuntary part-time" workers).

- Thirteenth International Conference of Labour Statisticians, 1982.
- International Labour Organization (ILO). Key Indicators Labour Market (KILM). 4th edition.

Worldwide, unemployment remained at an historical high in 2006 despite strong global economic growth. Growth failed to reduce global unemployment and even with continued strong global economic growth in 2007 there is serious concern about the prospects for fair job creation and reducing working poverty further.

Even though more people are working globally than ever before, the number of unemployed remained at an all time high of 195.2 million in 2006 or at a global rate of 6.3 per cent. There were not enough decent and productive jobs to raise the world's 1.37 billion working poor - those working but living on less than the equivalent of US\$ 2 per person, per day - and their families above the US\$ 2 poverty line. For the last decade, economic growth has been reflected more in rising levels of productivity and less in growing employment. While world productivity increased by 26 per cent the global number of those in employment rose by only 16.6 per cent. Available information shows a wide dispersion of unemployment rates throughout the world (see Map 3 and Figure 5). The higher unemployment bands, however, were concentrated in countries in the regions of Central and Eastern Europe (non-EU) and CIS as well as Latin America and the Caribbean. Looking at the ILO-comparable unemployment estimates available, results showed that the average unemployment rates available for the new Member States of the European Union (Czech Republic, Estonia, Latvia, Lithuania, Poland, Slovakia and Slovenia) - 11.7 % for males and 12.5 % for females - were higher than the former Member States - 7.0 % for males and 7.8 % for females - in 2003 (see Table 3).

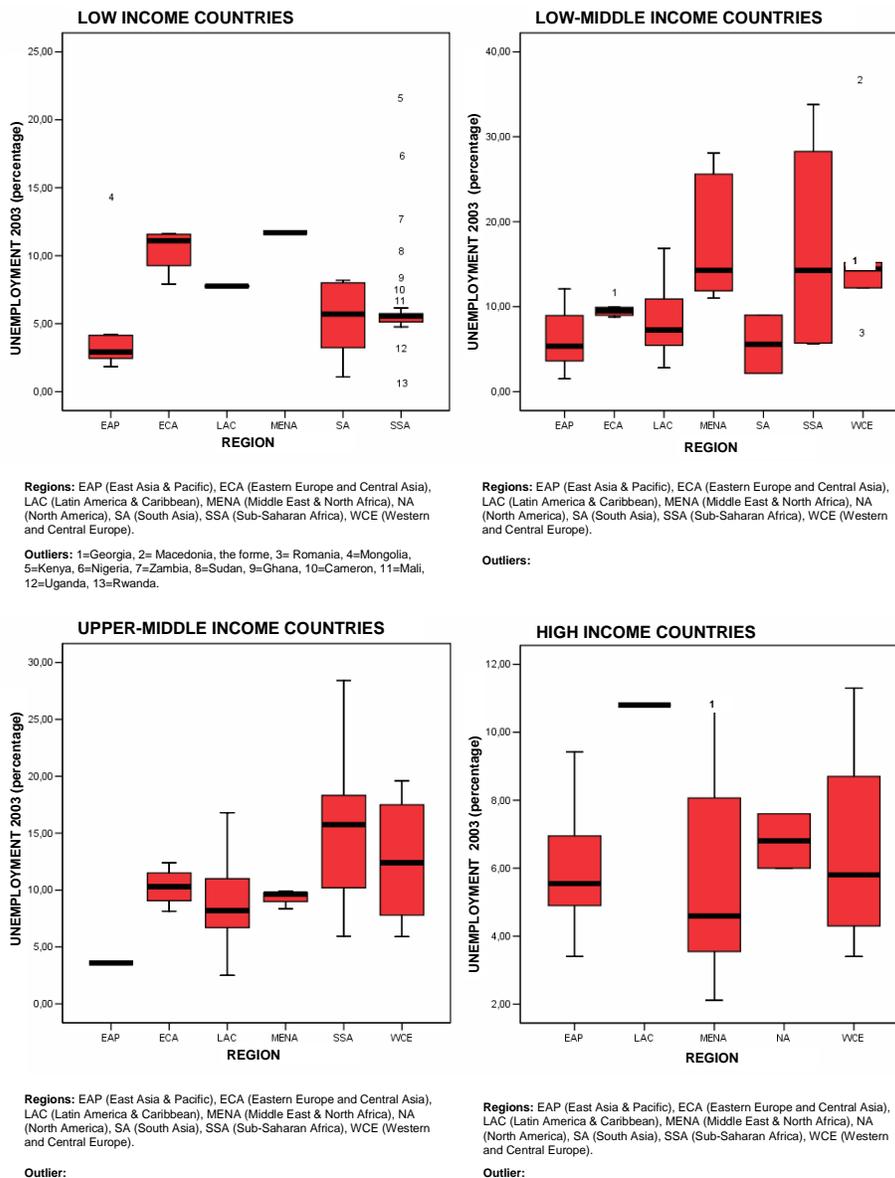
- International Labour Organization (ILO). Global Employment Trends Brief 2007. Geneva: January 2007.
- International Labour Organization (ILO). Key Indicators Labour Market (KILM). 4th edition.

Table 3. Unemployment rate and employment to population ratio by Region in 1996 and 2006.

	Unemployment rate		Employment-to-population ratio(%)	
	1996	2006	1996	2006
World	6.1	6.3	62.6	61.4
Latin America and the Caribbean	7.9	8.0	58.5	60.3
East Asia	3.7	3.6	75.1	71.6
South-East Asia	3.7	6.6	67.5	66.1
South Asia	4.4	5.2	58.4	56.5
Middle East and North Africa	13.0	12.2	44.9	47.3
Sub-Saharan Africa	9.2	9.8	68.8	67.0
Industrialized economies	7.8	6.2	55.9	56.7

Source: "Global Employment Trends *Brief, January 2007*. ILO and "Global Employment Trends Model, 2006", ILO

Figure 5. Percentage of unemployed by region and level of wealth in 2003 (ILO).



Being unemployed exclude people from social participation and the health benefits that it brings. Evidence on the relation between unemployment and health is large in developed countries but it is much difficult to study this relationship in poor countries with an extensive informal economy.

Although the impact of unemployment on health has been studied for a long time, scientific evidence has mainly been gathered in two economic periods of crisis and high unemployment: in the 30s when research mainly focused on work-loss, and in the 70s when the focus was more on non-economic aspects. The classical study by Marie Jahoda revealed important differences in patterns of reaction to unemployment. A study from Canada showed more malnutrition, underweight, cardiovascular diseases and anxiety among unemployed compared to employed.

- Jahoda M, Lazarsfeld PF, Zeisel H. Die Arbeitslosen von Marienthal. Ein soziographischer Versuch. Leipzig: S. Hirzel, 1933.
- Marsh LC, Fleming AG, Blackler CF. Health and unemployment. Some studies of their relationships. New York:Oxford University Press 1938.

Research on aggregate level has shown that high levels of unemployment in both society and neighbourhood are correlated with poor health and increased mortality. On a group level there is also evidence for male unemployment to be related to deteriorated health for the wives as well as to increased child abuse. As unemployment tends to hit already underprivileged groups (e.g. ethnic minorities and migrants not to forget the gender issues) there is a need for analyses of gendered dimensions as well as of other power-related mechanisms such as social class and ethnicity. Likewise, research in developing and poor countries is very scarce.

- Hammarstrom A, Janlert U. An agenda for unemployment research: a challenge for public health. *Int J Health Serv.* 2005;35(4):765-77.

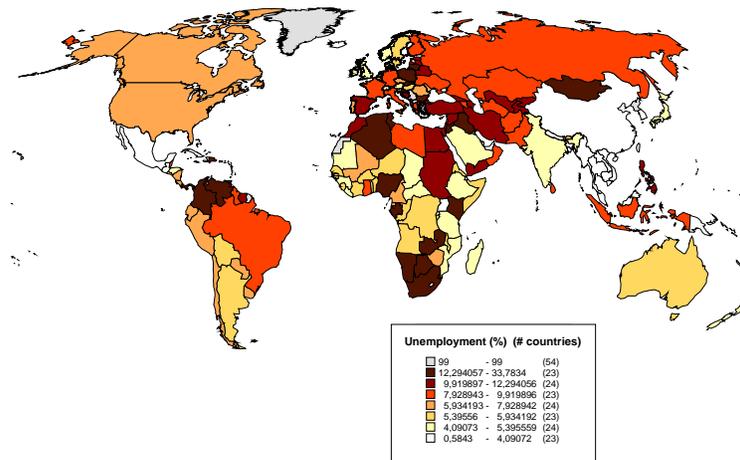
A study in the EU-15 identified unemployment as one of the ten most important contributors to the total burden of disease in the 1990s.

- Diderichsen F, Dahlgren G, Vågerö D. Analysis of the proportion of the total disease burden caused by specific risk factors. Stockholm, National Institute for Public Health. 1997.

In poor countries where informal economy is large, official unemployment rates are unlikely to be a true reflection of the realities in the labour market, and it is difficult to study the relationship between unemployment and health.

- Gilmore AB, McKee M, Rose R. Determinants of and inequalities in self perceived health in Ukraine. *Social Science and Medicine*, 2002;55(12):2177-2188.

Map 3. Percentage of unemployment by country in 2003 (ILO).

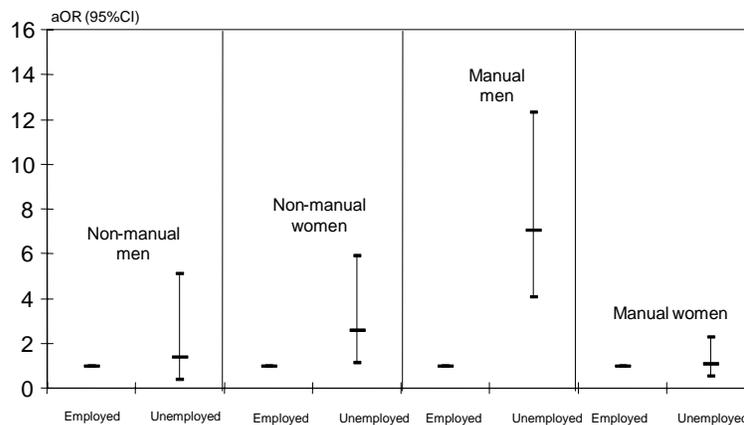


Case Study 4. Interaction between work and health inequalities. Lucía Artazcoz (Barcelona Public Health Agency), Joan Benach (Pompeu Fabra University), Carme Borrell (Barcelona Public Health Agency).

Research on health inequalities has often considered work as an essential element of conceptual frameworks that differ by sex. Whereas among men the analysis has been focused on social class, often measured through occupation, among women it has been dominated by the role framework, emphasizing women's roles as housewives and mothers with paid employment seen as an additional role (Sorenson & Verbrugge 1987). The dominance of the role framework in studying ill health among women contrasts with the paucity of attention to family roles, with the associated burden, and their influence on health in men. On the other hand, studies about social determinants of women's health have often neglected the importance of social class. These different approaches are consistent with the traditional sexual division of society that assigns men a primary role in the public and labour spheres, whereas women occupy a primary role in family life. Nowadays, in a context of transition from the traditional gender roles to more equal positions of men and women in society, an integrated framework of both approaches is needed in order to fully understand work-related inequalities in health. For example, a study reported a higher impact of unemployment on men's mental health among married manual workers, whereas for women, being married, and particularly living with children, acted as a buffer; and the mediating effect of social class on the impact of unemployment on mental health differed by gender and family roles (figure 6) (Artazcoz

et al. 2004). It has also been reported that the negative impact of domestic workload on female workers' health is restricted to those of low job status (Artazcoz et al. 2001). Moreover, it has been found that the impact of flexible employment on mental health depended on the type of contractual arrangement, gender, and social class and it is restricted to less privileged workers, women, and manual male workers (Artazcoz et al. 2005). These results illustrate the importance of analysing work-related inequalities in health in an integrated framework of the social class and gender inequalities approaches.

Figure 6. Impact of unemployment with no financial compensations on the mental health of workers who are married or cohabiting, by gender and social class (Reference: employed people of the same sex and social class) (Artazcoz et al. 2004)



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Artazcoz L, Benach J, Borrell C, Cortès I. Social inequalities in the impact of flexible employment on different domains of psychosocial health. *J Epidemiol Community Health* 2005; 59: 761-767.
 Artazcoz L, Benach J, Borrell C, Cortès I. Unemployment and mental health: Understanding the interactions among gender, family roles, and social class. *Am J Public Health* 2004; 94: 82-88.
 Artazcoz L, Borrell C, Benach J. Gender inequalities in health among workers: the relation with family demands. *J Epidemiol Community Health* 2001; 55: 639-647.
 Sorensen G, Verbrugge LM. Women, work, and health. *Ann Rev Public Health*. 1987; 8: 25-51.

See also in appendix, case study A2: "Do health inequalities increase when employment grows?."

3.4.4.2. Precarious employment

In an historical context of a growing political conservatism, neoliberal policies and structural adjustment programs, industrial relation regimes have been altered, while the weakening of unions and labour market regulations has taken place in many countries.

A number of important political factors and decisions framed by governments, international institutions and corporations have thus transformed the standard work increasing various forms of precarious employment.

- Louie et al. Refining measures of employment arrangements and precariousness: empirically derived categories in a sample of working Australians. *Relations Industrielles*, 2006;61(3):465-89.

Capital-labour accords and employment contracts have progressively been transformed into new regimes of flexibilised employment. In an increasingly deregulated labour market, the former model of production has broken, "flexibility" has emerged as a main core goal and value, and precarious jobs have increased.

The need to be “flexible” has been proposed for schedules and salaries, while “flexibility” in the job market has been proposed as a prerequisite for economic competition, as a solution to current high unemployment rates, it has been recognized as a positive feature of a worker’s personality, and even as a ‘state of mind’.

- Scott HK. Reconceptualizing the nature and health consequences of work-related insecurity for the new economy: the decline of workers’ power in the flexibility regime. *Int J Health Services* 2004;34(1):143-153.
- Luttwak, E. *Turbo Capitalism: Winners and Losers in the Global Economy*. Weidenfeld and Nicolson, London, 1998.
- Amable M. *La Precariedad laboral y su impacto en la salud. Un estudio en trabajadores asalariados en España [Precarious employment and its impact on health. A study on salaried workers in Spain]* PhD Dissertation. Pompeu Fabra University, 2006.

Increasing labour flexibility also means reduction in the constraints on the movement of workers into and out of jobs previously restricted by labour laws, union agreements, or various types of labour markets that protected workers’ income and job security.

- Benach J, Muntaner C. Precarious employment and health: Developing a Research Agenda. *J Epidemiology Community Health*. 2007;61:276-277.

The grouping of “non-standard employments” is limited in its ability to analyze the new labour market reality.

Main reasons that explain this limitation include the following points: First, these forms of employment lack appropriate conceptual and theoretical developments; second, non-standard situations include a range of ill-defined heterogeneous categories including work arrangements that do not always provide an inferior position to permanent jobs; and third, since these categories are not very informative they may be confounded with possible explanations and mechanisms linking poor work arrangements and health outcomes.

These limitations suggest moving beyond groupings only based by their deviation from the full-year permanent job and the need of using conceptual alternatives based on the social structure of work organization such as the sociological concept “precarious employment”.

Precarious employment forms are located on a continuum, with the ‘standard’ full-time permanent contract, with social benefits at one extreme, and jobs with the worst conditions in each dimension at the other.

- Vosko LF (ed). *Precarious employment. Understanding Labour Market Insecurity in Canada*. Montreal: McGill-Queen’s University Press, 2006.
- Benach J, Muntaner C. Precarious employment and health: Developing a Research Agenda. *J Epidemiology Community Health*. 2007; 2007;61:276-277.

Precarious employment can be described as the lacking of the relations that support the standard employment relationship, making workers more vulnerable in jobs that are unstable, unprotected and increasingly unable to sustain individuals and families. Precarious employment can be considered a multi-dimensional phenomenon characterised according to four main dimensions: (1) high job insecurity (i.e., a specific psychosocial characteristic usually defined as “the discrepancy between the level of job security a person experiences and the level she might prefer” and that is related to fixed term contracts of expected limited duration), (2) low wage level (i.e., individuals are classified according to their economic dependence on employment and their possible material deprivation), (3) lack or limited social benefits (e.g., social security and unemployment benefit as indicators, may modify or mitigate the situation of precariousness; and also the capacity to exercise worker rights as a feature of the defencelessness of temporary workers) and (4) powerlessness (i.e., understood in the face of the capacity for discipline inherent in the employment relations in regard to utilization of the workforce) in which two sub-dimensions can be distinguished: empowerment (institution-level relations of legal protection of the employment relation which contemplates the presence of trade unions and individual or collective level negotiations over wages and working conditions) and vulnerability (the set of explicit or implicit social power relations in the workplace or the capacity to resist the discipline which the wage relation imposes).

- Amable M, Benach J, Porthé V, Muntaner C, Benavides FG, Menéndez M. conceptualizing the psychosocial dimensions of employment flexibility: the work precariousness (submitted).
- Amable M. *La Precariedad laboral y su impacto en la salud. Un estudio en trabajadores asalariados en España [Precarious employment and its impact on health]* PhD Dissertation. Pompeu Fabra University, 2006.

- Louie et al. Refining measures of employment arrangements and precariousness: empirically derived categories in a sample of working Australians. *Relations Industrielles*, 2006;61(3):465-89.

Currently, in many low-income countries there are no data available on a single index of precarious employment that can be used for making international comparisons while at the same time indicators of essential dimensions of precarious employment such as “powerlessness” are yet to be developed and indicators of other dimensions such as social benefits are not fully available.

Given existing data limitations we selected two useful and accessible indicators of key precarious employment dimensions such as job insecurity and low wages. For a large number of countries (n=172), we can use the percentage of “working poor”, an indicator developed in 2000 by the International Labour Organization, being defined as “those who work and at the same time belong to poor households.”

- Majid N. The working poor in developing countries. *International Labor Review*, 2001;140:271-91.

On the other hand, since in developed countries this indicator is not very sensitive, we have also selected indicators of temporary employment in OECD countries and in the European Union. Additionally, for a number of European Union countries we can also use data on the percentages of those employees who have both temporary contracts and low wages.

- OECD. EMPLOYMENT OUTLOOK. Taking the measure of temporary employment, 2002.
- Ramos Díaz, J. Empleo de Baja Remuneración. In: Anuario Social de España. Mercado de Trabajo, desempleo e inmigración, 2004.

The working poor constitute around 25 per cent of the employed labour force in all developing countries. In other words, one in every four employed persons in the developing world belongs to a poor household.

Using data from the International Labour Organization (KILM), we have compared percentages of working poor in the years 1997 and 2003 by countries with different level of wealth. Results show how the large burden of the working poor is overwhelmingly located in low-income countries and low-middle income countries (see Figure 7 and Map 4). For example, poor countries classified in the periphery according to the typology used in this report such as Bolivia, Haiti or Nigeria had in 2003 high percentages of working poor: 16.8, 32.7 and 78.2% respectively and the highest levels were mainly located in very poor Sub-Saharan countries such as Sierra Leone (81.5%), Liberia (83.7%) or Uganda (87.8%). The number of working people living on US\$2 a day has continued to grow in absolute numbers, reaching 1.37 billion in 2006.

- KILM (Key Indicators of the Labour), International Labour Organization. [Web page accessed 02-11-06] <http://www.ilo.org/public/english/employment/strat/kilm/>
- International Labour Organization (ILO). Global Employment Trends Brief 2007. Geneva: January 2007.

Out of the 550 million working poor in the world, an estimated 330 million, or 60% are women. Of the 1.1 billion young people aged 15 to 24 worldwide, one out of three is either seeking but unable to find work, has given up the job search entirely or is working but living on less than US\$2 a day.

- Global employment trends for youth Brief. International Labour Office. Geneva. 2006.
- Global Employment Trends for Women. International Labour Office. Geneva. 2004.

Since the concept of “working poor” is defined as the proportion of employed persons living in a household whose members are estimated to be below the poverty line (US\$1 or US\$2), this indicator does not seem to be quite appropriate to analyse precarious employment in developed countries.

- KILM (Poverty, working poor and income distribution indicator, KILM 20).

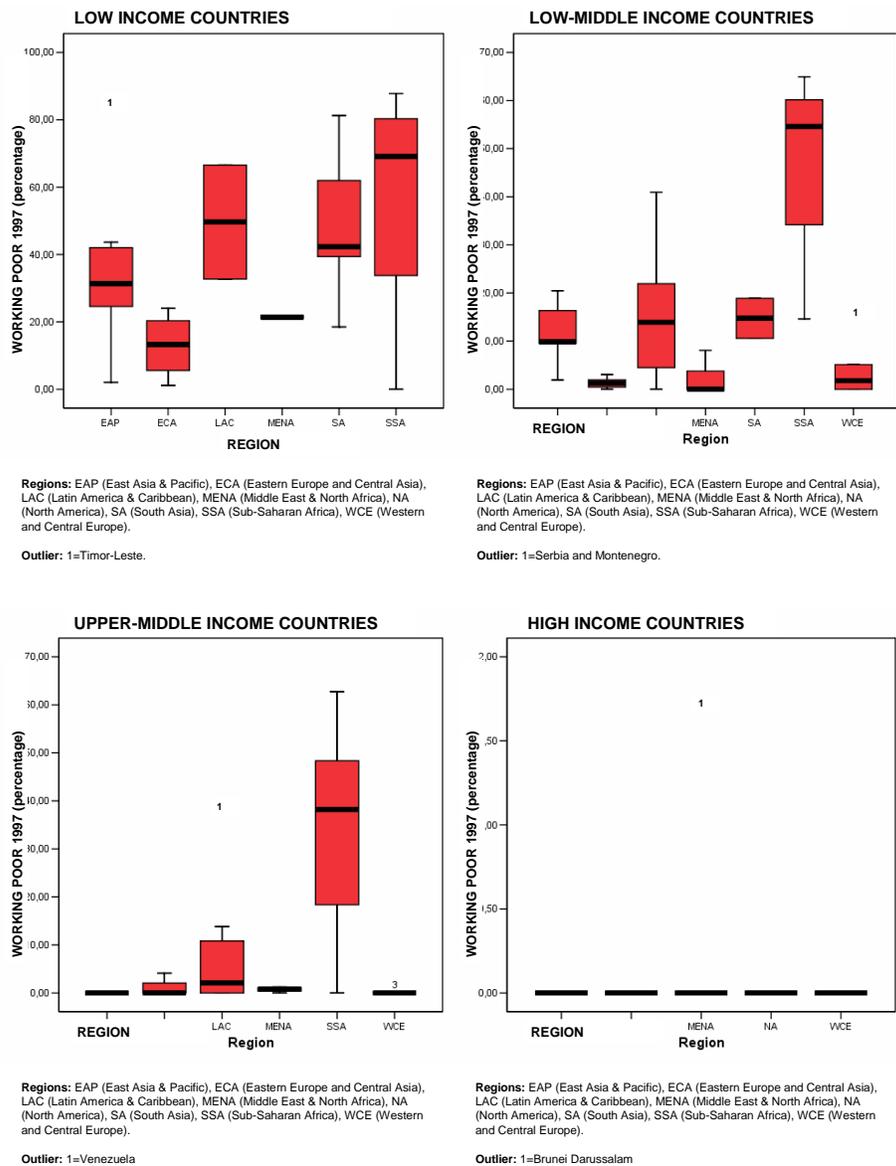
A considerable harmonisation of the statistics on temporary employment, a key indicator of precarious employment, has been achieved in the countries of the OECD and the EU, allowing for interesting analyses and outcomes.

Between 1991 and 2005, a steady increasing trend has been observed in the EU regarding temporary employment (that is, workers on fixed-terms contracts and on temporary agency contracts) and part-time work (see Figure 8). Temporary workers constitute a rather diverse group that work in a wide range of sectors and occupations, and for both public and private employers. However,

temporary jobs are disproportionately held by younger workers, women, and those employed in low-skill occupations, agriculture and small firms. Temporary workers are less satisfied with their jobs and more often report inflexible work schedules, monotonous work tasks and worse working conditions. Temporary jobs tend to pay less than permanent jobs and often offer less access to paid vacations, paid sick leave, unemployment insurance, pension and other fringe benefits, as well as less access to training. Although nominally covered by virtually all-public schemes and many voluntary, employer-provided schemes, the real eligibility of temporary workers appears to be substantially lower in many cases. This is due to the impact of eligibility criteria, such as minimum contribution periods. In other words, temporary employment per se rarely disqualifies workers from benefits, but the very short duration of many temporary jobs has that effect.

- OECD. EMPLOYMENT OUTLOOK. Taking the measure of temporary employment, 2002.

Figure 7. Percentage of working poor by region and level of wealth in 2003 (ILO).



Initial scientific evidence suggests that new types of work arrangements can be as dangerous as traditional unemployment for workers' health. Indeed, employees in "flexible" jobs share many labour market characteristics (e.g., lower credentials, low income, or being women, immigrants, and non-whites) with the unemployed, while experiencing themselves bouts of unemployment, a

factor strongly associated with adverse health outcomes. Therefore, even if precarious forms of employment had only a modest impact on health at the individual level, given the growing number of employees exposed, the magnitude of the potential impact on their health might be large. Moreover, the effects of precarious employment may be devastating not only to the health of the worker but also to the health and wellbeing of the family members and dependents.

- Benach J, Muntaner C. Precarious employment and health: Developing a Research Agenda. *J Epidemiology Community Health*. 2007; 2007;61:276-277.
- Benach J, Benavides FG, Platt S, Diez-Roux AV, Muntaner C. The health-damaging potential of new types of employment: a challenge for public health researchers. *Am J Public Health* 2000;90:1316-7.

Map 4. Percentage of working poor by country in 2003 (ILO).

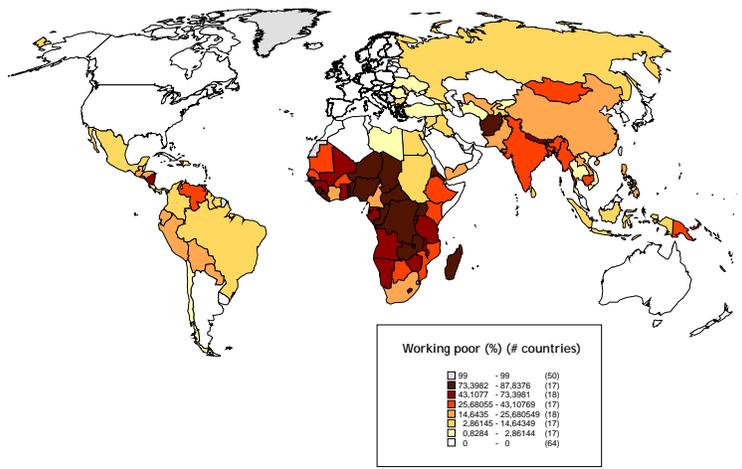
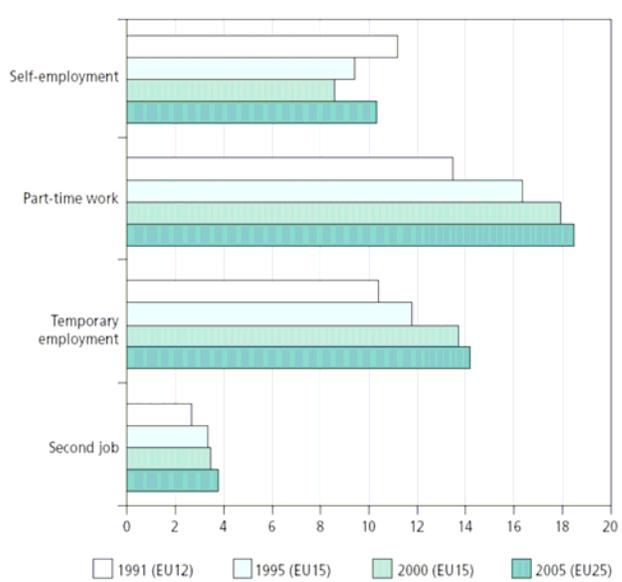


Figure 8. Non-standard employment in the European Union, 1991-2005 (percentage).



Source: Parent-Thirion A, Fernández Macías E, Hurley J, Vermeylen G. Fourth European Working Conditions Survey European Foundation for the Improvement of Living and Working Conditions, 2007.

Case Study 5. Kaisi Metals Factory in Guangzhou (China). Charles Kernaghan and Barbara Briggs (The National Labor Committee for Worker and Human Rights).

In the Kaisi Metals Factory in Guangzhou in the South of China, between 600 and 700 workers toil under dangerous and illegal conditions producing furniture parts for export to U.S. companies. Among those companies is the Knap & Vogt Manufacturing Company—located in Michigan—which imported \$10.4 million worth of goods from the Kaisi factory in a three-month period at the end of 2006. Every single labour law in China is routinely violated at the Kaisi factory, along with the International Labour Organization's core worker rights standards, while the U.S. companies sourcing production there say and do nothing. Grueling, exhausting, numbing, dangerous, and poorly paid would be the only way to describe the workday at the Kaisi Metals Factory. Kaisi workers are routinely forced to toil 14 ½ to 15 ½ hours a day, from 8:00 a.m. to 10:30 or 11:30 p.m., often seven days a week. It is not uncommon for the workers to be at the factory 100 hours a week, while toiling 80 or more hours. Workers are paid on a piece-rate basis. It is standard for management to arbitrarily set wildly excessive production goals, requiring workers to complete 7,780 to 11,830 pieces in a day, which is 640 to 980 operations an hour—or one piece every four to six seconds—for which they are paid an astounding six-hundredths of a cent per piece. The work pace is brutal, relentless, and dangerous. Workers are paid below the legal minimum wage and cheated of their overtime premium, earning less than half of what they are legally owed. Workers are paid just \$24.33 for a 77-hour work week, 32 cents an hour, while they should be earning at least \$52.56. The current minimum wage is 58 cents an hour. It is a dreary life for the workers at the Kaisi factory, who are housed in primitive, over-crowded company dorms located on the seventh floor of the factory. Each room measures about 3 1/3 by 7 1/3 meters and its walls are lined with double-level metal bunk beds. There is no other furniture, not even a bureau, a table, or a chair. Six to eight workers share each room. For privacy, the workers drape old sheets and plastic over the openings to their bunks. There is a tiny bathroom, which the workers say is filthy. There is no hot water and any workers who want to bathe during the winter must walk down four flights of stairs to fetch hot water in a small plastic bucket and return to their dorm room for a sponge bath. The air reeks of perspiration and sweaty feet. Married couples must live "off campus" under equally deplorable conditions, since they are able to afford only the smallest, most primitive one-room apartments. Zhu Shenghong, who lost three fingers at the Kaisi factory, lives in a single room with his wife. Their only furniture consists of a bed, which is broken, a few primitive wooden tables, and three tiny chairs Zhu made himself before he was injured, using scraps of wood he picked up on the street. The toilet is an outhouse, and the kitchen is in a hallway partitioned with some planks of wood. Zhu and his wife often cook with wood, largely subsisting on turnips. This is all that two people, both working in export factories, can afford. Much worse still is the fact that the Kaisi factory is a dangerous place to work, where scores of young people have been seriously injured, and some maimed for life. Dai Kehong was just 24 years old when both of his hands were crushed while working on a punch press molding machine, producing furniture parts for export to U.S. companies. It happened at 9.00 p.m. when Dai was 13 hours into his routine 15 ½ hour shift, Dai's right hand is mangled and deformed, with only the thumb and forefinger remaining, but frozen in place. His left hand was also crushed and frozen into a claw, as he is unable to bend or straighten any of his fingers. He has no ability to use either hand and will need an artificial limb. In September 2006 alone, five Kaisi factory workers were seriously injured, resulting in the loss of at least six fingers. In direct violation of China's laws, the Kaisi factory failed to enroll its workers in the mandatory national work injury insurance program, which is China's equivalent of Worker Compensation. Kaisi management also failed to report these serious work injuries to the local authorities. The Kaisi factory refused to pay anywhere near the full compensation these injured workers were legally owed. Management is even refusing to pay for Day Kehong's artificial limb. Meanwhile, the U.S. companies stood by and did not say a word as scores of young workers were injured and maimed due to dangerous working conditions. Nor have the companies sourcing production at the Kaisi factory uttered a single word to protest the seven-day, 80-hour work weeks, or the fact that workers were being paid below the legal minimum wage and cheated of their overtime premium while working on their goods. Nothing has been done to bring the primitive dorm conditions up to a level of acceptable decency and fairness. In fact, the companies give every indication that they care much more about their products than about the human beings who make them.

References: The National Labor Committee. Statement of Charles Kernaghan. Director NLC, Subcommittee on Interstate Commerce, Trade and Tourism Committee on Commerce, Science and Transportation. February 14, 2007; The National Labor Committee. Broken Lives. Behind the U.S. production in China. February 1, 2007.

See also in appendix, case study A3: "Precarious employment, health, and the life cycle".

3.4.4.3. Informal employment

Over the past two decades, employment in the informal economy has risen rapidly in all regions in most mid- and low-income countries. Even before the Asian crisis of the late 90s, the share of informal economy in the non-agricultural work-force ranged from over 55 % in Latin America to 45-85 % in Asia, to nearly 80 % in Africa.

Among the theories concerning the existence, persistence and recent worldwide growth of informal economy there are the "*old informality*" economic theory developed in the 60's, based on the idea of transition societies where the lack of land reforms and rapid industrialization caused massive migration to urban centres, thus creating a gap between jobs availability and demand, leading to increased sub-employment and poverty. On the other hand, according to the "*neoclassical informality*" theory, rather than a marginal position, the informal economy is a dynamic production segment that attracts small entrepreneurs who have limited access to credit and technology, or workers desiring better income, freedom from tight job schedules and subordination.

- Portes A, Castells M, Benton LA. The informal economy - studies in advanced and less developed countries. Maryland: The John Hopkins University Press, 1989.
- Noronha EG. Informal, illegal, injusto: percepções do trabalho informal no Brasil. Revista Brasileira de Ciências Sociais, 2003;18(53):111-129.

A view from a critical perspective states that main factors of the growth of informal jobs are related to three issues: first, patterns of economic growth including "jobless growth" and "high-tech growth", in which not enough formal jobs are created despite economic growth; second, economic restructuring and economic crisis, that is that the informal economy tends to expand during periods of economic adjustment and because households need to supplement formal sector incomes with informal earnings in response to inflation or cutback to public services; finally, the third issue relates to the globalization of the economy that has facilitated the expansion of large corporations to places where labour is cheaper, and worker protection laws are poorly developed, thus reducing labour costs. Also intense international trade may break local labour intensive small firms causing lay-offs and pushing workers to the informal economy or substandard jobs. Therefore, with the globalization of markets and macroeconomic adjustment policies, labour markets have been targeted by the restructuring leading to high unemployment rates, several forms of underemployment, and the growth of the informal economy.

- Charnes J. Informal sector, poverty and gender: a review of empirical evidence. Washington DC: World Bank, 1998.
- Carr M, Chen MA. Globalization and the informal economy: how global trade and investment impact on the working poor. WIEGO, 2001.
- Lund F. Learning from experience: a gendered approach to social protection of workers in the informal economy. Geneva: International Labour Organization, 2000. www.ilo.org/public/french/110secso/step/index.htm

Informal economy comprises a wide range of production and distribution of goods and services characterized by being out of State control. Firms from the informal economy are unregulated, unregistered and have low level of organization.

Descriptions of common informal economy activities from street vendors to employees of small repair shops convey that this type of production always has always existed. After World War II, the traditional economy, composed of small size firms, petty traders and casual workers, called "traditional sector", was limited to non-industrialised countries. This term began to be called "informal sector" since the early 70s and in the 90s was adopted as an international statistical term. Recently, this term has been replaced by "informal economy".

- International Labor Organization. Women and men in the informal economy: a statistical picture. Employment Sector. 2002. [.ilo.org/public/english/employment/gems/download/women.pdf](http://www.ilo.org/public/english/employment/gems/download/women.pdf). Last access in 02/02/2007.
- International Labor Organization. Key Indicators of Labor Market No. 7. Employment in the informal economy. <http://www.ilo.org/public/english/employment/strat/kilm/indicators.htm#kilm7> Last access in 12/12/2006.

Firms in the informal economy rely mostly on trust, the extent to which norms are backed up, and the strength of social ties. In rural areas, most of informal economic production is concentrated in subsistence farms, but in urban settings informal production is mainly carried out on streets and small size firms, most of them home-based or family owned enterprises. In this case, workers are mostly family members or relatives, and the overlap of capital and labour functions are common.

- Portes A, Castells M, Benton LA. The informal economy - studies in advanced and less developed countries. Maryland: The John Hopkins University Press, 1989.
- International Labor Organization. Key Indicators of Labor Market No. 7. Employment in the informal economy. <http://www.ilo.org/public/english/employment/strat/kilm/indicators.htm#kilm7> Last access in 12/12/2006.
- Akinboade OA. A review of women, poverty and informal trade issues in East and Southern Africa. UNESCO, 2005. ISSJ, 184:255-275.

A feature of informal employment is the lack of any statutory regulation to protect working conditions, wages, occupational health and safety, injury insurance, etc.

People employed in the informal economy comprise all persons who held a job in at least one production unit recognized as part of informal economy, regardless of their type of labour market placement or whether it is a main or secondary job. However, large formal enterprises may keep part of their workers illegally unregistered, with only a verbal job arrangement. Formal firms may keep informal employed individuals in the most dangerous activities to avoid fines resulting from occupational injuries or diseases or to reduce expenses with labour-related taxes, to have more flexibility for hiring and firing, and to keep payments under the legal minimum wages.

- International Labor Organization. Key Indicators of Labor Market No. 7. Employment in the informal economy. <http://www.ilo.org/public/english/employment/strat/kilm/indicators.htm#kilm7>. Accessed in 12/12/2006.

Self-employment can be another type of informal job in which workers do not have a formal job contract and there is no employer.

Self-employed workers are not eligible for wage-dependent social benefits and are rarely visible in official statistics. In developing countries most maintenance services, like painting, cleaning services, and baby-sitting, are performed by self-employed individuals. Moreover, their income will vary according to their ability to find jobs, quality and type of service, and their social or health insurance depends on out-of-pocket payments.

- International Labor Organization. Women and men in the informal economy: a statistical picture. Employment Sector. 2002. [.ilo.org/public/english/employment/gems/download/women.pdf](http://www.ilo.org/public/english/employment/gems/download/women.pdf). Last access in 02/02/2007.

Although unregistered, the informal economy represents a substantial volume of economic production.

Estimates of its extent and overall contribution to the nation's wealth remain a challenge to economists, especially because the informal economy involves quasi-legal businesses, non-legal but tolerated by society, illegal and criminal activities.

- Thomas J What is the informal economy anyway? SAIS Review XXI, 1(Winter-Spring):1-12. 2001.

According to International Confederation of Free Trade Unions (CFTU), 25% of the world's working population are active in the informal economy and generate 35% of global GDP. Informal economy affects 50 to 75% of workers in developing countries, excluding those employed in agriculture, and 30% of workers in the European Union. Women are over-represented in the informal economy. Two-thirds of the female active population in developing countries work in the informal economy (see Tables 4,5).

- The informal economy: women on the front line. International Confederation of Free Trade Unions. 2004, N° 2.
- Working out of poverty international labour. Conference 91st session. International Labour Office. Geneva. 2003.

Lack of social security coverage is largely concentrated in the informal economies of the developing world, which are generally a larger source of employment for women than for men. Work in the informal economy is characterized by low levels of skill and productivity and low or irregular incomes. In some parts of the world, the growth of a “migration industry” comprising private recruitment agents, overseas employment promoters, human resource suppliers and a host of other legal and illegal intermediaries has greatly facilitated female labour migration.

- Working out of poverty international labour. Conference 91st session. International Labour Office. Geneva. 2003.
- Preventing Discrimination, Exploitation and Abuse of Women Migrant Workers. An Information Guide. Booklet 1. Introduction: Why the focus on women international migrant workers. Gender Promotion Programme. International Labour Office. Geneva.
- Facts on Social Security. Fact sheets. International Labour Organization.

Workers having informal jobs are disadvantaged compared to formally hired workers in several aspects that separately or interactively, can affect health and safety. The most important factor is poverty, since several studies show that informal economy firms usually have low profits, and informal workers have lower salaries than those in formal firms. Wages are a large component of family income and therefore the informal economy or informal jobs are important determinants of consumption patterns. Small business owners on the other hand do not fare worst than their formal counter parts. Children of women working as street vendors who accompanied their mothers have increased prevalence of acute diseases (38.0%) as compared to the general population (27.3%) and injuries (5.8% vs. 3.6%). Since firms in the informal economy are unregistered and out of the state control, working conditions, which are largely dependent on the reinforcement of workers health and safety laws and regulation by the state, should be expected to be worse than in formal firms. The available literature on occupational health and safety in the informal economy, however, is scarce and most studies are descriptive, which limits conclusions and the generalization of results.

There is evidence that occupational hazards are common in informal firms. For instance, awkward postures and exposure to toxic chemicals, excessive noise poor sanitation, high workload, pesticides, violence and sexual assault (Oliveira, 2006) are commonly observed in informal economy settings. As a result, a high proportion of occupational injuries and diseases among informal workers has been reported in several studies. Informal workers reported receiving less training and supervision than formal workers and limited access to protective equipments. There are other factors associated with informal economy and informal jobs like low-standard housing and sanitation and inappropriate management of waste or toxic substances that can affect the environment and health.

- Da Silva MG, Fassa AG, Kriebel D Minor Psychological Disorders among ragpickers workers: a cross-sectional study. *Environmental Health* 2006;30(5):1-10.
- Fonchigong CC Negotiating livelihoods beyond Beijing: the burden of women food vendors in the informal economy in Cameroon. *International Social Science Journal* 2005; 57 (184):243-53.
- Hernandez P, Zetina A, Tapia M, Ortiz C, Soto IA. Childcare needs of female street vendors in México city. *Health Policy and Planning*, 1996; 11(2):169-178.
- Nilvarangkul K, Wongprom J, Tumnong C, Supornpun A, Surit P, Srithongchai N. Strengthening the self-care of women working in the informal sector: local fabric weaving in Khon Kaen, Thailand (Phase I). *Ind Health*. 2006;44(1):101-7.
- Lowenson RH Health impact of occupational risk in the informal sector in Zimbabwe *Int J Occup Environm Health*, 4:264-74, 1998.
- Rongo LMB, Barten F, Msamanga GI, Heerick D, Dolmans WMV Occupational exposure and health problems in small-scale industry workers in Dar es Salaam, Tanzania: a situation analysis. *Occupational Medicine* 2004; 54:42-6.
- Iriart JAB, Oliveira RP, Xavier S, Costa AM, Araújo GR, Santana, V. Representações do trabalho informal e dos riscos à saúde entre trabalhadoras domésticas e trabalhadoras da construção civil (www.cienciasaudecoletiva.com.br). *Ciência & Saúde Coletiva*, 2006:1-21.
- Santana VS, Loomis D. Informal jobs and nonfatal occupational injuries. *Annals of Occupational Hygiene*, 48(2):147-157, 2004.

See in appendix, case study A4: “The lives behind the piles”.

Table 4. Proportion of Informal workers in the labor force according to country, year range¹ and income (World Bank classification) among male.

Country	1984-1990	1991-1995	1996-2001	Variation
Low income				
África				
Benin ^{a, u}		52.5	50.0	-2.5
Ethiopia ^{a, €}			38.9	--
Gambia ^{b, §}		66.1		--
Mali ^{b, &}	67.1			--
Tanzania ^{h, &}	53.8	59.7	--	+5.9
Asia				
Bangladesh ^s		10.0		--
India ^{b, c, q}			53.7	--
Nepal ^b			60.0	--
Pakistan ^{b, f}		65.9	64.1	-1.8
Lower middle income				
Asia				
Philippines ^g		15.8		--
Thailand [§]		46.1	46.9	+0.8
Indonesia			36.5	--
Europe				
Ukraine			4.5	--
Georgia			20.7	--
Latin América				
Bolivia ^{j, €}			59.2	--
Brazil ^{a, b, €}	37.1	42.8	44.3	+7.2
Colombia ^{a, b, l, §}	45.0		60.4	+15.4
Ecuador ^{a, b, m, &}	51.5	59.3	50.2	-1.3
Honduras ^{a, b}	44.6	48.2	52.6	+8.0
Nicaragua ⁿ			51.5	--
Paraguay ^{b, o, €}		39.6	44.8	+5.2
Peru ^{a, b, p, *}	43.3	48.3	52.8	+9.5
Upper middle income				
África				
South Africa [*]			16.1	--
Europe				
Croatia [*]			5.9	--
Lithuania ^{d, *}			49.6	--
Poland [*]		14.3	9.0	-5.3
Russian Federation ^{a, *}			9.6	--
Latin América				
Argentina ^{b, l, €}		41.9	43.5	+1.6
Chile ^{a, b, *}	33.3		34.2	+0.9
Costa Rica ^{a, b, §}	37.4	40.1	41.7	+4.3
México ^{a, b, e, §}	36.9	41.0	38.2	+1.3
Uruguay ^{a, b, r, *}		33.7	34.4	+0.7
Venezuela ^{a, b, €}	33.5		33.6	+0.1

¹Correspond to the most recent year with data available; ^aExcludes paid domestic workers; ^bExcludes agriculture or rural areas; ^cExcludes electricity, gas and water sectors; ^dAgriculture only; ^eCities with more than 10,000 inhabitants; ^fUrban areas of Punjab and North West Frontier Province; ^gCapital region; ^hTanzania Mainland; excludes livestock and fishing activities; ⁱGreater Buenos Aires; excludes mining sectors. The last estimate is for Greater Buenos Aires plus 28 urban agglomerates; ^jCities with more than 2,000 inhabitants; ^kTen metropolitan areas of Colombia; ^mExcludes Galapagos, mining, quarrying, electricity, gas and water sectors; ⁿEight main cities; ^oData from 1884-1990 corresponds to Greater Asunción, and in the remained year range; ^pMetropolitan Lima, excludes mining and quarrying sectors, except for the last year group; ^qExcludes electricity, gas and water and communication sectors; ^rCities with more than 5,000 inhabitants; ^sManufacturing, trade, hotels and restaurants and selected services sectors; ^tExcludes mining, trade, and hotels and restaurants sectors; ^uLimited to Cotonou, Porto-Novo, Parakou, Abomey, Bohicon, Djoubou and Kandi; Age range, & +5/6 years of age, §+7, € +10, \$ +12/13, * +14/15/16, ** +18;

Source: ILO, KILM.

Table 5. Proportion of Informal workers in the labor force according to country, year range¹ and income (World Bank classification) among female.

Country	1984-1990	1991-1995	1996-2001	Variation
Low income				
Africa				
Benin ^{a, u}		41.4	41.0	-0.4
Cote D` Ivoire (Abidjan) [*]			73.4	--
Ethiopia ^{a, €}			64.8	--
Gambia ^{b, \$}		82.7		--
Mali ^{b, &}	78.4			--
Tanzania ^{h, &}	80.3	85.3		+5.3
Uganda ^{q, \$}		80.5		--
Asia				
Bangladesh ^s		16.0		--
India ^{b, c, q}			40.6	--
Myanmar ^{t, **}			56.9	--
Nepal ^b			75.7	--
Pakistan ^{b, f}		80.6	60.7	-19.9
Kyrgyztan ^b			25.3	
Lower middle income				
Asia				
Philippines ^g		19.4		--
Thailand ^s		49.4	47.4	-2.0
Iran, Islamic Rep ^{b, t, &}			89.5	
Indonésia			44.4	
Europe				
Croatia [*]			6.6	--
Geórgia ^b			7.4	--
Ukraine [*]			5.3	--
Latin América				
Bolivia ^{j, €}			62.5	--
Brazil ^{a, b, €}	49.0	53.4	51.5	+2.5
Colombia ^{a, b, l, \$}	41.6	54.9	61.6	+20.0
Ecuador ^{r, a, b, m, &}	50.0	57.4	61.8	+11.8
Honduras ^{a, b}	57.4	55.2	57.7	-0.3
Nicaragua ⁿ			58.7	--
Paraguay ^{b, o, €}	68.5	56.6	56.8	-11.7
Panama ^{a, b}		23.1	24.4	+1.3
Peru ^{a, b, p, *}	49.3	53.1	64.9	+15.6
Upper middle income				
África				
South Africa [*]			89.5	--
			28.4	--
Europe				
Lithuania ^{d, *}			26.5	--
Poland [*]		11.0	5.9	-5.1
Russian Federation ^{a, *}			8.8	--
Turkey ^{a, b, *}			9.4	--
Latin America				
Argentina ^{b, l, €}		47.3	43.8	-3.5
Chile ^{a, b, *}	31.2		28.5	-2.7
Costa Rica ^{a, b, \$}	31.7	35.0	35.0	+3.3
México ^{a, b, e, \$}	27.5	32.5	30.9	+3.4
Uruguay ^{a, b, r, *}		32.7	24.5	-8.2
Venezuela ^{a, b, €}		36.6	47.1	+10.5

¹Correspond to the most recent year with data available; ^aExcludes paid domestic workers;

^bExcludes agriculture or rural areas; ^cExcludes electricity, gas and water sectors; ^dAgriculture only; ^eCities with more than 10,000 inhabitants; ^fUrban areas of Punjab and North West Frontier Province; ^gCapital region; ^hTanzania Mainland; excludes livestock and fishing activities; ⁱGreater Buenos Aires; excludes mining sectors. The last estimate is for Greater Buenos Aires plus 28 urban agglomerates; ^jCities with more than 2,000 inhabitants; ^kTen metropolitan areas of Colombia; ^mExcludes Galapagos, mining, quarrying, electricity, gas and water sectors; ⁿEight main cities; ^oData from 1884-1990 corresponds to Greater Asunción, and in the remained year range; ^pMetropolitan Lima, excludes mining and quarrying sectors, except for the last year group; ^qExcludes electricity, gas and water and communication sectors; ^rCities with more than 5,000 inhabitants; ^sManufacturing, trade, hotels and restaurants and selected services sectors; ^tExcludes mining, trade, and hotels and restaurants sectors; ^uLimited to Cotonou, Porto-Novo, Parakou, Abomey, Bohicon, Djoubou and Kandi;

Age range, & +5/6 years of age, \$+7, € +10, \$ +12/13, * +14/15/16, ** +18

Source: ILO, KILM.

Case Study 6. The ship-breaking industry in South Asia. Atanu Sarkar (Department of Policy Studies, Teri of Advanced Studies. New Delhi, India).

Ship-breaking, a highly mechanized industrial operation which was carried out in developed world in the 1970s, has been shifted to poorer Asian states due to the high cost of upholding environmental, health, and safety standards in developed countries. Now ship owners send their vessels to the scrap yards of India, Bangladesh, Pakistan, China, Turkey, Philippines, and Vietnam, where health and safety standards are virtually ignored and the workers are desperate for jobs. South Asian countries such as India, Bangladesh, and Pakistan receive the largest number of vessels and involve 70,000 to 80,000 labourers. Ship-breaking in this region has been receiving a lot of adverse publicity in the national and international media due to the large number of accidents and deaths of workers over the past few years, as well as violation of numerous national and international regulations related to pollution, occupational hazards, and labour rights. There is no monitoring body equipped to enforce basic environmental safety norms or to ensure protection for the workers directly involved in ship-breaking. Unfortunately, the workers (who are mostly migrants) are mostly temporary and are not covered under any labour benefits as the labourers working in ship breaking are not recognized by any labour laws. The labourers dismantle the ships with their bare hands, they live in poor housing and sanitary conditions, and little attention is paid to their health and safety concerns. During the scrapping process hazardous wastes are released into the environment, exposing labourers to toxic substances. Many workers are injured or even killed by the physical hazards. Main causes of death are fire/explosion, being hit by materials falling, falls, suffocation, and inhaling toxic fumes. Even their sleeping quarters are not free from toxic exposure. In Bangladesh, to take one example, worker mortality has been estimated at one death per day (highest in the region), either the slow death resulting from exposure to a cocktail of deadly chemicals or death due to the common explosions caused by the torching of residual fuels from uncleaned vessels and other kinds of accidents. Almost one out of every three or four workers is estimated to suffer from cancer, making ship-breaking one of the deadliest industries in the world. Most fisher folk of the coastal region have changed their profession due to environmental degradation and have either migrated or found an alternative occupation in and around the yard. Decades of State apathy and refusal to address the worker health epidemic, combined with the open support for the ship-breaking industry, indicate that there is lack of political will to protect the environment and labour rights. The mishaps led to pressure groups within ship-owning countries urging their governments not to send their ships to scrapping yards with poor safety and environment records. The ship-breakers, on their part, insist that the ship-owners should decontaminate the ships before selling them off to the scrap yards. Most ships being dismantled today were built in the 1970s, prior to the banning of many hazardous substances under the Basel Convention. A number of environmental groups including Greenpeace, Basel Action Network (BAN), and various labour groups have sharply criticized the ship-breaking industry (including ship-owners, ship-breakers, and concerned authorities) for their blatant disregard for the environment, human rights, and international law. While in the long term it is expected that minimum standards on environmental and labour conditions in the ship-breaking industry will be enforced through the United Nations maritime organization, IMO, a key question is who will pay for the cost of improved labour conditions and the environmental effort. In the meantime, it is the workers who are paying the cost for the lack of action.

References:

- Anderson AB. *Worker safety in the ship-breaking industries (issue paper 167)*, International Labour Office, Geneva, 2001. <http://www.ilo.org/public/english/dialogue/sector/papers/shpbreak/wp-167.pdf>.
- Bailey PJ. *Is There a Decent Way to Break Up Ships?* International Labour Office, Geneva, 2000. <http://www.ilo.org/public/english/dialogue/sector/papers/shpbreak/index.htm#1.%20SHIP>.
- De D. *Ship Breaking in India: Environmental and Occupational Hazard*, Society for the Study of Peace and Conflict. 2006 http://www.sspconline.org/article_details.asp?artid=art71 as viewed on 6th January 2007.
- Greenpeace, *Shipbreaking*, <http://www.greenpeaceweb.org/shipbreak/whatis.asp>.
- ILO. *Draft guidelines on safety and health in shipbreaking*, Interregional Tripartite Meeting of Experts on Safety and Health in Shipbreaking for Selected Asian Countries and Turkey, Bangkok, 20-27 May 2003, International Labour Office, Geneva, 2003.
- OSHA, (2001), *Shipbreaking - OSHA Factsheet*, U.S. Department of Labor, Occupational Safety and Health Administration. http://www.osha.gov/OshDoc/data_MaritimeFacts/shipbreaking-factsheet.pdf as viewed on 6th January 2007.
- Rune Larsen *The Ship breaking Industry* <http://www.drik.net/rune/shipbreaking.htm>.

3.4.4.4. Child labour

Child labour is not a new phenomenon; children have worked throughout history. The use of child labourers continues today and is mainly present in low and middle-income countries.

Child labour shifted from industrialized nations to less industrialized ones in the 19th and early 20th. So during this period, while child labour decreased in high-income nations it increased in the rest of the world.

- Basu K, Tzannatos Z. The global child labour program: what do we know and what can be do? The World Bank Economic Review 2003;17(2):147-173.

International organizations such as UNICEF and the ILO share a common understanding that a child is any person under 18 years of age, but there are differences in their definitions of child labour.

A child labourer is any children below 12 years of age working in any type of economic activity, or those from 12 to 14 years of age engaged in occupational duties not considered "light work".

- UNICEF, 2006. Country Child Labor Data. Available at: <http://www.childinfo.org/areas/childlabour/countrydata.php>
Accessed on December 17, 2006.

The ILO's insistence on putting a spotlight on the effects of child labour has been crucial in the fight against its most harmful forms, which include work activities that are mentally, physically, socially or morally harmful, and those that affect schooling and the safety of children.

The ILO Worst Forms of Child Labour Convention No. 182 from 1999 defines the types of work that are unacceptable to be undertaken by children. These forms involve slavery or compulsory labour, prostitution, pornography, human trafficking, war, drug dealing or trafficking, or any illicit activity, and any work which, by its nature or the circumstances in which it is carried out, is likely to harm the health, safety or morals of children. This convention has been ratified by nearly 87% of ILO members, who represent 77% of the children around the world.

- International Labour Office (Geneva Office). The end of child labour: Within reach, Global Report under the Follow-up to the ILO Declaration on Fundamental Principles and Rights at Work. International Labour Conference, 95th Session 2006, Report I, (B), 2006.

A review of the literature on the topic of child labour identifies basic problems with child labour related data. Although in certain areas indigenous and tribal children form the majority of child labourers, child labour among indigenous people continues to remain poorly documented.

Studies use different definitions of child labour, many countries do not have this sort of data, and most studies that bring specific country data give approximate numbers, which can make the available data by country imprecise and difficult to compare with one another. Due to these barriers, most international organizations working on child labour issues prefer to work with regional data.

- Indigenous and tribal children: assessing child labour and education challenges. Child Labour & Education Working Paper. By Peter Bille Larsen. IPEC / COOP INDISCO ILO. 2003.

317 million children aged 5-17 are economically active and 218 million are child labourers; of these, approximately 126 million are engaged in hazardous work (see Table 6).

Table 6. Child labour according to world regions and activity in 2000 and 2004 (absolute number in millions and percentage).

Region	Children Population (Million)		Economically Active Children (Million)		Activity (percentage)	
	2000	2004	2000	2004	2000	2004
Asia and Pacific	655.1	650.0	127.3	122.3	19.4	18.8
Latin America and Caribbean	108.1	111.0	17.4	5.7	16.1	5.1
Su-Saharan Africa	166.8	186.8	48.0	49.3	28.8	26.4
Other Regions	269.3	258.8	18.3	13.4	6.8	5.2
World	1199.3	1206.6	211.0	190.7	17.6	15.8

Reference: Statistical Information and Monitoring Programme on Child Labour (SIMPOC) as cited in International Labour Office (Geneva Office). The end of child labour: Within reach, Global Report under the Follow-up to the ILO Declaration on Fundamental Principles and Rights at Work. International Labour Conference, 95th Session 2006, Report I, (B). 2006.

These data need to be taken with caution since ILO considers only children who have worked during the previous week, leaving out those who have irregular participation in the labour force. Based on this research, boys were more likely to be engaged in child labour than girls, not a surprise considering that unpaid and “not-for-market” work done in the household, common burden for girls, are usually not considered. Frequently children from less educated parents have to work to help with family income in detriment of their educational acquisition.

- Basu K, Tzannatos Z. The global child labor program: what do we know and what can be do? The World Bank Economic Review 2003;17(2):147-173.

The proportion of children in the labour market in the group of low-income countries shows a large variation. In industrialised countries, child labour accounted for about 2.5 million children under the age of 15 in 2000 (see map 5 and figure 9).

In low-income countries child labour varied from 4% in Timor-Leste, Asia, to 67% in Niger, Africa, close to the estimates reported from Togo (63%) and Burkina Faso (57%), which has similar values of other African countries, namely Sierra Leone, Ghana and Chad . Males were more likely to be in the labour market than females in the majority of countries.

- UNICEF, 2006. Country Child Labor Data. Available at: <http://www.childinfo.org/areas/childlabour/countrydata.php> Accessed on April 27, 2007.
- Facts on Child Labour. Fact sheets. International Labour Organization. 2006.

A growing number of studies have demonstrated that health problems are one of the main negative effects of child labour. Most of the available literature on this topic focuses more on the working condition of children and on the concurrent effects of child labour on health. These effects vary in nature ranging from occupational-related diseases and injuries, directly related to hazards in the workplace or when commuting, to increased vulnerability to biological or toxic agents due to the immature immune system, ergonomic risks resulting from inadequate dimensions of tools and equipments, and impairment of physical, mental and social development because of limited time for resting, playing and studying, among other health and developmental problems. Therefore, child labour has been associated with problems related to the physical, physiological, mental and social development of children. Child labour may also directly compromise height, which can be regarded as a biological face of social injustice, and recently seen as a relevant component of the so-called physiological capital.

- Eijkemans G, Fassa ACG, Facchini LA. An introduction to the topic. Child Labour and Adolescent Workers, [GOHNET Newsletter], Issue 9, The Global Occupational Health Network. 2005.
- Gunnarsson V, Orazem PF, Sánchez MA. Child Labor and School Achievement in Latin America. The World Bank Economic Review. Oxford University Press. 2006;(20)1:31-54.
- Dantas, Rosa Amélia Andrade. História de trabalho na infância e adolescência e a saúde do trabalhador adulto. PHD. Federal University of Bahia. 2005
- Duyar I, Ozener B. Growth and Nutritional Status of Male Adolescent Laborers in Ankara, Turkey. American Journal of Physical Anthropology, 2005;128:693-698.
- Fassa AG. Health benefits of eliminating child labour. ILO/IPEC Working Paper, International Labour Office, International Programme on the Elimination of Child Labour, June. 2003.

- Yamanaka M. Ashworth A. Differential workloads of boys and girls in rural Nepal and their association with growth. *American Journal of Human Biology*, 2002;14:356-363.
- Fogel, R. W., 2003, Secular Trends in Physiological Capital, Implications for Equity in Health Care. *Perspectives in Biology and Medicine*, [online], 46 (3). Available from: http://muse.jhu.edu.libproxy.lib.unc.edu/journals/perspectives_in_biology_and_medicine/v046/46.3xfogel.html, accessed December 21, 2006. The Johns Hopkins University Press.
- Hawamdeh, H. and Spencer, N., 2002. Growth of working boys in Jordan: a cross-sectional survey using non-working male siblings as comparisons. *Child: Care, Health and Development*, 28 (1), pp. 47-49, Blackwell Publishing.

There is a consensus that many working children are involved in unacceptable working conditions which conform with the worst forms of child labour, such as war combats, prostitution, drug selling, or hazardous job tasks, unsafe workplaces, excessive work time, etc. Extreme workloads may lead to various health disorders because of children's lesser bone elasticity, strength, and capacity to support heavy workloads. These factors can lead to musculoskeletal symptoms among child labourers. Some of the reported health effects of child labour appear late at the adulthood, such as those related to self-perceived health and reduced height, and alcohol and drug abuse.

- Forster LM, Tannhauser M, Barros HM. Drug use among street children in southern Brazil. *Drug Alcohol Depend*, 1996;43(1-2):57-62.
- ILO (Geneva Office), 2006. The end of child labour: Within reach, Global Report under the Follow-up ILO Declaration Fundamental Principles and Rights at Work. IL Conference, 95th Session 2006, Report I, (B).
- Huk-Wieliczuk E. Physical Work Load and State of Health of School-Aged Children in the Southern Podlasie Region. *Ann Agric Environ Med*, 2005;12:95-100.
- Ayala, L. B. and Rondón A. P., 2004. Efectos del Trabajo Infantil en la Salud del Menor Trabajador. *Rev. Salud Pública*, 6 (3), pp. 270-288.

Map 5. Percentage of child labour by country in 2003 (International Labour Organization).

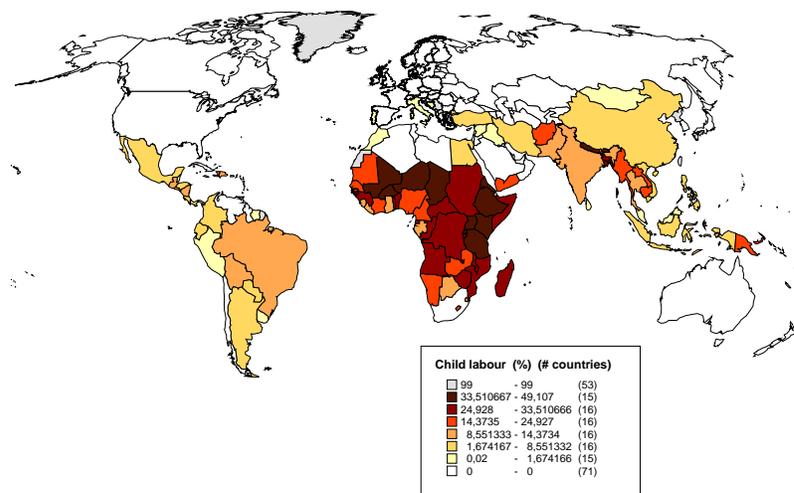
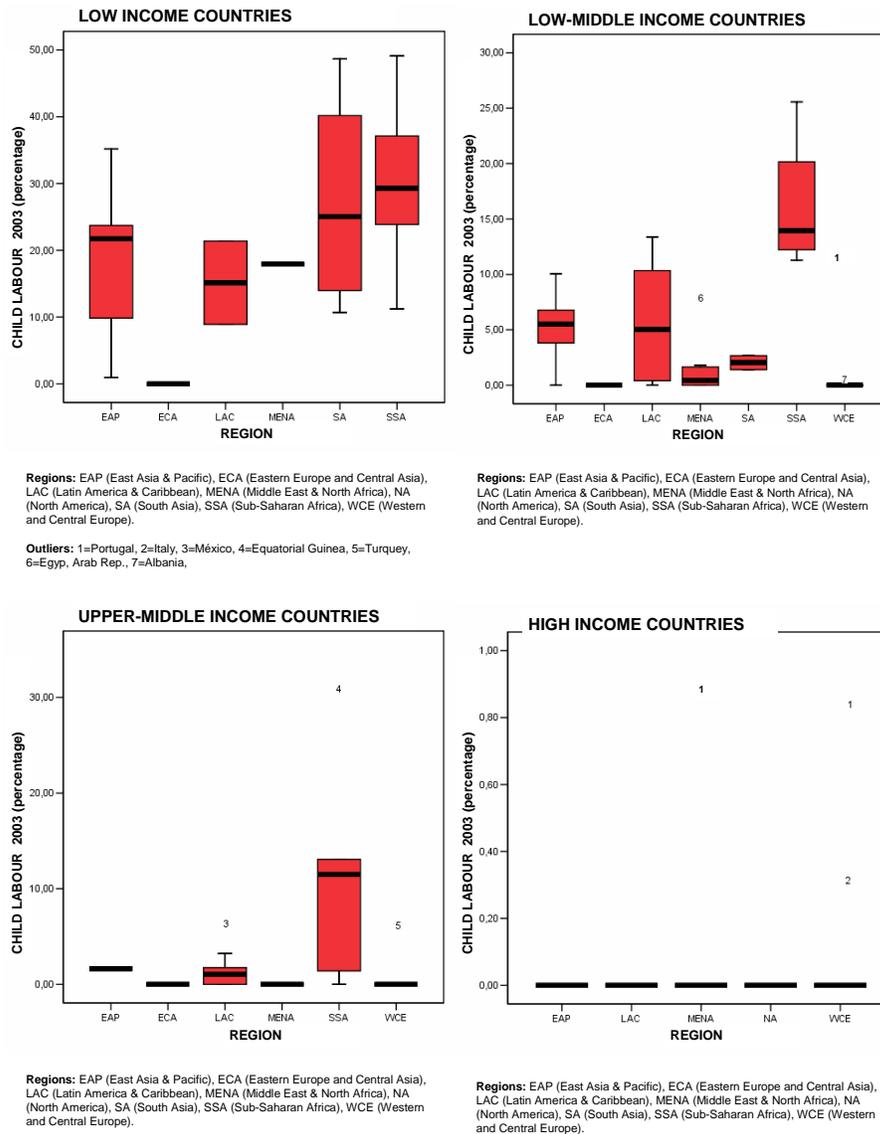


Figure 9. Percentage of child labour by region and level of wealth in 2003 (ILO).



Case Study 7. Bridgestone Corporation maintains slave-like conditions in Liberia. The International Labor Rights Fund (ILRF)

In Liberia, the Firestone Natural Rubber Company, a subsidiary of the Bridgestone Corporation, operates one of the world's largest rubber plantations. Since the plantation opened in 1926, company housing, mainly single room mud huts with no electricity, running water, or toilet facilities, has never been refurbished and updated to modern safety standards. Firestone's plantation workers and their children toil under the same slave-like conditions they have endured for the past 80 years. Extracting latex, rubber's key ingredient, from rubber trees is a dangerous and strenuous endeavour. To meet the exorbitant daily quotas, children are called upon to assist their parents; this practice is encouraged by the plantation's overseers. The children's labour usually includes cutting trees with sharp tools, applying pesticides by hand, and hauling two buckets on a pole, each filled with more than 30 kg of latex. Every day, these child labourers have to work long hours and are thus denied the right to basic education. Access to the company-run schools is further impeded as parents must present a costly birth certificate in order to register their children. On the huge (almost 500 km²) plantation, tappers and their families are isolated from the world,

totally dependent on Firestone's inadequate provisions for everything from food to housing to health care. Firestone Natural Rubber not only abuses human rights but also the environment. According to Friends of the Earth USA, local organizations have documented the continuous release of toxins into the environment and the factory has contaminated the adjacent Farmington River and other waterways. Furthermore, plantation workers are exposed to toxic chemicals and compounds on a daily basis while tapping. Firestone Natural Rubber, however, does not admit to its abusive practices on the Liberian plantation. Daniel Adomitis, the president of the company, stated in 2005 that each worker taps about 650 trees a day, spending a couple of minutes at each tree. Assuming a tapper spends two minutes at each tree, he or she has to work for more than 21 hours a day to meet the daily quota of 204 kg. According to the ILRF, plantation workers have to tap up to 1000 trees every day to meet the exorbitant quota. If workers don't fill their quotas, their wages are reduced by half. They have no choice but to seek the aid of their children. These child labourers are deprived of their childhood and of a basic education. A lack of schooling and the perpetuation of slave-like conditions tighten the workers' dependence on the company and the cycle of poverty. Waste dumping and pollution further deteriorate the workers well-being as well as their livelihood. Child labourers describe their lives as "trapped in poverty and coercion". Moreover, the merciless exploitation of Liberia's people and natural resources by Bridgestone is directly linked to the nation's impoverishment as the raw materials produced in Liberia are sent elsewhere for processing, thereby shutting out the possibility of added value. Firestone must provide workers with basic rights, including a living wage and the freedom of association; it must end all child and forced labour and achievable quotas; it must adopt health and safety standards; it must stop exposing workers to toxic compounds and chemicals, improve housing, schools, and health care centres to provide safe and comfortable facilities; it must ensure public disclosure of revenue and all types of foreign investment contracts; it must stop releasing chemicals into the environment and redress all environmental damage; it must publicly disclose the identity and quantity of all toxic compounds that it releases or transports.

Reference: International Labor Rights Fund. 2007.

See also in appendix, case study A5: "Are we going backward in the global economy?"

3.4.4.5. Slavery and bonded labour

The older forms of slavery were based on legal ownership and ethnic and racial division and relationships between slaves and slave owners were often long-term, sometimes multi-generational. The 'new' form of slavery is based not on formal ownership but on other legal instruments such as contracts and debts, most of it located in Asia and Pacific Region.

Rapid population growth in countries from Asia and Africa where slavery is still prevalent has further aggravated resource constraints, inequality and poverty. In these countries, most of the population belongs to the adolescent age group and the rapid increase in unemployment has led to the deterioration and value of human life. Their helplessness and desperation makes them vulnerable to forced labour. Therefore, increased supply of potential forced labour in the countries where slavery already existed has further brought down the price of forced labour.

- Bales K. Of human bondage, Financial Times, March 16, 2007 <http://www.ft.com/cms/s/4b75a5c8-d316-11db-829f-000b5df10621.html>. Accessed 6th April, 2007.
- Bales K. Disposable People: new slavery in the global economy, University of California Press, Berkeley. 2000.

New forms of employment coercion mainly in middle- and low-income countries can also be explained in part by neoliberal trends, where employers in the emerging private sector capitalize on world market opportunities by exacting as much labour as possible from a cheap and often unprotected workforce.

Globalization has impacted negatively on farm and agricultural sectors, the major means of livelihood in developing regions. Large numbers of people are forced to migrate from rural areas to urban areas, into shanty-towns, and into situations of terrible vulnerability when subsistence

agriculture is replaced with cash crop economies with more corporate influence; when corrupt governments militarize and force people from their lands; and when ethnic groups and indigenous people are evicted from their territories.

- Acharya R, Marjit S. Globalisation and inequality: an analytical perspective, *Economic and Political Weekly*, September 23, 2000:3503-3510.
- Bhattacharjee D. Globalising economy, localising labour, *Economic and Political Weekly*, October 14, 2000:3758-3764.

With global pressures on suppliers to reduce costs by every available means, retailers and intermediaries can take advantage of the intense competition between suppliers in order to squeeze profits out of them. Many suppliers are paid a product price that barely allows them to break even. Thus, to make a profit, they have to reduce labour costs even further. In many countries, this pressure on costs has been accompanied by two other trends which have contributed to forced labour: the increased supply of helpless migrant workers and the deregulation of labour markets, which can blur the boundaries between the formal and informal economies.

- Lahiri-Dutt K. Gendered livelihoods in small mines and quarries in India: Living on the edge, (Working Paper), Rajiv Gandhi Institute for Contemporary Studies, New Delhi, and Australia South Asia Research Centre, Canberra, 2006.
- ILO. A global alliance against forced labour - report of the Director General, International labour conference 93rd session 2005, ILO, Geneva, 2005.
- Loewenson R. Globalization and occupational health: a perspective from southern Africa, *Bulletin of the World Health Organization*, 2001;79(9):863-868.

The poorest members of society can be compelled to work, or induced into debt, which they or even their descendants find impossible to repay despite very long hours of hard work. They thus become locked in a cycle of poverty from which they cannot extricate themselves.

The persistence of forced labour today can be the result of very longstanding patterns of discrimination against certain ethnic and caste minorities. In Asia, the incidence of bonded labour has been and remains particularly severe among the Scheduled Castes and Scheduled Tribes in India; among indigenous minorities in western Nepal; and among non-Muslims in Pakistan.

- Srivastava RS. Bonded Labour in India: Its Incidence and Pattern, (Working Paper WP 43), International Labour Office, Geneva, 2005.

Throughout Africa, contemporary forced labour and slavery-like practices appear to be a particular problem in countries that have a recent history of slavery and where there are reports of continuing patterns of discrimination against persons of slave descent. In addition, there are regions, throughout the whole continent, that are disturbed by ongoing civil war displacing thousands of people and compelling them to live as refugees.

- Martens J, Pieczkowski MM, Vuuren-Smyth B. Seduction, sale & slavery: trafficking in women & children for sexual exploration in southern Africa, (3rd Ed.), International Organization for Migration (IOM), Regional Office for Southern Africa, Pretoria, South Africa, 2003.
- Fitzgibbon K. Modern-day slavery? The scope of trafficking in persons in Africa, *African Security Review*, 2003;12(1):81-89. <http://www.iss.co.za/Pubs/ASR/12No1/E2.pdf>. Accessed November 2006.

In Latin America today as was the case centuries ago, the main victims of forced labour are indigenous peoples. At times these are the indigenous groups living in hitherto isolated regions, where comparatively recent settlement has encouraged a demand for cheap labour, and where there is virtually no state presence to provide protection against forced labour. At the same time, land and tenancy reforms, together with the extension of labour law provisions to rural areas, have not prevented the emergence of new patterns or manifestations of forced labour.

- A global alliance against forced labour. Report of the Director-General. Global Report under the Follow-up to the ILO Declaration on Fundamental Principles and Rights at Work. International Labour Conference. 93rd Session. International Labour Office. Geneva. 2005.

Poor women are triply disadvantaged by their gender, membership of low castes or other low-status groups, and by virtue of being in bonded or otherwise exploitative labour arrangements. Most trafficked forced labour affects people working at the margins of the formal economy, with irregular employment or migration status. The precarious legal status of millions of irregular migrant women and men makes them particularly vulnerable to coercion in industrialized countries.

- ILO. A global alliance against forced labour - report of the Director General, International labour conference 93rd session 2005, ILO, Geneva. WHO, (2005), Health in emergencies, Issue No 20, Geneva. http://www.who.int/hac/network/newsletter/HIE_January_2005.pdf as viewed on November 2006.

- A global alliance against forced labour. Report of the Director-General. Global Report under the Follow-up to the ILO Declaration on Fundamental Principles and Rights at Work. International Labour Conference. 93rd Session. International Labour Office. Geneva. 2005.

Slavery and forced labour need to be clearly differentiated from extreme forms of working conditions. It is the type of arrangement that links the person to the 'employer' what determines whether a person is in forced labour and not the type of activity he or she is actually performing, however hazardous the conditions of work might be.

Slavery was defined in the League of Nations Slavery Convention of 1926 as the 'status or condition of a person over whom any or all of the powers attaching to the right of ownership were exercised'. ILO convention no. 29 (1930), has defined forced or compulsory labour as '*all work or service, which is exacted from any person under the menace of any penalty and for which the said person has not offered himself voluntarily*'. This definition encompasses situations such as slavery, practices similar to slavery and debt bondage. ILO convention no. 105 (1957) further specified that forced labour could never be used for the purpose of economic development or as a means of political education, discrimination, labour discipline or punishment for having participated in strikes.

- ILO. A global alliance against forced labour - report of the Director General, International labour conference 93rd session 2005, ILO, Geneva, 2005.

The distinguishable features of forced labour from other forms of human rights violations include using force to make someone work (through mental or physical threat); taking ownership of or controlling another human through mental, or physical or threatened abuse (to the victim or member of his or her family); dehumanizing another human being; treating an individual as a commodity or as property to be bought and sold and using physical constrain or placing restrictions to limit the individual's freedom of movement.

- Antislavery International (2006a), What is modern slavery?
<http://www.antislavery.org/homepage/antislavery/modern.htm> as viewed on 6th October 2006.

The ILO has identified eight different specific categories of forced labour, including slavery and abductions, compulsory participation in public works, forced labour in agriculture and remote rural areas, with coercive recruitment practices, domestic workers, bonded labour, forced labour exacted by the military, forced labour as a result of trafficking, and prison-linked forced labour.

- ILO. A global alliance against forced labour - report of the Director General, International labour conference 93rd session 2005, ILO, Geneva, 2005.

Until the publication by ILO in 2005 of estimates of forced labour in the world, there had been no accurate value assigned to estimate the extent of forced labour occurring globally.

The exaction of forced labour is usually illicit, occurring in the underground economy and escaping national statistics as well as traditional household or labour force surveys. Governments are sometimes reluctant to probe into and recognize its existence within their national borders.

- Pawar Y. Labour lost: why government refuses to recognise these bonded labour, The Indian Express, Mumbai, April 22, 1998.

It is difficult to generate and sustain the political will to instigate the detailed investigations needed to identify forced labour practices and confront them. Furthermore, it is hard to collect evidence from victims not only due to the psychological trauma, and communication gaps (resulting from language barriers) but also because they may feel reluctant to come forward (and provide testimony) for the fear of reprisals from their exploiters and of action against them by immigration and other law enforcement authorities.

- ILO. A global alliance against forced labour - report of the Director General, International labour conference 93rd session 2005, ILO, Geneva, 2005.

Bonded labour, a type of debt bondage mainly found in South Asia, is defined in broad terms as a system under which a debtor enters into an agreement with the creditor to the effect that he would provide his or her own work, or the work of somebody else, to the creditor for a specified or unspecified period of time, either without wages or for less than the minimum wage.

Bonded labourers are forfeited the freedom of changing employment, the right to move freely from place to place and the right to sell his or her property or the product of his labour at market value.

- Srivastava RS. *Bonded Labour in India: Its Incidence and Pattern*, (Working Paper WP 43), International Labour Office, Geneva, 2005.
- ILO. *Stopping forced labour*, Global report under the follow-up to the ILO declaration on fundamental principles and rights at work, Report of the Director General, International Labour Conference, 89th Session, Report I (B), International Labour Office, Geneva, 2001.

5.7 million children are in forced or bonded labour; 1.2 million are victims of trafficking; 300,000 children are involved in fighting forces; 1.8 million in prostitution and pornography; and 600,000 in illicit activities such as drug trafficking. On average, women and girls represent 56% of victims of forced economic exploitations. Regarding forced commercial sexual exploitation, they are an overwhelming majority (98%).

- The end of child labour - Within reach, Global Report under the follow-up to the ILO Declaration on Fundamental Principles and Rights at Work, report to the International Labour Conference, 95th Session. 2006.
- ILO Minimum Estimate of Forced Labour in the World. Patrick Belser, Michaelle de Cock and Farhad Mehranl. International Labour Office, Geneva. 2005.

It has been estimated that there are 27.9 million victims of slavery globally, of which 26.4 million in Asia.

This data provided by Bales is higher than ILO's estimation. While, the ILO methodology is based on reported cases, Bales' methodology involves the aggregation of country-estimates from secondary sources validated by country experts. Bales measured the prevalence of slavery by defining it as 'a social and economic relationship marked by the loss of free will where a person is forced through violence or the threat of violence to give up the ability to sell freely his/her own labor power'.

- Bales K. *Disposable People: new slavery in the global economy*, University of California Press, Berkeley, 2000.

According to the ILO, it is estimated that 12.3 million people who are victims of forced labour, approximately 9.48 million reside in Asia and Pacific region (making up 77% of the total number of forced labourers) and followed by Latin America and Caribbean (11%). The remainder is distributed throughout Sub-Saharan Africa (5%), industrialized economies (3%), the Middle East and North Africa and Transition economics (2% each).

- ILO Minimum Estimate of Forced Labour in the World. Patrick Belser, Michaelle de Cock and Farhad Mehranl. International Labour Office, Geneva. 2005.

Globally, there are at least 2.4 million people in forced labour as a result of trafficking in persons representing about 19.8% of total forced labour. This estimate includes both transnational trafficking and trafficking within countries.

Table 7. Total and regional distribution of forced labour (absolute number and rates per million).

Region	State-imposed	Categories of forced labour			TOTAL
		Commercial Sexual Exploitation	Economic Exploitation	Mixed	
Industrialized economies	19,000 (20)	200,000 (211)	84,000 (89)	58,000 (61)	361,000 (381)
Transition economy	1,000 (2)	98,000 (242)	10,000 (25)	103,000 (254)	212,000 (523)
Asia and Pacific	2,186,000 (642)	902,000 (265)	5,964,000 (1752)	434,000 (128)	9,486,000 (2787)
Latin America and Caribbean	205,000 (374)	115,000 (210)	994,000 (1813)	3,000 (5)	1,317,000 (2402)
Sub-Saharan Africa	70,000 (102)	50,000 (73)	531,000 (770)	13,000 (19)	664,000 (963)
Middle East and North Africa	7,000 (23)	25,000 (81)	229,000 (738)	0	261,000 (841)
TOTAL	2,488,000 (395)	1,390,000 (220)	7,812,000 (1239)	611,000 (97)	12,301,000 (1951)

Table 8 shows that 60% of all global trafficking takes place in Asia and Pacific, followed by Industrialised economies (10%) and then Latin America and Caribbean (10%). However, Transition economy, Middle East and North Africa and Industrialized economies all have higher proportions of forced labour, contributed by trafficking when compared to other regions (94.3%, 88.1%, and 74.8% respectively). Among all, Asia and Pacific had the lowest (14.3%) proportion.

- Belser P, Cock M, Mehran F. ILO minimum estimate of forced labour in the world, International Labour Office, Geneva, 2005.

Table 8. Forced Labour by trafficking (absolute number and percentage)

	Trafficking (absolute number)	Trafficking of total forced labour (%)
Industrialised economies	270,000	74.8
Transition economy	200,000	94.3
Asia and Pacific	1,360,000	14.3
Latin America and Caribbean	250,000	19.0
Sub-Saharan Africa	130,000	19.6
Middle East and North Africa	230,000	88.1
TOTAL	2,440,000	19.8

Health dimension of forced labour needs greater public health attention not just for its sheer number, but also for its known association with gross violation of human rights and health inequalities. Existing health problems are not only pushing the victims to the state of multiple morbidities and high mortalities, inadequate attention is also leading to spreading of diseases to unaffected population. Current research shows the presence of various health problems or risk of every individual victim, owing to deplorable living conditions, physical and mental trauma, inaccessibility of health care and other social supports. The employee-employer relation essentially determines the health of the forced labourers on account of physical and mental trauma due to coercive action including restriction of movement and violence. Even if not restricted, fear of detection and deportation can leave undocumented victims of forced labour reluctant to access health and social services. But, along with employee-employer relations; economic disparity,

malnutrition and food security, working conditions, and social support also determine access, affordability and availability of health care, compensation and rehabilitation. Empirical evidence of the adverse health has been found as a result of physical violence and mental trauma, risky behaviour practice, absence or inaccessible welfare measure, and cultural barriers. Other forms of adverse outcomes include: substance abuse, abnormal sexual behaviour, geriatric problems or just general illness.

- Fassa AG. Health benefits of eliminating child labour, Research paper in conjunction with the ILO-IPEC Study on the Costs and Benefits of the Elimination of Child Labour (ILO/IPEC Working Paper), International Programme on the Elimination of Child Labour, International Labour Office, Geneva. 2003.
- WHO. United Nations Sub-Commission on the Promotion and Protection of Human Rights, 54th Session, World Health Organization, Geneva, 2002.
http://www.who.int/hhr/information/en/WHO_Written_Submission_to_54th_Session_of_Sub-Commission.pdf as viewed on November 2006.

Case Study 8. Human Trafficking and involuntary servitude under the U.S.-Jordan Free Trade Agreement. Charles Kernaghan and Barbara Briggs (The National Labor Committee for Worker and Human Rights).

The U.S.-Jordan Free Trade agreement went into effect in December 2001. Over the next five years, apparel exports from Jordan to the United States soared by 2,300 percent, growing from \$521.1 million in 2000 to \$1.2 billion in 2006. This was touted as a model agreement since for the first time worker rights standards and environmental protections were included in the core of the agreement. Yet something went deeply wrong, and this agreement quickly descended into human trafficking and involuntary servitude. In 2007, at least 36,149 guest workers are employed in Jordan's 114 garment factories, at least 90 percent of which are foreign-owned, mostly by Asian investors. The guest workers come from Bangladesh, China, Sri Lanka, and India. Bangladeshi guest workers had to pay \$1,000 to \$3,000 each to unscrupulous manpower agencies in Bangladesh to purchase two- to three-year contracts to work in Jordan. This is an enormous amount of money in Bangladesh, and as poor workers, they had to borrow the money on the informal market at exorbitant rates of 5 to 10 percent per month. From the minute they took the loans, these workers are in a trap, and a race against time to pay off their growing debts. The workers were promised that they would be able to earn \$134.28 a month for regular hours and up to \$250 a month with overtime; that all housing, food, and medical care would be free. The workers were told they would live well, "like they do in the West". They would get at least one day off a week, sick days, vacation time, and national holidays. But there was a catch: the contract tied the guest workers to just one factory, prohibiting them from working elsewhere. One hundred fifteen workers from Bangladesh purchased contracts to work at the Al Shahaed Garment factory in Irbid, Jordan. Upon their arrival at the airport, management immediately confiscated their passports. Nor were the workers provided with residency permits, without which they could not go out on the street without fear of being detained by the police for lack of the proper papers. Once in the Al Shahaed factory, the workers found themselves forced to work shifts of 15, 38, 48 and even 72 hours straight, often going two or three days without sleep. They worked 7 days a week. Workers who fell asleep at their sewing machines would be slapped and punched. Instead of being paid the \$250 a month that the ad promised, the workers earned 2 cents an hour, or \$2.31 for a 98-hour workweek. Workers who asked for their legal wages could be imprisoned up to three days without food. Workers who criticized the food the company provided were beaten with sticks and belts. Twenty-eight workers had to share one small 3.65-by-3.65-meter dorm room, which had access to running water only every third day. These workers sewed clothing for Wal-Mart. When in desperation, the workers demanded their legal wages, they were forcibly deported and returned to Bangladesh without their back wages. Many of these workers are now hiding in Dhaka city and peddling bicycle rickshaws to survive. They cannot return to their home villages because they have no possible way to pay off the mounting debt they incurred to go to Jordan in the first place. These and other many cases were denounced in the report the National Labor Committee released in May 2006. By July 2006, Shariff Al Zuibi, Jordan's Trade Minister, declared: "Our inspection regime may have failed us and may have failed us miserably". Jordan's labour department had just 88 labour inspectors to oversee 98,000 business operations, and the primary role of the labour department inspectors was to issue work permits to foreign guest workers. By law, Jordan's unions were not permitted to organize foreign workers. Today (2007), the Jordanian government has closed at least ten of the worst garment factories, over 1,000 workers have been relocated to better factories, and across Jordan conditions and treatment have improved in many factories. Although the government has seriously responded to reports of continued violations, much remains to be done. The guest workers are still denied the

freedom of association and the right to organize. Moreover, we do not know of any case where the foreign guest workers were paid the outstanding back wages legally due to them. Nor we do know of a single prosecution of factory owners for human trafficking and holding tens of thousands of workers under conditions of involuntary servitude.

References:

The National Labor Committee. Statement of Charles Kernaghan. Director of the National Labor Committee before the Subcommittee on Interstate Commerce, Trade and Tourism Committee on Commerce, Science and Transportation. February 14, 2007.
The National Labor Committee. The State of Jordan's Garment Factories. September 27, 2006.

See also in appendix, case study A6: "Close to slavery: guest worker program in the United States."

3.4.5. Working conditions and health

The formal workforce (more than 3,000 million workers) constitutes about half of the world's population. When informal work and work at home are taken into account, however, the large majority of the whole population is involved in work. Workers produce all economic and material values and sustain all other societal activities thus ensuring economic and social development. Working conditions through an endless number of occupational hazards threaten workers' safety and health, reduce well-being and working capacity, and thus affect the quality of working life, and the economic status of workers and their families. Studies show that in hazardous workplaces at least more than half of workers may be exposed to high levels of occupational hazards (Hogstedt et al., 2007). In the two last decades, important economic and technological developments (see Section 3.2.) have helped to reduce some occupational health problems in developed countries. Yet, in poor countries where the majority of the world's working population lives, occupational hazard exposures have even intensified (WHO 1995; Hogstedt et al. 2007). Indeed, the growing industrialization of developing countries, transfers of chemical substances and materials, changes in the work organization, and high strong exploitation of the work force are leading to new epidemics of occupational injuries and work-related diseases.

Work-related injuries and diseases have a profound effect on the health of the working population, involving an enormous and unnecessary burden and suffering for their families and communities, and a high economic loss for firms and countries. According to the best available estimates the number of non-fatal occupational injuries that cause at least three days' absence from work is 264 million per year: more than 700,000 injured workers per day (Hämäläinen et al. 2006). It has been estimated that annually the global number of fatal injuries is approximately 350,000: every day 970 workers die due to their working conditions. Furthermore, work-related deaths, including injuries but also caused by cancers, cardiovascular disease, and communicable diseases, are estimated at about 2 million annually: every day 5,000 workers die due to work-related diseases (Hämäläinen et al. 2007). Occupational risk factors account for 37% of back pain, 16% of hearing loss, 13% of chronic obstructive pulmonary disease, 11% of asthma, 8% of injuries, 9% of lung cancer and 2% of leukaemia. These work-related risks caused 775000 deaths worldwide in 2000. There were five times as many deaths in males as in females (647000 vs 128000). The leading occupational cause of death among the six risk factors was unintentional injuries (41%) followed by COPD (40%) and cancer of the trachea, bronchus or lung (13%). Workers who developed outcomes related to the occupational risk factors lost about 22 million years of healthy life. By far the main cause of years of healthy life lost (measured in disability-adjusted life years ([DALYs]), within occupational diseases, was unintentional injuries with 48% of the burden. This was followed by hearing loss due to occupational noise (19%) and COPD due to occupational agents (17%). Males experienced almost five times greater loss of healthy years (DALYs) than females. Low back pain and hearing loss

have in common the fact that they do not directly produce premature mortality, but they cause substantial disability and have multiple consequences for the individual and society, particularly for workers suffering the outcomes at an early age (Concha-Barrientos et al. 2004). The cost of work-related health loss and associated productivity loss represents around 4-5 percent of the GDP. For example, absenteeism from occupational injuries or ill health is of growing concern, because of psychosocial factors such as work-related stress as well as other forms of ill health or injuries. It is now estimated that an average of 5 per cent of the workforce is absent from work on any given day, though this may vary from 2-10 per cent depending on the sector, type of work and management culture (ILO 2005).

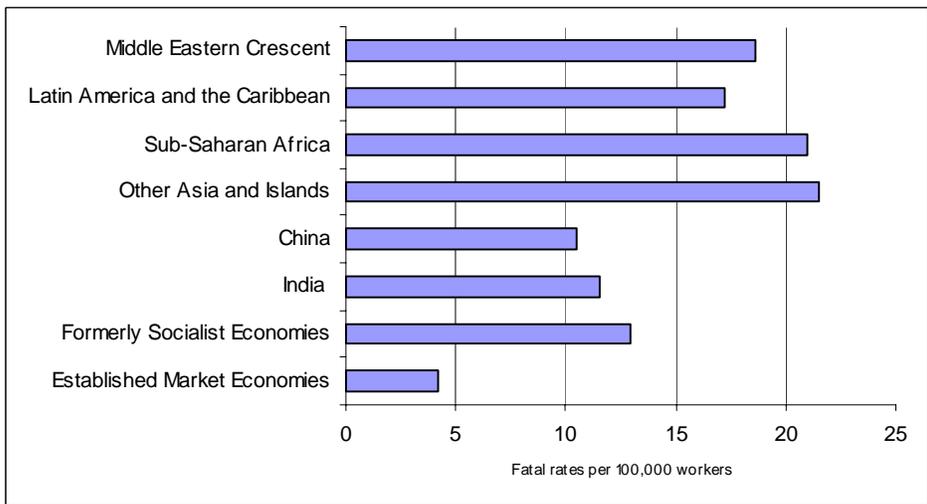
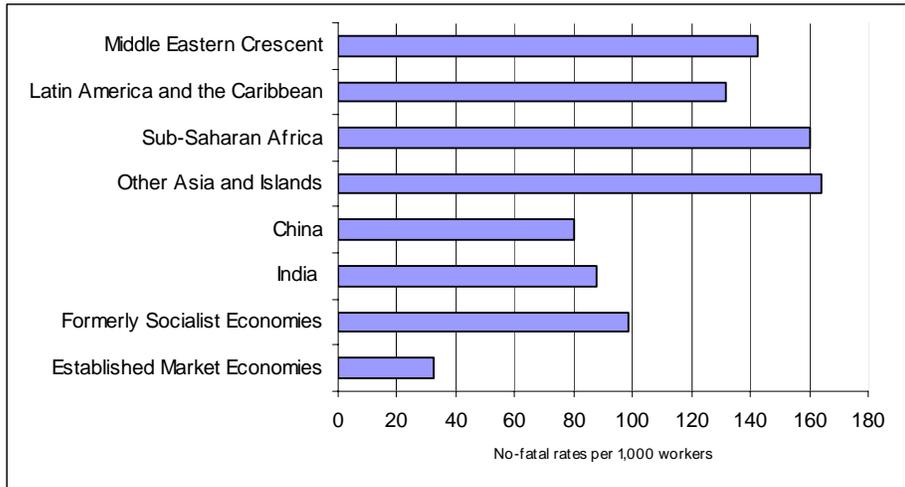
Occupational health problems vary significantly according to many national and local factors including social determinants of health such as employment conditions. Thus, mainly due to factors such as the political tradition of each country (see Section 3.3.), the economic activity and level of industrialization, the development of laws and regulations, the political tradition in industrial relations, and the level of power and involvement of unions, workers will be more or less exposed to hazardous occupational factors. Developing/poor countries that still employ the major part of the workforce in agriculture and other types of primary production face occupational health problems that are different from those of developed countries. Heavy physical work often combined with heat stress, occupational injuries, pesticide poisonings, organic dusts and biological hazards are the main causes of occupational morbidity. These hazards are aggravated by numerous non-occupational factors such as parasitic and infectious diseases, poor hygiene and sanitation, poor nutrition, general poverty and illiteracy. This chapter reviews the impact of occupational injuries, several work-related hazards, and psychosocial stressors in their relation to social determinants of health.

3.4.5.1. Occupational injuries

Occupational injuries are one of the most visible ill-effects of poor employment and working conditions. Together, fatal and non-fatal occupational injuries produce about 10.5 million DALYs (disability-adjusted life years): about 3.5 years of healthy life lost per 1,000 workers every year globally. This is responsible for 8.8 per cent of the global burden of mortality (Concha-Barrientos et al. 2005). This enormous burden of disease is unequally distributed. Structural changes from agricultural and industrial to services economies, with outsourcing of dangerous industries to developing countries, together with stricter regulation of preventive measures in companies, result in a decrease in occupational injuries in developed regions. Nevertheless, today in the EU it is still estimated that over 121,000 people in the EU-15 die each year due to an occupational injury or by a disease caused by working conditions (ILO 2005). Conversely, while it is decreasing in developed countries, work-related injuries are growing in developing/poor countries. Faster industrialization, urbanization, with a great increase in construction, and the agricultural mechanization in developing countries has led to a rise in the number of workers exposed to traditional (for example, heavy physical workload) and new (work-related stress) occupational risk factors. Based on occupational injury rates estimated by the World Bank region (figure 10), the risk of fatal and non-fatal occupational injury in China and India is about two and a half times higher than in the Economic Established Market region (basically Europe and North America). This difference is five times higher in the case of the Sub-Saharan Africa economic region. Rich countries have the lowest rates. Fatal rates in Sweden and the United Kingdom are 1.9 and 0.8 per 100,000 workers, respectively, while in Mozambique or Kenya the fatal rates are 21.6 per 100,000 workers, similar to that in Bolivia, where the fatal rate is 21.9. These inequalities in occupational health are even more evident when we compare occupational injuries between two pairs of neighbouring countries located in sensitive areas, where economic and social differences are huge, Mexico and the USA, and Spain and Morocco. Occupational injury rates in Mexico (fatal

15.9 and non-fatal 121.3) are roughly three times higher than in the USA (fatal 5.2 and non-fatal 39.6). Even more dramatic differences can be seen between Spain (8.9 and 68.03) and Morocco (47.8 and 364.9), where they are approximately five times higher. These differences may in fact be higher, because underestimation bias is probably more important in developing countries.

Figure 10. Differences among non-fatal and fatal occupational injuries rates by World Bank regions.



Source: Hämaläinen 2006.

The related economic costs due to compensation, lost working time, interruption of production, training, and medical expenses are estimated routinely to amount to 4 per cent of annual global GDP, thus representing in 2001 the enormous figure of some US\$1,250 billion, that is, is over 20 times greater than official development assistance. Although governments may pay for some medical services or for sickness benefits, the cost to public health budgets and insurance is ultimately borne by society as a whole, and high rates of injuries and cases of ill health might have an impact on national productivity as well. A study by the European Commission estimated in year 2000 that the costs of occupational injuries in the EU15 (15 Member States) was €55 billion a year (European Commission 2004). At the firm level, only a small fraction of the world's workforce is

covered by compensation systems, so most workers receive no income during absences from work. Workers suffering long-term disability may also lose important skills and thus find it harder to find future work or at least to continue in the work for which they have been trained. The rate of participation in the labour force for disabled workers is about two-thirds that of non-disabled, and only half of the likelihood of being in a full-time job. In developing countries, earnings of disabled workers' can reach one-third of the wage of comparable non-disabled persons (Dorman 2000).

3.4.5.2. Occupational hazards

Millions of workers both in developed and developing/poor countries are regularly exposed to thousands of chemicals, hundreds of biological factors and dozens of physical conditions with significant consequences for workers' health. Individual or combined exposures to these hazards contribute to the appearance of millions of occupational injuries, diseases, and stress reactions, as well as job dissatisfaction and absence of well-being (WHO 1995; Hogstedt et al. 2007). Even in developed regions such as the EU there is a strong need to prevent traditional occupational diseases caused by physical, chemical and biological factors, data showing that many of these hazards (e.g., breathing smoke, fumes, dust or powder, and the exposure to vibrations and noise) have remained rather stable or even have increased in the last 15 years (Parent-Thirion et al, 2007). Moreover, high-quality information is lacking and standard data available often underestimates the real situation, (Concha-Barrientos, et al., 2004). In Spain, for example, the overall percentage of workers probably exposed to carcinogens has been estimated in 25.4% (Kogevinas et al. 2006), a figure that rises to 52% in the most dangerous sectors of activity (Kogevinas et al, 2000). In 2004, the Spanish registry on occupational diseases identified near 30,000 diseases (most of them not serious and without sick leave), and only two deaths. Much more detailed analyses, however, have estimated that annually there are 80,000 cases of occupational diseases and 16,000 deaths, with a 64 per cent of underreported incident cases (García et al, 2007).

It is estimated that around one fourth of the workforce in developed countries and up to more than three fourths in developing/poor countries are exposed to such physical factors and in some high-risk sectors such as mining, manufacturing and construction all workers may be affected (WHO, 1995). Physical and mechanical factors produced by unshielded machinery and unsafe structures like noise, vibration, ionizing and non-ionizing radiations and microclimatic conditions are known to affect health (Hogstedt et al., 2007). For example, noise-induced hearing loss has been found to be one of the most prevalent occupational diseases. Another example is the exposure to mineral dusts that cause fibrotic responses in the respiratory system and are associated with an elevated risk of cancer. Pneumoconioses have been found to occur in as many as half of workers most heavily exposed to silica, coal dust or to asbestos filaments (WHO, 1995).

Chemicals are increasingly used in virtually all types of work, including non-industrial activities such as hospital and office work, cleaning, cosmetic and beauty services and numerous other services. Thousands of chemical products today in use in workplaces constitute an important threat for worker's health although the extent of exposure varies widely according to industry, activity and country. Exposures are most prevalent in industries processing chemicals and metals, in the manufacture of several consumer goods (e.g., metal products and plastic boats), in the production of textiles and artificial fibres and in the construction industry. Metal poisoning, solvent damage to the central nervous system and liver, pesticide poisoning, dermal and respiratory allergies, cancers and reproductive disorders are among the health effects of such exposures. In some countries more than half of the workers in certain high-risk industries may show clinical signs of occupational disease which also has an adverse effect on working capacity (WHO, 1995). Nevertheless, only some hundreds of hazards: chemical (e.g. benzene, chromium, nitrosamines), physical (e.g. ultraviolet radiation, ionizing radiation) and

biological (e.g. aflatoxins, tumor viruses), have been identified as occupational carcinogens. The most common cancers resulting from occupational carcinogenic exposures are cancers of the lung, bladder, skin, liver, haematopoietic tissue, bone and soft connective tissue. A particular product of concern is asbestos, which has been severely restricted in developed countries but it is largely used in developing/poor countries, some evidence showing that mortality caused by mesothelioma has been rising in recent decades (Hogstedt, 2007). Currently, about 125 million people in the world are exposed to asbestos at the workplace. According to global estimates at least 90,000 people die each year from asbestos-related lung cancer, mesothelioma and asbestosis resulting from occupational exposures. In addition, several thousands of deaths can be attributed to other asbestos-related diseases as well as to non-occupational exposures to asbestos. The burden of asbestos-related diseases is still rising, even in countries that have banned the use of asbestos in the early 90s (WHO, 2006).

3.4.5.3. Psychosocial occupational stressors

A substantial body of research has linked sources of stress in the workplace to a variety of illnesses and injuries. The most widely studied health outcome is cardiovascular disease (CVD), along with its risk factors, such as hypertension, cigarette smoking, and diabetes (Schnall et al., 2000a; Belkic et al., 2004; Kivimaki et al., 2006). Work stressors have also been associated with psychological disorders, such as depression and anxiety (Stansfeld and Candy, 2006; Van Der Doef and Maes, 1999), musculoskeletal disorders, such as carpal tunnel syndrome and tendinitis (Rugulies and Krause, 2005; Bongers et al., 2002; Sauter and Swanson, 1996), and acute injuries (Hanecke et al., 1998; Clarke et al., 2002). CVD and hypertension are epidemics of relatively recent historical origin (Schnall and Kern, 1981; Waldron et al., 1982). Hypertension is primarily a disease of industrial societies, with a very low prevalence in non-market agricultural communities (Waldron et al., 1982). The rising prevalence of hypertension in developed countries parallels the transformation of working life during the past century, away from agricultural work and relatively autonomous craft-based work toward machine-based (including computer-based) labour, characteristic of the assembly line and mass production (Schnall et al., 2000b). The development of hypertension as a global epidemic has occurred in parallel with urbanization and industrialization, and more recently, economic globalization (Graziano, 2004). Key characteristics of the industrial assembly-line approach to job design, whether implemented in blue-collar or white-collar settings, are high workload demands combined with low employee control or autonomy (known as "job strain") (Karasek and Theorell, 1990), and, during periods of economic growth, long work hours. Other work stressors include high effort combined with low reward (Siegrist, 1996). Rewards include esteem reward (respect and support), income and status control (promotion prospects, job security, and status consistency). Organizational injustice has been defined in three ways: is one unfairly rewarded at work? (distributive injustice); do decision-making procedures at work fail to provide for input from affected parties, useful feedback, and the possibility of appeal, and are not applied fairly, consistently, and without bias? (procedural injustice); do supervisors fail to treat workers with fairness, politeness and consideration? (relational injustice) (Kivimaki et al., 2006). Threat-avoidant vigilant work, which involves continuously maintaining a high level of vigilance in order to avoid disaster, such as loss of human life, is a feature of a number of occupations at high risk for CVD, e.g., truck drivers, air traffic controllers, and sea pilots (Belkic et al., 2000c). More recently, researchers have been investigating the health effects of job insecurity and downsizing (Vahtera, et al., 2004). Long work hours have been associated with a wide variety of health effects, including work accidents and injuries, musculoskeletal disorders, fatigue, psychological ill-health, unhealthy behaviours, CVD risk factors (including blood pressure elevation), and CVD (Spurgeon et al., 1997; Sparks et al., 1997; van der Hulst, 2003; Caruso et al., 2004). Strong, consistent evidence of an association between job strain and CVD has been

observed in men (Belkic et al., 2004). Although based on fewer studies, effort-reward imbalance (Siegrist, 1996; Kivimaki et al., 2002), relational injustice (Kivimaki et al., 2005; Elovainio et al., 2006), and downsizing (Vahtera, et al., 2004) have also been associated with CVD. The effect of downsizing on CVD risk was due in part to increased levels of physical work demands and job insecurity, and decreased levels of skill use and participation (Kivimaki et al., 2000). The strongest evidence for threat-avoidant vigilance comes from studies of single occupations, where professional drivers, particularly urban transport operators, emerge as the occupation with the most consistent evidence of elevated risk of CVD (Belkic et al., 1998; Tuchsén, 2000). Objectively measured stressors among bus drivers have been associated with hypertension (Greiner et al., 2004). While few studies of job strain and casual clinic blood pressure (BP) have shown significant associations, strong evidence is found in studies where BP is measured by an ambulatory (portable) monitor during normal daily activities and exposure to daily stressors, including work (Belkic et al., 2000c). Work systolic ambulatory BP in workers facing job strain is typically 4-8 mm Hg higher than those without job strain (Belkic et al., 2000c; Brisson, 2000; Schnall et al., 1998), and as high as 12 mm Hg when facing chronic job strain (Brisson, 2000). Effort-reward imbalance has been associated with ambulatory BP (Vrijkotte et al., 2000), LDL/HDL cholesterol (Peter et al., 1998; Siegrist, 1988), body mass index (a measure of weight) (Kivimaki et al., 2002), the clustering of risk factors: overweight, smoking, heavy alcohol use, and physical inactivity (Kouvonen et al., 2006), and new cases of type 2 diabetes among men (but not women) (Kouvonen et al., 2004). Work stressors have also been associated with cigarette smoking (Siegrist and Rodell, 2006; Landsbergis et al., 1998). Progression of coronary atherosclerosis has been associated with low job control (Langosch et al., 1983; Muntaner et al., 1998), high demands and low economic rewards at work (Lynch et al., 1997), and job strain (Hintsanen et al., 2005; Rosvall et al., 2002). Among men, the impact of job strain on CVD is more consistent and stronger among blue-collar workers than among men in jobs with higher socioeconomic position (SEP) (Johnson and Hall, 1988; Theorell et al., 1998; Hallqvist et al., 1998). Similar interactions were observed with effort-reward imbalance and SEP for CVD (Kuper et al., 2002), and for job strain and SEP for blood pressure (Landsbergis et al., 2003; Landsbergis et al., 2005). Most job stress studies find associations after taking into account adult SEP, and two studies also show effects of work stressors independent of childhood SEP (Brunner et al., 2004; Kivimäki et al., 2007). Job stressors also increase the risk of common psychological disorders (Stansfeld and Candy, 2006; Van Der Doef and Maes, 1999; Stansfeld et al., 1999), including anxiety (Stansfeld et al., 1995; Bourbonnais et al., 1999), burnout (Landsbergis, 1988; Ahola et al., 2006), and depression (Stansfeld et al., 1995; Mausner-Dorsch and Eaton, 2000). Finally, evidence suggests that job stressors such as high job demands, low job control, low social support, few rest break opportunities (Bongers et al., 2002), and job strain (Rugulies and Krause, 2005) contribute to the development of upper extremity and low back musculoskeletal disorders after taking into account physical job demands. Workplace trends in developed countries, resulting in part from economic globalization, such as the growth of job insecurity, contingent (temporary and part-time) work, and new systems of work organization, appear to be increasing work stress (Kompier, 2006). European surveys show continuing increases in work intensity and job demands between 1990-2005, but no change or slight declines in job control or autonomy (European Foundation, 2006), suggesting an increase in the prevalence of job strain. In developing countries, there has been a rapid increase in the prevalence of hypertension, while in developed countries, the recent trend of a decrease in hypertension prevalence is reversing (Hajjar et al., 2006). These data suggest the need for greater efforts to document the health effects of work stress, to assess trends, and to undertake greater efforts to reduce and prevent work stress.

See also in appendix, case study A7: "Psychosocial working conditions and health".

3.5. Employment relations and health inequalities: pathways and mechanisms

In this section we discuss the current state of the art on pathways and mechanisms linking employment dimensions to health inequalities as well as current knowledge gaps. In order to illustrate our analysis, a selected list of summaries of representative scientific articles is included in the Appendix (Section 6.2.)

3.5.1. Introduction

We adopt realist a perspective on current knowledge regarding social mechanisms linking employment relations to health inequalities. Therefore we seek to compile evidence compatible with our model (See Figures 1 and 2). This means that we may not have enough information to confirm all the pathways included in our model. However, we should be able to find available evidence broadly compatible with the pathways of the model.

We concentrate here on the relation between the dimensions of employment relations (full-time “permanent” jobs, unemployment, precarious employment, informal employment, child labour, slave and bonded labour) and health. These dimensions may share some common pathways (e.g. lack of autonomy at work leading to mental illness) but may also be characterized by specific pathways (e.g., child labour leading to low growth). At the proximal level the links between social stress (in large part a direct or indirect consequence of employment relations) is well understood and common to a host of social determinants.

3.5.2. Labour Market Inequality

Country level macro-sociological indicators of employment relations offer a first social level of analysis. The causal pathways at the national level cannot be obtained with intra country individual level data as macro social factors are held constant within country (Rose, 1992). Labour market indicators at the national level have been incorporated in some recent population health studies (Muntaner et al 2002; Navarro et al 2003; Navarro et al. 2006; Chung and Muntaner 2006). Employment relations are key to the characterization of the European welfare states model (Esping-Andersen 1990). Union strength indicators (e.g., union density and collective bargaining coverage) overlap with welfare state regime types and predict health at the national level (Navarro et al. 2006). Employment relations are with other welfare state redistribution policies (e.g., universal health care). Thus a country’s employment relations determine proximal exposures that affect workers’ health via two social causal pathways: compensation and working conditions (see Section 3.1.) (Landsbergis 2003).

In low and middle income countries labour markets are characterized by the size of the informal sector and inequitable employment relations (child labour, slave labour, low wage work, women’s unemployment, unemployment and underemployment rates). Below we present an illustration of the macro level relation between labour market inequality and population health. Country level data is analyzed based on the country’s position in the world system (in tiers of the world’s income distribution see Section 3.3.1.). We used indicators measuring the prominence of informal sector in the labour market, and the inequality in labour market. Among these, labor market characteristics was measured as a factor score that was composed of four variables of child labour (%), working poor (%), employment-to-population ratio (EPR), and labor force participation (LFP) gap. Variables and sources are given in Section 3.3.1.

We obtained semi peripheral (medium income) and peripheral (low income) positions in the World-System (Babones 2005) after dividing countries into GNP tertiles. We used the population-weighted Gross National Product per capita (GNPpc), generated through the World Bank’s Atlas Method (adjusted by exchange rate) for the classification.

We constructed a Labour Market Inequality factor score based on the five indicators of labour market inequality listed above (see Section 3.3.1.).

The associations between labour market inequality and health are shown in Table 9 (peripheral countries) and Table 10 (semi-peripheral countries). Factor scores show highly significant associations ($p=0.000$) with health except for a few indicators. Among peripheral countries, lower labour market inequality contributes to longer life expectancy in male and female and to healthy life expectancy (HALE) in men and women. Higher Labour market inequality results in higher probability of dying for men and women, higher under-5, infant, neonatal, and maternal mortality rates, and more deaths from cancer and injury. Years of life lost by communicable diseases (both sexes) were also highly significantly and positively associated with the Labour Market Inequality. The age-standardized mortality rate by non-communicable diseases was marginally significantly associated with Labour market Inequality ($p=0.080$). Similar relationships between Labour market Inequality and health were observed among semi-peripheral countries with a few exceptions. The injury rate and the age-standardized mortality rate due to non-communicable disease (both sexes) did not show any significant relationship with Labour Market Inequality (p -value 0.398 and 0.121, respectively). The association between Labour Market Inequality and male and female HALEs are graphically presented in Figure 11 (peripheral countries) and Figure 11 (semi-peripheral countries). R-square values are close to 0.5 for peripheral and semi-peripheral countries, showing negative relationships between Labour Market Inequality and male and female HALEs. These R-square values of around .5 provide some macro social evidence for using the labour market characteristics to understand the population health impact of employment relations at the national level.

In conclusion, while the labour institution indicators (i.e., union density) are scarcely recorded in Peripheral countries, labour market characteristics correlate significantly with health outcomes. In Semi-Peripheral Countries, labour market characteristics are still significantly associated with a range of health outcomes. However, a large informal sector in these countries does not necessarily mean worse population health (data not shown). This could be due to a large presence of small entrepreneurs relative to workers in the informal sector. Some studies have found evidence that labour institutions in wealthy countries are associated with population health indicators (Navarro and Shi 2000; Muntaner et al. 2002; Navarro et al. 2003; Chung and Muntaner 2006, 2007). Taken together these associations constitute a body of evidence on the impact of employment relations on health at the macro social (population) level of analysis (e.g., Rose 1992; Susser 1994, Schwartz 1994).

Table 9. Bivariate Associations of the Labor Market Inequality Score with Various Health Outcomes.

Health Outcomes	Pearson Corr.	Sig. (2-tailed)	N
life expectancy at birth (years) males 2004	-0.671	0.000	81
life expectancy at birth (years) females 2004	-0.681	0.000	81
healthy life expectancy (hale) at birth (years) males 2002	-0.678	0.000	81
healthy life expectancy (hale) at birth (years) females 2002	-0.697	0.000	81
probability of dying per 1 000 population between 15 and 60 years (adult mortality rate) males 2002	0.592	0.000	81
probability of dying per 1 000 population between 15 and 60 years (adult mortality rate) females 2002	0.617	0.000	81
probability of dying per 1 000 live births under 5 years (under-5 mortality rate both sexes 2004	0.678	0.000	81
infant mortality rate (per 1,000 live births) 2004	0.647	0.000	81
Neonatal mortality rate (per 1,000 live births) 2000	0.491	0.000	81
Maternal mortality rate (per 100,000 live births) females 2000	0.719	0.000	81
cancer, age-standardized mortality rate (per 100,000 population) 2002	0.363	0.001	81
injuries, age-standardized mortality rate (per 100,000 population) 2002	0.467	0.000	81
communicable diseases both sexes, years of life lost by broader causes (%) 2002	0.673	0.000	81
Non- communicable diseases Both sexes, Age-standardized mortality rate (per 100,000 population) 2002	0.196	0.080	81

Figure 11. Association between labor market inequality factor score and HALE among Peripheral countries.

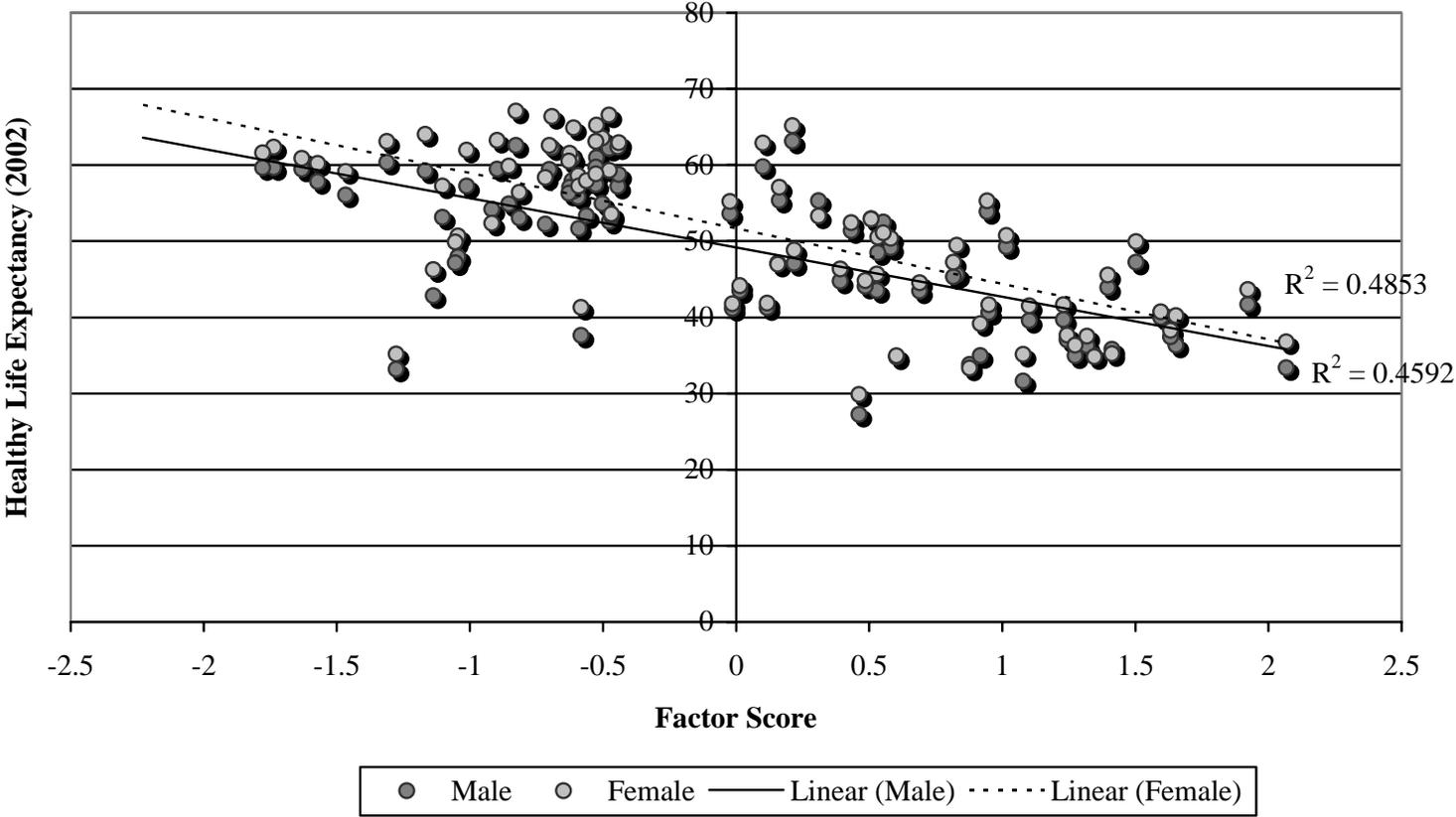
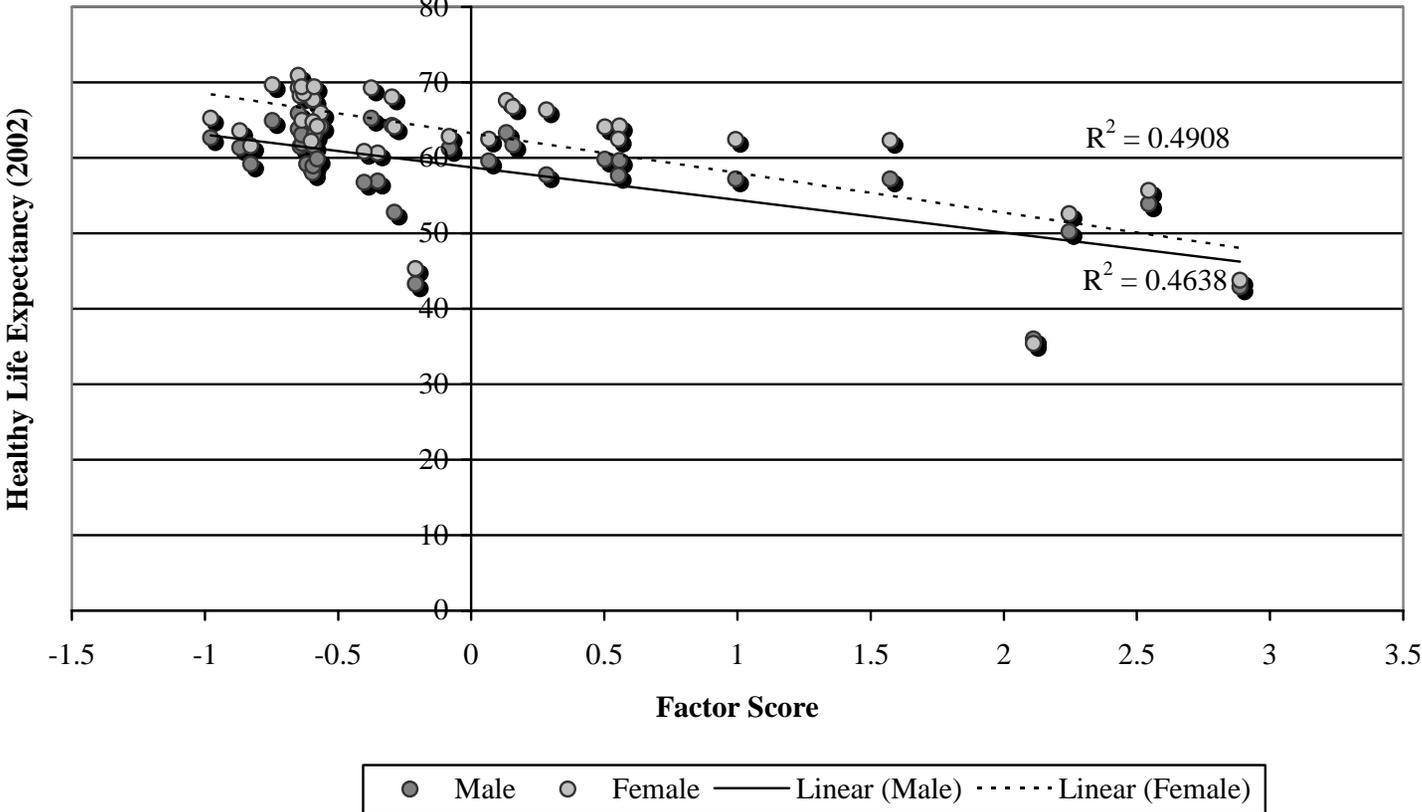


Table 10. Bivariate Associations of the Factor Score with Various Health Outcomes.

	Pearson Corr.	Sig. (2- tailed)	N
life expectancy at birth (years) males 2004	-0.604	0.000	39
life expectancy at birth (years) females 2004	-0.647	0.000	39
healthy life expectancy (hale) at birth (years) males 2002	-0.681	0.000	39
healthy life expectancy (hale) at birth (years) females 2002	-0.701	0.000	39
probability of dying per 1,000 population between 15 and 60 years (adult mortality rate) males 2002	0.538	0.000	39
probability of dying per 1,000 population between 15 and 60 years (adult mortality rate) females 2002	0.624	0.000	39
probability of dying per 1 000 live births under 5 years (under-5 mortality rate both sexes 2004	0.749	0.000	39
infant mortality rate (per 1,000 live births) 2004	0.748	0.000	39
Neonatal mortality rate (per 1,000 live births) 2000	0.762	0.000	39
maternal mortality rate (per 100,000 live births) females 2000	0.611	0.000	38
injuries, age-standardized mortality rate (per 100 000 population) 2002	0.139	0.398	39
Non- communicable diseases Both sexes, Age-standardized mortality rate (per 100,000 population) 2002	0.252	0.121	39
communicable diseases both sexes, years of life lost by broader causes (%) 2002	0.701	0.000	39

Figure 12. Association between labor market inequality factor score and HALE among Semi-peripheral countries.



3.5.3. Employment

3.5.3.1. Full-time permanent employment

The “standard” full time permanent employment arrangement that characterized the post WWII labour-capital accord in many industrialized countries determines via a host of psychosocial working conditions (see section below), wages and benefits. The growth of non-standard work arrangements in wealthy countries and the predominance of informality in low and medium income countries made us consider “Full-time permanent employment” as the reference against which these more hazardous employment relations are compared to.

3.5.3.2. Unemployment

In an analysis of mechanisms for the socioeconomic gradient in health in a life course perspective, accumulated unemployment from age 16 until age 30 seemed to be a major mechanism for the socioeconomic gradient in health among both men and women. The health consequences of unemployment are well-known for both men and women. Also, early unemployment has been shown to have lasting negative effects for later employment (Steijn et al., 2006). The question about whether the relation between unemployment and ill health could be related to exposure or to health-related selection (i.e. prior poor health status increases the risk of unemployment) has been much debated in unemployment research (Winefield 1995; Novo 2000), although few of all studies can control for health related selection. Available research supports the hypothesis that both selection and exposure are important in explaining the association between unemployment and ill-health. The exposure effect may be strongest as it has been demonstrated in prospective studies, after control for health-related selection (Claussen 1999, Hammarström and Janlert 2002; Novo 2000).

There is a lack of both theoretical and empirical research about possible mediating mechanisms between unemployment and ill-health. Theoretically, the following causal pathways related to exposure have been proposed. The economic deprivation models assume that unemployment leads to deteriorated economy for the unemployed, which in turn worsens the prerequisites for health (Janlert 1991). According to the stress theory (Kagan and Levi 1975), unemployment and uncertainty about one's work situation in the future may act as a stressor which in turn can lead to physiological changes, changed health behaviour as well as deteriorated health. The social support model is closely connected to the stress model and implies that unemployment leads to increased social isolation which in turn can either have direct health effects or decrease the buffering effect of social support (Roberts et al. 1997). In the control model the lack of decision latitude and control over life that unemployment brings with it, can lead to deteriorated health (Karasek and Theorell 1990). The model of latent function, developed by Marie Jahoda (1982), is based on what needs, besides the economic needs, a job should fulfil in order to be a good one. These needs are that employment gives a time structure of the day as well as regularly shared experiences and contacts with others. Besides, employment contributes to status and identity and provides opportunities for striving for collective goals and purposes. Mechanisms can be prioritised as follows: social causation has been shown to be of more importance than health selection. Among the mechanisms of social causation the economical deprivation model has received most support, followed by the stress model. The next priority is given to Marie Jahoda's model of latent functions while the lowest priority is given to the model of social support and the control model.

3.5.3.3. Precarious employment

The analysis of the pathways linking precarious employment and health inequalities is a complex phenomenon. There are many potential mechanisms through which different types of these employment forms may differentially damage the health of workers. Precarious employees may suffer adverse health effects through the action of material or social deprivation and hazardous work environments (Benach and Muntaner 2007). Thus, the experience of various kinds of precarious jobs and the insecurity and vulnerability associated with them is likely to be associated to more hazardous working conditions and to higher income inequality. For example, temporary employees are exposed to hazardous working conditions, work more often in painful and tiring positions, are more exposed to intense noise, perform more often repetitive movements, have less freedom to choose when to take personal leave (Letourneux 1998) and are far less likely to be represented on health and safety committees (Quinlan and Mayhew 2000). A systematic review of studies of temporary employment and health suggests that temporary workers suffer from a higher risk of occupational injuries as compared with permanent employees (Virtanen et al. 2005). Another study has shown that several forms of temporary employment are associated with higher rates of musculoskeletal disorders and psychosomatic symptoms than permanent employment (Aronsson et al. 2002). In addition, non-permanent workers have less knowledge about their work environment, feel more constrained by their status to complain about work hazards, and have more difficulties for changing their working conditions (Aronsson 1999). Workers under situations of precarious employment may face greater demands or have lower control over the work process, two factors which have been associated with higher levels of stress, higher levels of dissatisfaction, and more adverse health outcomes. For example, workers with temporary contracts are twice as likely to report job dissatisfaction even after adjusting for various individual- and country-level variables (Benach, et al. 2004). Non-permanent workers enjoy less job autonomy and control over working time than workers on permanent contracts and are likely to be occupied in less skilled jobs (European Foundation 2001) and they have worse health outcomes as compared with permanent workers (Benavides et al. 2000; Kivimäki et al. 2003; Benavides et al. 2006). Temporary jobs tend to be less paid than permanent jobs and often have less access to paid vacations, sick leave, unemployment insurance and other fringe benefits as well as less access to training. All these adverse factors may increase the risk of developing negative health-related behaviours as well as of producing detrimental psychological and physio-pathological changes leading to poorer health outcomes. For example, there is some evidence that temporary employment is associated with increased deaths from alcohol-related causes and smoking-related cancer (Kivimäki, et al. 2003).

Evidence from psychosocial studies has also shown interesting results. The experience of job insecurity has been associated with poorer physical and mental health outcomes (Ferrie 1998). A study has shown that self-perceived job insecurity was the single most important predictor of a number of psychological symptoms such as mild depression (Dooley et al. 1987). Workers exposed to chronic job insecurity are more likely to report minor psychiatric symptoms as compared to those with secure jobs (Ferrie et al. 2002). Moreover, relative to workers who remained in secure employment, self reported morbidity was raised among workers who lost security. Workers exposed to chronic job insecurity had the highest self reported morbidity, indicating that job insecurity acts as a chronic stressor. Among those who regained job security, adverse effects, particularly in the psychological sphere, were not completely reversed by removal of the threat. Downsizing, which can lead to increased job insecurity, has also been shown to be a risk to the health of employees. Thus, a significant linear relation between the level of downsizing and long periods of sick leave, attributable to musculoskeletal disorders and trauma, has been observed (Vahtera et al. 1997). Self reported health status has tended to deteriorate among workers anticipating job change or job loss in a group of middle aged white collar civil servants (Ferrie et al. 1995). Overall, research on self-reported job

insecurity and workplace closure presents consistent evidence that they have significant adverse effects on self-reported physical and mental health (Marmot et al. 2001). Finally, there is also some evidence on the association between self reported job insecurity and subclinical atherosclerosis (Muntaner et al. 1998).

Although job insecurity and temporary employment have shown to be good predictors of the health of precarious employees, they only may provide a partial picture of the new employment relations, insufficient to explain the mechanisms by which new work arrangements are affecting the health of a growing flexible workforce. For example, self-perceived job insecurity may not be able to capture the impact of employment structural determinants such as the lack of unionisation, benefits or domination on workers' health (Benach et al. 2002). On the other hand, the study of temporary employment may also be inadequate to explain many of the complex situations produced by precarious employment. In fact, the common use of "control" under precarious employment relationships can go beyond the notion of "decision authority" and create new types of uncertainty in expectations regarding issues such as future work, income, benefits, or schedules. For example, precarious workers are likely to work under different power relationships than those in standard jobs, with limited rights at work. These and other limitations highlight the need to develop conceptual and measurement alternatives based on the social structure of work organization such as "precarious employment".

3.5.3.4. Informal Employment

Relations between informal economy/informal jobs and health and occupational-related health outcomes that may result in health inequalities are not much studied. Overall, employment status and other occupational data are not always available or lack quality in large demographic or health-related databases. Also, the lack of official statistics about workers in the informal economy, the scattered spatial distribution of shops and workers, and the uniqueness of workplaces such as domestic employment, are all drawbacks for research. Other methodological problems are the lack of accepted standard definitions, the large heterogeneity of occupations and trades, job arrangements, and health and safety hazards, besides its association with poverty which makes it difficult to separate specific health effects. Most of the available research is qualitative descriptive case studies (Hussain-Huq 1995; Holland 1995; Nilvanrangkur et al. 2006), quantitative (Hernandez et al. 1996; Lowenson 1998), or community-based surveys that compare informal to formally hired workers (Bisgrove and Popkins 1996; Santana et al. 1997; Santana and Loomis 2004; Ludermir and Melo Filho 2002). The available evidence consistently shows that workers in the informal economy or having informal employment have less favourable health indicators as compared to those in the formal economy or holding formal jobs (Hernandez et al. 1996). These studies however do not consider the heterogeneity of the informal sector, which includes small entrepreneurs, self-employed and workers. However, most studies have addressed occupational related health issues and only a few described the relations between informality and health inequities, using overall health effects. In UK, results from the British Household Panel Survey 1999-2001 show that small employers and own account workers are at increased risk of having a limiting illness, for men (Adjusted Hazard Ratio, AHR=1.47 95%CI:1.09-1.98) and women (AHR=2.42; 95%CI:1.49-3.94), but no statistically significant results were reported for illness recovery (Bartley et al. 2004). For both men and women, there is a strong positive association between an increasing proportion of informal jobs in countries and death and disability years of life lost (DALY) for all diseases.

Being in informal business and informal employment may cause mental distress and psychological diseases, because of job insecurity, i.e., the threat to lose long-term stable jobs. Based on the empirical findings on the relations between psychosocial work environment and well being, Siegrist (2005) developed the effort-reward theoretical model. Under this framework, workers expect fair relations between effort spent on the job and

what they get as return, particularly salaries and promotion, recognition and job security. An imbalanced effort-reward relation may lead to perception of injustice, emotional distress, and poor self-esteem, which is plausible scenario to occur in the informal economy or among informal workers. There is empirical evidence that asymmetric effort-reward job perceptions are associated with cardiovascular disease, poor self-perceived health, and several mental disorders (Siegrist and Marmot 2004). These effects may be exacerbated in situations of social vulnerability as in the context of workers in the informal economy. Results from several community-based cross-sectional studies have shown that women in informal jobs were more likely to have minor mental disorders than those having formal job contracts, using adjusted relative measures for number of symptoms (Santana et al. 1997) or standardized diagnoses (Ludermir and Lewis 2005). This association was not observed among men (Ludermir and Lewis 2005). Ragpickers were more likely to have minor psychological disorders than neighbor workers (Da Silva et al., 2006). In developed countries, such as the US and Canada, positive associations were observed between self-employment and stress (Jamal and Badawi, 1995), or self-perceived health (Dolinski and Caputo 2003), but other studies did not find similar evidence. For instance, Prottas and Thompson (2006) examined self-employment and stress, family conflict, and job satisfaction. Crude positive associations disappeared when adjusted by socio-demographic and work-related factors such as hours worked, job pressure and job autonomy. Further, no differences in physical and mental health, assessed by depression or anxiety prevalence, or visits to a general practitioner over one year period, were found for self-employed in a study conducted in London (Parslow et al. 2004). Other reported psychosocial stressors in informal workplaces are violence, sexual abuse (Oliveira 2006) and discrimination (Iriart et al. 2006) reported for domestic employed women (Oliveira, 2006; Sales and Santana 2003) and construction workers (Iriart et al. 2006). Most women engaged in weaving in informal jobs in Thailand reported stress perceived as a result of pressures to keep the quality of products, the tight time schedule and from debts related to their jobs (Nilvarangkul et al. 2006). In South Africa, approximately 25% of women street vendors reported an experience of abuse, either physical or verbal, and 29% reported having been robbed at work (Pick et al. 2002). One explanation for these inconsistencies is that the category of "self-employed" is very heterogeneous in wealthy countries such as the US, where it captures both professionals and low skilled workers (Muntaner et al 2004).

Informal jobs have also been analyzed with regard to nutritional-related outcomes. Although poverty is correlated with poor nutrition, there is a more complex relation when employment status is taken into account. For instance, data from the Cebu Longitudinal Study from Philippines showed that low-income women in the informal economy consumed more calories, protein and iron through commercial sources than those in the upper income group from the informal economy. Also lactating women were more often engaged in breastfeeding when in the informal economy (Bisgrove and Popkin 1996). However, Hernandez et al. (1996) analyzed street vendor mothers from Mexico City to identify health outcomes related to child care practices. Because access to child care was limited, women leave their children at home, usually under the supervision of other older children or bring them to their workplaces. Without adequate supervision, children who stayed in their mothers' workplaces have an increased proportion of gastrointestinal diseases and injuries as compared to the corresponding estimated prevalence for the overall population.

3.5.3.5. Child Labour

A growing number of studies have shown that health problems are one of the main negative effects of child labour. These effects vary in nature ranging from occupational-related diseases and injuries, directly related to hazards in the workplace or when commuting, to increased vulnerability to biological or toxic agents due to the immature immune system, ergonomic risks resulting from inadequate dimensions of tools and

equipments, and impairment of physical, mental and social development because of limited time for resting, playing and studying, among other health and developmental problems. Therefore, child labour has been associated with problems related to the physical, physiological, mental and social development of children (Gunnarson et al. 2006; Fassa 2003). There is a consensus that many working children are involved in unacceptable work conditions which conform with the worst forms of child labour, such as war combats, prostitution, drug selling, or hazardous job tasks, unsafe workplaces, excessive work time, etc (ILO 2006). Extreme workloads may lead to various health disorders because of children's lesser bone elasticity, strength, and capacity to support heavy workloads. These factors can lead to musculoskeletal symptoms among child labourers (Huk-Wieliczuk 2005; Ayala and Rondón 2004). Some of the reported health effects of child labour appear late at the adulthood, such as those related to self-perceived health and reduced height (Dantas 2005), and alcohol and drug abuse (Foster et al. 1996).

According to data from the ILO (2006), 69% of all child labourers work in agriculture, ranked as one of the three most hazardous occupations as demonstrated by increased mortality and morbidity even for adults (Fassa 2003). Some of the threats faced by children when working in agriculture are exposures to chemical agents such as pesticides, heat and harsh weather, repetitive work, hazardous equipments (hoes, tractor, etc), excessive work hours, demanding physical work, noise, and biological agents (Edmonds and Pavnick 2005; Ayala and Rondón 2004; Fassa 2003). All these risk factors can lead to health problems, such as musculoskeletal disorders, cancer, hearing loss, infectious diseases, asthma, and pesticide poisoning (Ayala and Rondón 2004; Fassa 2003). According to a study conducted by Briceño and Pinzón (2005), pesticide poisoning is also a risk for children working in marketplaces when their activity involves carrying or handling fruits and vegetables with pesticides.

In urban areas, child labour prevails in the informal economy, like home-based production, street selling, recycling, child labouring, rag picking, construction and paid housework also known as imposing hard and poor work conditions to children that lead to the occurrence of health problems in the short run or during adulthood (ILO 2006; Santana et al. 2005; Fassa et al. 2000). Child prostitution is found worldwide, and it is regarded as a gross violation of human rights and dignity, and has been estimated as affecting 10 million individuals, particularly in Asia (Wills and Levy 2002). Children involved with prostitution are exposed to mental and physical abuse, and at risk of drug addiction, AIDS and many sexually transmitted diseases, as well as premature and undesired pregnancy (Fassa et al. 2000 cited in Fassa 2003; UNICEF 1997 cited in Fassa 2003). All these occupational risks may be avoided because they express injustice in its more unacceptable form since children not always have the means to defend themselves. It is a universally accepted principle that society and the State have as a major obligation the protection of minors even when parents are negligent or absent. In addition, child labour may directly compromise height (Duyar and Ozener 2005; Dantas 2005; Yamanaka and Ashworth 2002; Hawamdeh and Spencer 2002), which can be regarded as a biological face of social injustice, and recently seen as a relevant component of the so-called physiological capital (Fogel 2003). This concept addresses the "health stock" that every person has when he/she is born whose deterioration need to be avoided throughout life. However, since growth is known to be related with nutrition at early age, and child labour is closely associated with poverty, teasing out these two factors from correlations is still a challenge for epidemiologists. Hawamdeh and Spencer (2002) argue that child labour may have an unfavorable effect on ones' physiological capital as measured by its impact on growth. To minimize the confounding impact of the social-economic variable in their study, the authors selected two groups of boys according to their socio-economic class. They selected 135 Jordanian working boys and 405 non-working schoolboys living in the same geographic region and between the ages of 10-16 years. Their study found that regardless of socio-economic circumstances, child labour among Jordanian boys increases the risk of stunting and wasting. For instance, they encountered a significant clinical difference between the 2

groups; 5.3 cm in height and 250 g in weight for those aged 14 years. The risks of growth impairment faced by working boys also intensify their risk of adverse health outcomes in adulthood (Hawamdeh and Spencer 2003 2002).

A couple of studies in Brazil address the association between child labour and self-perceived health at adult age, and they consistently observed that individuals who started work under 10 years (Kassouf et al., 2001) or 14 years of age (Dantas 2005) were more likely to report poor self-perceived health than those who did not have antecedents of child labour. However, Huk-Wieliczuk (2005) studying rural children in Poland did not find correlation between heavy workload and poor self-reported health. This inconsistency might be explained by differences of the age range across the population surveyed. Kassouf et al (2001), canvassed former child labourers aged 18-65 while Huk-Wieliczuk (2005), interviewed children who were working at the time of the study, and who were likely sent to work because of good health standing.

Besides direct individual effects, child labour can also indirectly determine health inequities at the population level. As already mentioned child labour is a major cause of illiteracy, low education and poorly trained low-skilled workers. Low education or illiteracy are widely known as one of the most consistent predictors of mental diseases (Patel and Kleinman 2003), poor nutrition, stunting (Ram 2006), lower life expectancy and a range of unhealthy behaviours (Low et al. 2005; Fassa 2003) among several other health outcomes at childhood or adult age. Poorly educated workers will also be trapped in low-income unsafe and substandard jobs, a major cause of poverty, and limiting chance to social mobility and attainment of better health status and life quality of their families (Case and Paxson 2006). So child labourers, whose educational achievement is lessened due to work, are further penalized in the health realm. Since education is considered a major component of human capital, a set of abilities and attributes required to the fulfillment of social and human needs, it is also a determinant of productivity and wealth. Moreover, studies from Brazil have shown the crucial role of parents' educational level, especially the mother's, on children's health and nutritional status. (Kassouf et al. 2001). Elsewhere, a mother's high level of education has been closely linked to lower child mortality rates (Fassa 2003). More highly educated parents provide better nutrition and health care for their offspring. Therefore, if we take this a step further, an indirect consequence of child labour might be that former child labourers make poorer health-related decisions for their children. Most studies on child labour and health are descriptive in nature, were developed with small samples, lack well-defined design, study population, measurements and are poorly analyzed. These drawbacks limit conclusions, and external validity. Studies focusing on the long term health impacts of child labour are essential since children have many years of life ahead of them and more time to contract illnesses (Ayala and Rondón 2004). Moreover, the impact of child labour on health is underestimated because its long-term physiological repercussions generally do not appear in the statistics related to health consequences for child labourers; and health care professionals usually do not recognize this causal pathway since most of them do not see children as workers (Eijkemans et al. 2005; Silveira and Robazzi 2003).

3.5.3.6. Slavery and bonded labour

As compared to the health dimension of other types of employment condition (or unemployment), the links between forced labour and health are very complex and challenging to get information due to their clandestine nature of practice and denial mode of the authority regarding its existence. The working environment in terms of employee-employer relation essentially determines the health of the forced labours on account of physical and mental trauma due to coercive action including restriction of movement and violence. Even if not restricted, fear of detection and deportation can leave undocumented victims of forced labour reluctant to access health and social services. But, along with employee-employer relations; economic disparity, malnutrition and food

security, working conditions, and social support also determine access, affordability and availability of health care, compensation and rehabilitation. Although by definition, forced labour is differentiated from poor working condition or hazardous working environment, very often they are engaged in these employment conditions and exploitative nature of the employers push them into more vulnerable conditions (Fassa 2003; WHO 2002). Empirical evidence on the adverse health outcomes and health inequalities as a result of physical violence and mental trauma, risky behaviours, absence or inaccessible welfare measures, and cultural barriers has been shown. Moreover, even after abolition of slavery practice, its legacy still persists and influences health outcomes.

3.5.4. Working conditions

The process known as globalization has increased the unequal work-related transfers between countries and social classes. A particular important problem is the transfer of hazardous substances, materials and persons from rich to poor countries and vice-versa. Three main processes are involved. First, raw materials, products and minerals are produced and extracted from workers in poor countries in workplaces under the control of multinational corporations or their subsidiaries that control commodity prices and appropriate most of the profits of these economic transfers. In the most unstable and insecure regimes (see section 3.3.1.), a process of war and social destruction is left behind. A second important transfer is that of products and hazardous materials and substances that mainly end up in poor countries where they constitute a threat both to the health of workers and the environment. A final important transfer is that of human beings. Workers from the south immigrate to developed countries to labour under the most difficult, low paid and hazardous jobs that workers in rich countries often reject for themselves. High-skilled professionals from poor countries also immigrate to the developed world where they find places to develop their skills, so that poor countries lose an important source of human resources while wealthy countries profit from this workforce transfer. Worldwide, there are about 60 million health workers. About two-thirds of them provide health services and another one-third is management and support workers. Fifty seven countries, most of them in Africa and Asia, face severe workforce shortages. WHO estimates that at least 2 360 000 health service providers and 1 890 000 management support workers, or a total of 4 250 000 health workers, are needed to fill the gap. Without prompt action, the shortage will worsen. An example is the unequal distribution of health workers throughout the world, with severe inequalities between rich and poor countries and differences within countries especially in rural areas. Each year, substantial numbers of health workers leave the health workforce helping to provoke shortages that compromise the delivery and quality of health services. For example, Sub-Saharan Africa with 11 percent of the world's population and 24 percent of the global disease burden holds only a 3 percent of the world's health workers. (WHO 2006).

The contribution of unequal distribution of working conditions is a key contributor to social inequalities in health through multiple exposures and mechanisms. Workers are unequally exposed to occupational hazards, data showing that health inequalities across social groups, occupations, genders, and firms are significantly large. For example, research has shown that the lower the occupational class, the more likely people are to experience hazardous work conditions, including physical strain, low job control, greater noise and air pollution, shift work, a monotonous job, and a hectic work pace (Vahtera et al. 1999; Schrijvers et al. 1998; Evans and Kantrowitz 2002). Manual workers, for example, have to deal with daily exposures to chemical and physical risk factors, and with the lack of control over the work. Several social aspects of work may raise health concerns, for example, the gender distribution and segregation of jobs and equality at the workplace, social relationships between managers and employees, and social support from fellow-workers are aspects of work that may enrich or reduce social contacts. In many services and public jobs the social pressure from customers, clients or the public may cause

additional psychological workload. Measures for improving social aspects of work are mainly those that promote the creation of open and positive contacts at the workplace, support the individual's role and identity at work and facilitate team-work.

The special occupational health problems of working women are recognized in both the developing and industrialized countries. In the former, heavy physical work, the double burden of job and family less developed working technologies and traditional social roles are the factors that increase the burden of female workers. In the industrialized countries, where women also face a double burden, lower-paid manual jobs are often left to female workers. Also the design of machinery and work tools are often made according to male anthropometry although female workers use such equipments. Women may also face problems of occupational exposures that are hazardous to reproductive health. In many service occupations the female workers may be exposed to the threat of violence from clients or to sexual harassment from fellow workers. Some studies indicate a higher than average risk of unemployment among low-paid female workers which may also have negative social and health consequences on families. Equal job opportunities for women and men and equal payment for the same job are still rarely seen around the world. Regarding groups, in the EU, non-permanent employment reports high percentages of job dissatisfaction while small employers are more likely to report fatigue and stress and sole traders are more likely to report fatigue and backache (Benavides et al, 2000). Furthermore, findings of similar associations between types of employment and health in the Second (ES1995) and the Third European Survey on Working Conditions (ES2000) suggested that these associations might be causal (Benach, Gimeno, Benavides, et al. 2004). Another important issue that reflects working conditions inequalities is the association between contract and occupation status with the level of information regarding workplace risks. Near one of five workers working with no contract, temporary contract or in a manual occupational are not well informed about workplace risks as compared to only about 12 per cent among permanent and white-collar workers (Parent-Thirion et al, 2007). Furthermore, this issue is one of the main causes of fatalities among these workers. The technology transfer may have positive or negative impact on health of the workers and on health of the environment. Nothing that is unacceptable in the exporting country should be transferred to the importer, no matter what the legislation of the recipient country states about such practice. Universal minimum standards are needed for health, safety and social protection of workers in all countries. In order to prevent social dumping and over-exploitation of workers who are not able to defend themselves, compliance with standards should be internationally controlled and should not be compromised for any reason.

See in appendix, case studies A8: "Occupational Health inequalities in the United States: The Workforce Changes, but Patterns Persist", and A9: "Working conditions as promoters of health inequalities."

Case Study 9. Psychosocial working conditions and social inequalities in health. J Head, T Chandola (UCL)

Large and persistent social class differences in health have been observed in the United Kingdom, despite the existence of the National Health Service for more than fifty years providing universal access to health care. Earlier explanations for this health gap suggested these inequalities originated in material circumstances such as poverty and deprivation, as well as behavioural lifestyles such as smoking. However, the first Whitehall study, conducted among British civil servants, made clear that inequalities in health were not limited to the health consequences of poverty or conventional risk factors for ill health. Psychosocial factors such as work stress were hypothesized to fill in the unexplained part of the social gradient in mortality, mental well-being and sickness absence. The nature of working conditions has changed considerably in most industrial countries. A substantial part of the economically active population are now more likely than ever to work on temporary contracts, for a fixed term, and in insecure employment. These adverse working conditions tend to be more prevalent in lower socioeconomic occupations and disadvantaged occupational classes-the lower the socioeconomic position, the higher the risk of exposure to adverse and stressful working conditions- (Siegrist 2002), however, not all dimensions of stressful

working conditions are more prevalent in lower SES occupations. Higher job demands, as characterised by the job strain model, tend to be more prevalent in higher SES occupations (Bosma et al. 1997). In addition, workers in higher SES jobs may be exposed to greater work effort, a characteristic of the effort-reward imbalance model. (Siegrist et al. 2004) On the other hand, lower job control (Bosma et al. 1997; Godin and Kittel 2004) and fewer rewards (Siegrist et al. 2004) tend to characterise lower SES occupations. Furthermore, when the social gradient in the overall measure of stressful working conditions (job strain and effort-reward imbalance) is analysed, rather than specific components, work stress tends to be reported primarily by those in lower SES occupations (Kouvonen et al. 2006; Tsutsumi et al. 2001). Even when greater effort-reward imbalance is reported by higher SES workers earlier on in their career (Kuper et al. 2002), lower SES workers tend to report a greater deterioration in their working conditions over their career lifetime (Chandola et al. 2005). There is some debate about whether stressful working conditions account for some of the social gradient in health. Low control, (Bosma et al. 1997; Kunz Ebrecht et al. 2004) skill discretion (Andersen et al. 2004), job strain (Chandola et al. 2006), effort reward imbalance (Chandola et al. 2005) have been found to account for some of the social gradient in different measures of health. In addition, the effect of effort reward imbalance may be greater in lower SES occupations (Siegrist 2004). On the other hand, not all dimensions of adverse psychosocial working conditions contribute to explaining social inequalities in coronary heart disease (Suadicani et al. 1993). If stressful working conditions mediate the effect of SES on health, we would expect to find strong evidence of the association between low SES and stress related biomarkers. There is some conflicting evidence from the scientific literature. Some report that lower SES is not associated with biological markers for stress (Dowd and Goldman 2006), while others find that lower SES is associated with higher biological stress responses in terms of a greater cortisol awakening response (Wright and Steptoe 2005). In summary, adverse working conditions tend to cluster in lower SES occupations. Most of the studies show that some dimensions of stressful working conditions mediate or moderate the effect of social inequalities in health, although a minority of studies questions this link.

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3.5.5. Gaps in knowledge

Research has only provided a limited picture of the many pathways and mechanisms linking employment dimensions and working conditions and health inequalities. Moreover, the large majority of studies have been conducted in developed countries. The research questions to be answered are multiple. For example. Are the health effects of precarious employment different by gender? Are men and women exposed to similar hazards when they work in similar informal arrangements? What is the risk distribution across social classes? What are the health effects of informal employees who are immigrants of different social classes? For example, what is the role played by potentially modifying variables between employment and working conditions and health inequalities? Are the effects of various deprived employment dimensions on health inequalities affecting to family members and dependents as well? Main research gaps for each employment dimension are here summarised.

Unemployment.

- Analyses of potential biases related to the fact that most research, concepts and theories are developed within developed countries without taking a global perspective into account are missing.
- Much more research is needed about the public health and health inequalities consequences of unemployment in middle and most of all in low income countries.
- Most studies on unemployment are descriptive. More longitudinal empirical research as well as review articles and meta-analyses are needed about unemployment in relation to issues such as the mediating mechanisms between unemployment and physical health, health behaviour and mental health. Analyses should be separated by gender, age, social class, ethnicity and migration.
- There is a need to develop better explanatory models, both for guiding public health interventions but also for the evaluation of these interventions.
- There is a need for evaluation of policy interventions at various levels. Research should also be more focussed on the group and aggregate level compared to the individual level and research should reorient the focus to primary prevention of unemployment in society.
- The use of mixed-methods, integrating quantitative, qualitative and historical research could contribute to a better understanding of the pathways mechanisms, and explanations between unemployment and health inequalities.

Precarious employment

- There is a need to understand the specific dimensions able to capture multiple situations of precariousness in different social contexts and for different types of jobs and workers.
- Data of higher quality with more refined health information systems, especially in mid- and low-income countries, is needed. Governments and health agencies should establish adequate information systems and research plans to gather data on new forms of employment and hard to reach precarious employees.
- More potent theories and models are needed. Today, there is a lack of theoretical frameworks showing the links and pathways that create precarious employment leading to poor health outcomes. Main psychosocial models may not be able to capture other more distal structural social factors related to inequalities in power and class relations. There is a need to generate models that specify how macroeconomic processes, country-level and regional factors, individual employment situations, and health are interrelated.
- There is a need for evaluation of policy interventions at various levels. Research should be mainly focused on the main means to prevent precarious employment.
- New designs, instruments and measures capable to analyze the specific mechanisms through which precarious employment may damage worker's health are needed. Additionally, there is the need for more powerful epidemiological designs that integrate several levels of individual and contextual variables at the national and regional level, as well as studies that integrate quantitative and qualitative data.

Informal employment

- Empirical evidence concerning the impact of the informal economy and informal jobs on health and health inequalities is scarce particularly for rural settings and poor countries.
- The close links with other socioeconomic and occupational factors need to be more carefully considered in the analysis, particularly their role as confounders, or intermediary variables, since they may represent part of the construct of informality on labour market placement rather than an extraneous artifact in the causal pathways.
- The use of subgroup analysis for effect modifiers should be emphasized, as well as the consideration of aspects of social protection, occupational health and safety programs and health care access.
- Qualitative studies or participatory research may help clarify some remaining issues, such as the dynamic between informal and formal economy, decisions concerning leaving formal jobs and access to health care and preventive resources.
- Policies to achieve better employment and work conditions require the implementation of evaluated inter-sectorial actions and programs, where health policymakers need to be actively engaged and well prepared to be part of this novel and challenging effort.
- Development models that rely on intensive labour production need to be emphasized and their impact on employment generation monitored and evaluated.
- Cooperative models of organization and production management based on solidarity, need to be emphasized and their impact evaluated in comparison to individual bank loans.

- Mobilization of savings and credit extension might be a beneficial strategy in some regions. However, this evidence needs to be critically evaluated and tailored to the realities of developed and developing/poor countries.

Child labour

- Despite the concentration of child labour in developing and poor countries, there is a need to study the phenomenon in developed countries such as the U.S. where child labour is growing due to substantial immigration, and relaxation on law enforcement related to this issue. Further research should focus especially on disadvantaged population groups such as migrants.
- Child labour, especially children working under the worst conditions, increases children's exposition to health hazards. However, there is limited literature addressing the issue of child labour and its health effects. Most of the available literature on this topic focuses more on the working condition of children and on the concurrent effects of child labour on health. As such, there is a gap in knowledge about the lasting effects of child labour on health.
- There is a need to develop specific criteria to access to which level children's health is damaged by work since most of the measures are based on adults' standards.
- In developing and poor countries, there is a massive gap in data regarding work related injuries and accidents among children. Health care professionals could be of great assistance in helping to understanding the child labour dimension and its impact in health and health inequalities. Health care professionals must be trained to help to have better statistics about the links between child labour and health, and to reduce the underestimation of injuries, deaths, and other health problems due to child labour. Due to the lack of accurate national data about child labour, this strategy would be of great assistance in improving the statistics. Hence, these types of figures would help to monitor the situation of child labourers better, and to elaborate policies and programs to fight child labour.

Slavery and bonded labour

- Knowledge of the forced labour and health dimension is still very limited due to its secrecy, inadequate understanding of the complex issue and lack of proactive roles of concerned authorities.
- Studies on slavery and bonded labour have mainly given a qualitative picture of disease pattern and role of social forces. There is little understanding, however, of the demand pattern for forced labour in different sectors, and hence it is necessary to construct detailed spatial and temporal analyses of existing and emerging regions of economic growth centres, markets, product supply chain and movement of labour forces.
- As long as the victims deliver physical work and service, they have a chance at survival but once they become old and are physically disabled their plight is destitute. Therefore, there is a need for further study to explore the geriatric health dimension.
- Studies show that law enforcement, social service providers and legal advocates have a better understanding about trafficking and forced labour but there is a need of more organized research and outreach activities involving medical professionals, social workers and employer organizations as well. There is a need to pay more attention on economic dimensions and health aspects as a new law, and that research in these areas needs to be tailored appropriately.

- Future research should identify the precise health and medical consequences of forced labour: the nature of the maladies and their durations, the best practices to identify and administer services to survivors, and the level of recovery to be expected following treatment. This information should be used to develop screening protocols to help health care professionals identify pre-existing or potential health problems. Research should be conducted to determine what kinds of follow-up health care would be needed for survivors who choose to return to their countries of origin and how to solicit the active participation of survivors so that future programs will meet the needs of survivors from diverse cultural backgrounds.
- There is need for research on the new form of displacements (also known as environmental refugees) due to growing environmental degradation and declining land fertility, particularly in developing countries. This might result millions of people in vulnerable to various diseases and all forms of exploitations including forced labour.

3.6. Policies and interventions

3.6.1. The need for a political perspective

In scientific papers, reports, or other publications on public health, little attention is paid to the political issues that shape health policy. Policies and interventions on health cannot be thought of as a financial or a technical value-free process; rather, it is influenced by the political ideology, beliefs, and values of governments, unions, employers, corporations, or scientific experts and agencies, among others (Levenstein 1997).

An important issue of discussion relates to the common assumption that workers and employers share an interest and responsibility in relation to health and safety at work. This assumption is inherently flawed since it ignores the power imbalance and the existing conflict of interest in which only one party controls the means of production (Muntaner and Eaton 1998; Milgate et al. 2002). Differences in the distribution of political and economic power have a profound influence on the work environment and health. In capitalist economies, health and safety in the workplace is largely determined by economic conditions. While employers may have a long-term interest in reducing the economic costs of occupational diseases and injuries, the immediate expenditure can be high and returns may not be expected for years (Walters 1985).

Employers are thus faced with decisions about what constitutes appropriate expenditures and a "satisfactory level of health". They can use economic incentives to lure workers into dangerous occupations rather than spending money to reduce the risks associated with the work. In these situations of exploitation and domination of labour, workers weigh up the cost (i.e., an injury) versus the benefit (more money) of working in these jobs. Moreover, occupational health knowledge is strongly influenced by scientists and experts. Workers' health is commonly defined by the scientific community as a technical issue, and conflicts over workplace hazards are typically referred to "experts" who determine whether particular work processes or substances are hazardous to health. Commonly, mainstream scientific knowledge denies the validity of evidence found in shop floors or by unions.

At the same time, company physicians' definitions of occupational health often adapt to a firm's needs, serving to reinforce the domination of labour by capital. In fact, several studies have documented how experts employed by companies have withheld information, lied, distorted findings, or used poor methodologies serving the interests of their employers.

Governments often adopt a neutral role, mediating conflicts between workers and companies, and along with experts and employers determine safe levels that do not necessarily mean absence of risk, but just what can be considered a "reasonable risk" (Walters, 1985). These conflicts of interest shape public and occupational health policies. Acknowledging an underlying (political and ideological) conflict over workers' health is a

necessary step to an understanding of the process of understanding occupational health policy (Benach et al, 2002).

3.6.2. Macro policies and health: an historical perspective.

Earlier chapters of this report have charted the health impacts of five specific employment dimensions: unemployment, precarious employment, informal economy, child labour and slavery. The health effects of particular work arrangements must be viewed in a historical context. Key influences affecting changes to employment dimensions over the past thirty years have been the growing influence of powerful corporations and abandonment of Keynesian economic policy and social compacts in favour of neo-liberalism that favours microeconomic rationality as the validating criterion for all aspects of social life and thereby universalises market dependence in society (Rupert 1990). Policies and practices flowing from the belief that competitive markets deliver the best outcomes include rejecting public spending as a method of managing unemployment rates; removing barriers to trade, commerce and competition; tax cuts; privatisation; corporatisation; competitive tendering; outsourcing/off-shoring; downsizing; and (more rhetorically than in practice) small government. Individualised self-interest and choice are seen as pre-eminent, while the significance of economic power imbalances amongst individuals and the counterbalancing role of collective interests are minimised. Neo-liberalism has promoted individual assumption of risk (e.g., individual pension plans rather than state pensions) and is less sympathetic to redistributive mechanisms and social protection laws circumscribing business and commercial law and policies (on competition and the like) and more sympathetic to business practices such as downsizing, off-shoring, franchising, labour leasing, and greater flexibility in work arrangements, including the freer international flows of labour (such as business and specialist migration, short-term entrants). The increased use of supply chains/subcontracting networks (at the national and international level), often driven by powerful corporations, has also accelerated changes to labour market conditions in both developed and developing countries.

In wealthy countries, the outcomes of these changes have been a reduced welfare net for the unemployed and disadvantaged; job losses in the public sector; growth in job insecurity and precarious employment; a weakening (in practice) of regulatory protections; and the historical re-emergence of an informal or black economy, including home-based work and some child labour (see Table 9). The impact has been complicated by increased female workforce participation and an ageing population in these countries.

In poor countries, the dominance of neoliberalism has translated into a new model of economic development oriented toward productivity and supplying products to global markets (including "race to the bottom" working conditions to attract overseas capital and the use of corporate-friendly low regulatory special export zones) irrespective of the effects on local communities, such as decreased domestic food production, rural dislocation, and social instability. Cuts to the public sector have had significant implications for education and health expenditure. Labonte (2001) has argued that weakening the capacity of the state to redistribute income has undermined the low income/high health outcomes a number of developing countries managed to achieve. The formal sector has experienced downsizing, job insecurity, and outsourcing analogous to those in developed countries while the already substantial informal sector—exempt from most forms of social protection—has grown in many instances. Elaborate supply chains obfuscate the ultimate producer of goods and services in ways that help perpetuate work arrangements that often bear a close parallel to the exploitation of vulnerable workers (women, children, and foreign-born workers) in developed countries over 100 years ago (Quinlan et al., 2001). Corporate interests—predominantly neoliberal policy instruments such as the World Bank, World Trade Organisation, and International Monetary Fund—and the governments of some wealthy countries (providing aid) have in general not been sympathetic to the expansion or upgrading of social protection frameworks within

developing countries. It cannot be presumed that poor countries will follow the path of developed countries over the past century in terms of labour market intervention and social protection. These policies are in retreat in wealthy countries (although a weakened welfare state remains in place), not the least because the organised labour movement that played a critical role in affecting these changes has undergone a significant decline and the movement remains weak if not suppressed in most poor countries (Betcherman et al., 2001).

Table 11 provides a necessarily generalised comparative historical summary to illustrate some of the shifts in labour market conditions, union presence, social protection apparatus, and other areas of state activity relevant to health.

Table 11. Work and the protection of workers' health in wealthy and poor countries 1880-2007.

	-----Wealthy countries-----			Poor countries
	1880	1970	2007	2007
Employment security and contingent work	No regulated job security and substantial contingent work	Secure jobs norm (except women)/small contingent workforce	Decline in job security and growing contingent workforce	No regulated job security and large/growing informal sector
Minimum labour standard laws (wages and hours)	No minimum wage or hours laws (except children)	Universal minimum wage and hours laws	Minimum wage and hours laws - some erosion	No or ineffective minimum wage or hours laws
Extent of union membership and collective bargaining	Union density low (<10%) and limited collective bargaining	Union density 25->50% and extensive collective bargaining	Substantial decline in union density and collective bargaining	Union density low, declining and limited collective regulation of work
Extent of vulnerable groups of workers	Extensive exploited vulnerable groups (women, immigrants, home-workers, young and homeless, old)	Still vulnerable groups (women, immigrants and home-workers) but more circumscribed	Expansion of vulnerable groups (women, home-workers, immigrants, homeless, old and young -child labour re-emerge)	Highly exploited vulnerable groups (children, women, immigrants, homeless, indentured/forced labour)
Extent of occupational health and safety law	Limited OHS law (factories, mines) and poorly enforced	Expansionary revision of OHS laws initiated	Expanded OHS law but under indirect threat	Little OHS law and hardly enforced (and only then in formal sector)
Extent of workers' compensation system	No workers' compensation system	Mandated workers' comp/injury insurance system	Workers' compensation /injury insurance - some erosion	Limited workers' compensation and only in formal sector)
Extent of public health infrastructure (water, hospitals, sewer etc)	Little public health infrastructure sewer, (hospitals, water)	Extended public health infrastructure/ health insurance	Public health infrastructure - some erosion	Little public health infrastructure (hospitals, water/sewage) except in ex socialist countries where being cutback
Social security safety net (sickness, age and unemployment benefits)	No age pension, social security, unemployment benefits	Age pension/social security, unemployment benefits	Age, disability and unemployment benefits - cutback	No age pension, social security, unemployment benefits
State activity in utilities, education and transport	Limited state involvement in education and transport	Wide government involvement in education, transport, utilities	Privatisation, competitive tendering and social capital erosion	Limited state activity except ex socialist countries and all subject to privatisation, competitive tendering and social capital erosion

The dates were selected to broadly capture the period of laissez-faire capitalism prior to significant social protection and collective regulation (1880), the highpoint of Keynesian post-war economics and the welfare state (1970), and the present day neo-liberal ascendancy marked by a return to market-driven policies and a weakening of social

protection and the welfare state (2007). One critical and historically contingent outcome affecting most if not all countries was the splintering or trifurcation of work-related standards (minimum wages/industrial relations, occupational health and safety, and workers' compensation) into three separate regulatory regimes (Carson and Hennenberg, 1988). As table 11 indicates, comparison between wealthy countries in 1880 and poor countries in 2007 reveals some striking parallels in terms of labour market conditions, the power of labour, health infrastructure, and social protection (Steinmo et al., 1992; Quinlan et al., 2001). Other historical parallels in relation to growth rates, economic instability, limited democratic institutions, and suppression of social unrest could also be identified.

3.6.3. Employment dimensions and working conditions: policies, interventions and experiences

The fact that many of the changes in employment practices (including global subcontracting networks) described in this report transcend national boundaries—the traditional venue of labour standards and social protection law—has raised fundamental questions about how health issues are to be addressed. One logical response would be to look to international labour standards that could ensure that global trade and business practices do not result in a “race to the bottom” as countries strive to retain their competitiveness. However, labour standards are not a component of WTO agreements or rulings, with some governments labeling them as culturally insensitive or “hidden” protectionism (DiCaprio 2004; Servais 2004). Although labour standard provisions are to be found in some “free” trade agreements, they are often ambiguous or lack enforcement provisions (Martin 2005). The ILO has sought a chair at the table and has secured some dialogue with the WHO, but the failure to make labour (or environmental) standards part of the global framework on trade, commerce/lending and capital or labour movements has arguably marginalised its influence on these developments (WTO 1996; ILO 1997, 2000, 2001).

Aside from its decent work agenda, the ILO has produced reports on “fair globalisation”, reported on child labour, and proposed or developed new standards on home work and abuses of labour standards. A major limitation for the ILO is that, unlike the WTO, it is a tripartite body (including employer/corporate representatives as well as governments antithetical to worker interests), meaning that the development of new standards is an often lengthy process. Perhaps more pointedly, unlike rulings of the WTO, ILO standards and recommendations do not include punitive measures for countries which fail to meet these standards. Further, steps to implement standards once ratified vary enormously. Similarly, the United Nations Global Compact on corporate citizenship is essentially a voluntary exercise and, while formally targeting both forced and child labour, has not addressed gender inequality in developing countries even though women make up a disproportionate share of precarious and informal employment (Kilgour 2007).

At the social and political level, community groups, including religious bodies and ethnic associations, unions, and NGO's, have sought to garner public support (including consumer boycotts) to pressure industry and government into taking action on the worst abuses of employment practices in both developed and developing countries. New forms of community organisations and alliances have been spawned (Osterman 2006). Examples include informal worker alliances in developing countries and the “fair-wear” garment workers and anti-child labour campaigns in Europe, the USA, Latin America, and Australia). In Norway a broad alliance of unions and community groups formed *For velferdsstaten* (For the Welfare State) to campaign against market liberalism, and privatisation and in favour of social welfare and public services. Sometimes of their own volition, but also in response to community pressure, a number of private corporations (such as large retailers) and NGOs have adopted ethical or corporate social responsibility (CSR) codes in relation to labour and occupational health and safety standards of both their domestic and, more importantly in the case of developing countries, international

suppliers. Compliance with these voluntary codes has often been problematic due to less than rigorous monitoring and enforcement on the part of the corporation or evasion on the part of suppliers (frequently a subcontractor multiple steps removed from the original contract), sometimes with the active connivance of local government or their officials (Jenkins 2001; Locke et al. 2006; Fig, 2007; Utting 2007; Lum 2003). Evidence indicates voluntary codes, though of some value especially in terms of initiating international protocols, are not an alternative to mandated standards due to serious limitations in coverage and compliance (Bremer and Udovich 2001; Sobczak 2003; Pattberg 2006).

Alternative methods of extending the reach of laws governing labour standards have been suggested to supplement the ILO standards and voluntary codes of conduct. This includes domestic disclosure regulations on corporations based in a particular country that would obligate them to reveal who actually produced a good or services (even if that activity was undertaken externally) and under what labour conditions (Doorey 2005). Some existing models of supply chain regulation at the national level, which incorporate disclosure requirements as well as union/community involvement in enforcement and directly mandate labour standards could arguably be extended internationally. It is worth noting that the latter were secured following political mobilisations of workers and community groups.

3.6.3.1. Full-time permanent employment

The changes to work described in this report are not confined to particular categories of work arrangements. Just as downsizing/restructuring, outsourcing, and privatisation have contributed to the growth of temporary work and self-employed subcontractors, they have also affected the health and well-being of workers holding nominally secure jobs. Repeated rounds of downsizing and restructuring in large public and private sector employers has contributed to increased job insecurity and worker concerns that their commitment is not reciprocated (sometimes exacerbated by weakening of legislative or union-based collective protection). These changes often entail increased workloads/work intensity and changes to jobs and work processes (such as multi-tasking). There is now a substantial body of evidence that workers who 'survive' downsizing suffer from stress and other adverse occupational health safety effects. Reduced staffing levels and increased workloads may contribute to premature burnout by professional workers; reduced staffing may also affect the health and wellbeing of others, such as hospital patients. Downsizing and the growth of precarious employment can also affect the working conditions of all workers in particular industries as a result of increasing work intensity or specific spillover effects. For example, the presence of temporary and part-time workers can lead to an increased administrative, training, or supervisory load on full-time permanent workers. Alternatively, work intensity may increase as a result of competition for work between precarious and permanent workers, as in the case of competition between self-employed and employee truck drivers. Overall, these changes have not been addressed by existing labour standards. While the occupational health and safety laws of some countries require risk assessment/control and consultation when employers make changes to work practices that could affect occupational health and safety, implementation has usually been minimal.

See also in appendix, case studies A10: "Unions and safety representatives are good for workers' health.", and A11: "Health and the Social Relations of Work in Small Enterprises."

3.6.3.2. Unemployment

The devastating health consequences of unemployment have been well-established by research since the 1930s. As documented elsewhere in this report (see Sections 3.4.4.1., and 3.5.3.2.), there is compelling evidence that unemployment has profound long-term

effects on the health of individuals and communities. Unemployment has a number of well-documented unfavourable health consequences which will increase the burden upon health service and bring about suffering among those who are stricken by illness. It will also affect the distribution of health and welfare in the direction of greater health divides in society. Thus, there is a need for full employment policies.

In developed countries changes to macroeconomic policies, social security and unemployment benefits have increased financial and other burdens on the unemployed, the hidden unemployed (discouraged job seekers, including many older workers and women), the under-employed (a growing group, including older workers, seeking more hours or more regular work) and encouraged often marginal forms of self-employment (Bruce and Schuetze, 2004). While labour market flexibility has been seen as a means of reducing unemployment (and its well-documented serious health consequences), research on the adverse health consequences of extensive precarious employment brings into question whether there is a net health benefit to the community (Broom et al. 2006). Intermittent employment (with periodic bouts of unemployment) may be especially debilitating (Clarke et al. 2007). In developing countries without extensive unemployment insurance, the extent of unemployment is often poorly recorded and under-employment is extensive and often disguised by minimal forms of self-employment in the informal sector. Malnutrition and other health effects of extreme poverty are consequences of labour market exclusion/minimal contact in parts of Africa. The health effects of hidden unemployment and intermittent work are probably better understood in developing countries than in developed countries.

See also in appendix, case study A12: "Imprisonment and Labour Market Inequality in the United States".

3.6.3.3. Precarious employment

Other parts of this report (see Sections 3.4.4.2. and 3.5.3.3.) have pointed to extensive evidence on the adverse health effects of precarious employment in developing and developed countries, including those subscribing to quite different policy settings. Downsizing and job insecurity affects the health and well-being of workers in social democratic Norway or Sweden just as it does in neo-liberal USA or post-communist China. Even comparatively comprehensive labour standards and social protection regimes (in countries where union's have retained influence) have been unable to do more than mitigate the consequences for ill-health because the growth of insecure and contingent work arrangements have bypassed or weakened these very regimes (Bernstein et al. 2005; Johnstone and Wilson 2006). The growth of precarious employment has weakened mechanisms for worker voice or involvement (workplace committees and health and safety representatives) under OHS legislation, in some countries exacerbated by declining union presence (Baugher and Timmons Roberts 2004; Johnstone et al. 2005).

In developed countries, government responses to these issues has been belated and fragmentary, including amending occupational health and safety and minimum labour standard laws, codes, and guidance material; adding contractual obligations (e.g., occupational health and safety provisions in government tender standards); strategic enforcement campaigns; industry-specific packages (e.g., tripartite agreements dealing with small builders and subcontractors in construction); and the establishment of (often union-backed) roving safety representatives (e.g., the Swedish regional safety representatives system; see Walters 2004). In most developing countries limited laws, shortfalls in inspectoral resources, weak or repressed unions, and a political climate uncondusive to enforcement inhibits implementation of basic standards, let alone recognition of the difficulties associated with precarity (Balzano, 2004; Baumecker and de Faria, 2006). Research indicates temporary foreign workers and undocumented immigrants are especially vulnerable to exploitation, have been used by employers to fracture

regulatory standards (even where bilateral agreements, protocols or multi-country directives exist like the Saudi Arabia and the European Union), and can be denied access to workers' compensation when injured (Guthrie and Quinlan 2005; Woolfson and Sommers 2006). Large-scale international movements of workers represent a serious challenge to essentially closed national welfare state regimes (Freeman 1986) but in the context of neoliberal-inspired reductions in entitlements there is the prospect of an underclass of foreign-born workers becoming entrenched. In the international merchant marine, the widespread use of "flag of convenience" registration to evade minimum labour and safety standards, and engaging crews from developing countries under insecure and grossly inferior wages and working conditions, has together with reduced manning levels, compromised occupational health and safety (see, for example, Smith 2006).

Competitive work arrangements, pressure on precarious workers, restructuring and under-staffing have also been linked to increased bullying and more overt forms of occupational violence although more research is required (Snyder 1994; Mayhew et al. 2004). Insecure and erratic hours of work and earning streams associated with contingent work can affect non-work activities (e.g., arranging childcare, family needs, and leisure), budgeting, and the accumulation of pension entitlements—a potentially serious issue for older workers holding these jobs (Aronsson et al, 2005; Artazcoz et al. 2005; US GAO 2006; Wegman and McGee 2004). The full extent of these and other externalities (such as the cost of taxation policies that encourage self-employment in developed countries or place additional burdens on formal sector employment in developing countries like Brazil) is unknown and they seldom appear to be factored into evaluation of policies on production and work systems.

See also in appendix, case study A13: "Subcontracting".

3.6.3.4. Informal employment

As such the informal sector can be seen as a step beyond precarious employment with respect to vulnerability. Although an informal or black economy exists within developed countries (and may be growing), it is a characteristic feature of developing countries such as China, where it has grown rapidly to account for over 25 per cent of the workforce, especially women (Cooke, 2006). In some African countries such as Ghana, the majority of workers are engaged in the informal economy. The economic pressure (including effort/reward imbalance), social disadvantages, and disorganisation surrounding much informal economy work exposes workers to an array of heightened risks including poor mental health, physical over-exertion, and exposure to sexual harassment and violence (prevalent amongst domestics and street vendors; (Nunes and Theodoro 2006). The informal economy remains invisible in terms of OHS statistics and the existence of such a substantial sector alongside the formal sector can corrode regulatory protection of the latter, because it means there is no universality to minimum labour standards and the informal sector can be used as an alternative source of supply (through outsourcing) by local or foreign firms seeking to evade regulatory standards (Dwyer, 2006; Baumecker and de Faria 2006; Beltrao 2006). Informal workers have sought to organise on occasion to protect themselves, although social marginality and workplace isolation make this difficult and these bodies have, on occasion, been shunned by unions more concerned about restricting than appearing to give legitimacy to the informal economy. Nonetheless, as Santana and Wagner observe (in this volume) social, industrial, and political mobilisation by groups of informal workers that can demand dignity and rights from employers and establish broader alliances to pressure government to adopt food production and redistributive policies to alleviate poverty rather than prioritising export crops.

See also in appendix, case study A14: "Self-employment".

3.6.3.5. Child labour

Child labour remains both pervasive and concentrated in the informal economy of developing countries in Africa, Latin America, and elsewhere; and the conditions of some of these workers may have worsened (Quinlan et al. 2001). Child-labour has also re-emerged as an issue in developed countries (7 percent of Australian children aged 5-14 work; ABS 2007). Children are concentrated in precarious employment (temporary and seasonal jobs and home-based work) and numbers are found in high-risk industries such as farming/agriculture—something that has caused governments to reconsider their child labour laws (U.S., General Accounting Office, 2000; Kruse and Mahony, 2000; Mourell and Allan, 2005). Like their developing country counterparts, a number work the bottom of elaborate supply chains or subcontracting networks such as home-based garment making (Mayhew and Quinlan, 1999).

See also in appendix, case study A15: “What must U.S. companies do regarding child labour?”.

3.6.3.6. Slavery and bonded labour

Although legalised slavery is now rare, millions of men, women, and children in developing countries are forced to work under various forms of debt bondage or contractual servitude that government authorities tolerate. Even more clandestine forms of debt bondage are used against some undocumented foreign workers in developed countries. As noted, while the clandestine nature of forced labour makes its health effects difficult to assess, the violation of human rights and the health inequities it entails justify stringent attention. Like the worst forms of child labour, the combination of poverty, unscrupulous labour agents, and regulatory connivance are critical to the survival of forced labour and policy interventions needed to target all three to be effective and preclude unintended consequences. Finally, it should be recognised that historically slavery existed as one extreme in a spectrum of arrangements between unfree labour though to semi-free and free labour (other categories included prison labour and indentured workers) and the growth of individualistic and contractualist employment regimes in developed and developing countries provide the means to reintroduce greater subordination in the employment relationship (Hay and Craven, 2004).

See also in appendix, case study A16: “Economic structures enabling slavery in the United States.”

3.6.4. A typology of employment-related policies to reduce health inequalities

This section presents a framework for identifying and classifying the policies and interventions that have been put in place in the past, are being implemented in the present, or could be designed in the future for reducing inequalities in health related to employment conditions. The rationale for designing such a framework arises from the complex reality that we face when trying to systematise our findings in terms of policy recommendations that could be made to policy-makers concerned with reducing employment-related health inequalities. Indeed, as we have explained in the theoretical frameworks earlier on this report, employment-related health inequalities arise from a variety of factors and follow diverse pathways from the more “macro” to the “micro” social conditions and contexts of work and employment. One of the objectives of the theoretical frameworks was, after presenting these potential mechanisms linking employment conditions and health inequalities, to help identify which are the main entry points for policy interventions. Consequently, we present here these entry points in relation to the conceptual frameworks used by the network (Figures 13 and 14).

Figure 13. Policy entry points in the macro-theoretical framework

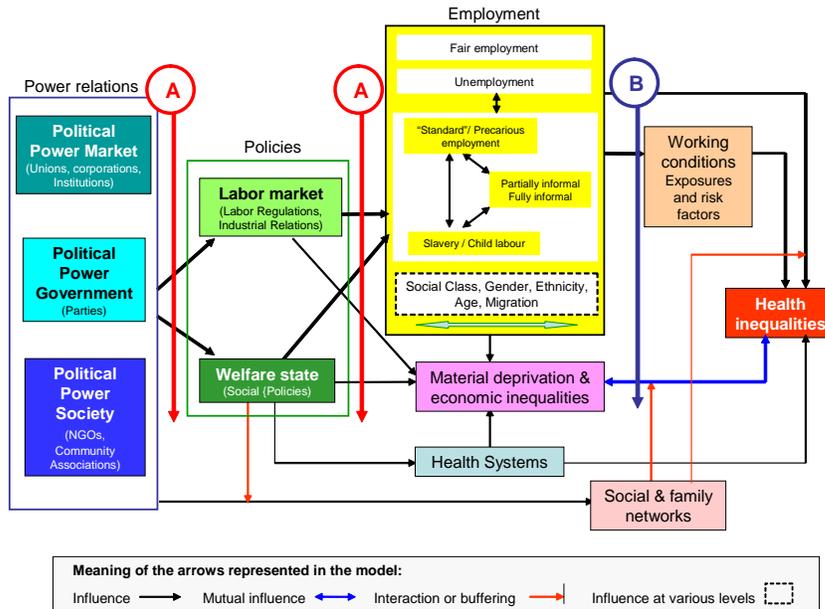
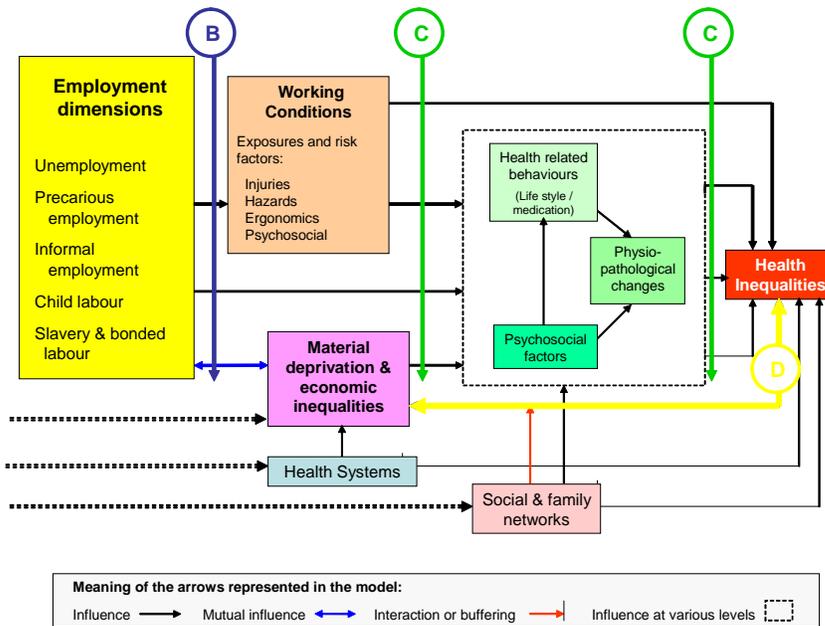


Figure 14. Policy entry points in the micro-theoretical framework



Policy entry point A refers to any change in power relations that can occur between the main political and economic actors in society. Political power is understood here in a broad sense, not limited to traditional political actors (for example, political parties) but including any actor that is meaningful for understanding the social context in a country. In contemporary societies, political actors include political parties, trade unions, corporations, trans-national companies, banks, employer associations, and civil society organisations.

Policy entry point B refers specifically to modifications of employment conditions that reduce exposures and increase vulnerability to health-damaging factors; for example, regulating temporary work to promote safety and health at the workplace and working hours.

Policy entry point C relates to actions to modify working conditions such as health-related material hazards in the workplace, behaviour changes, and psychosocial factors present in the workplace or living situation.

Policy entry point D relates to different types of interventions that may reduce the unequal social consequences produced by ill-health and psychopathological change.

The framework for the typology of policies that we present here includes these entry points as one classificatory factor; a second classificatory factor would be the policy target in terms of our employment conditions: unemployment, precarious employment, informal employment, child labour, slavery and bonded labour. Additionally, we have included here a sixth dimension: full-time permanent employment. The rationale for including this dimension here is that one can also find health inequalities across workers with full-time permanent labour contracts. In many countries, especially in developed countries, this situation continues to be the most commonly found in terms of labour relations, although as we have explained it is decreasing everywhere. Therefore, policies designed to reduce employment-related health inequalities must include this dimension.

In Table 12 we present a matrix with different options for international policies and actors according to the defined employment conditions presented. Table 13 presents a typology according to employment dimensions and entry points showing a sample of examples of policies and interventions. While this typology helps to elucidate interventions, in practice some interventions will affect more than one entry point or employment dimension. For example, the establishment or integration of occupational health services in the primary health care of the health public system (as recently undertaken in Brazil) will affect entry points C and D (and arguably even A if it has indirect effects on worker mobilization) and a number of employment dimensions. Similarly, policies designed to restrict or reshape the use of precarious employment can affect health outcomes for both precarious and non-precarious workers (by limiting job insecurity and spillover effects).

Table 12. Selected examples of International policies (international organizations, unions, employers, civil society).

Proposed policy	Actors
Global Compact - corporate citizenship initiative (including child & forced labour)	United Nations
Promote decent work agenda	ILO
Ratification ILO framework convention	ILO
Further ratification of C 182 and C 138 on child labour	ILO
WTO agreements; include employment and working conditions	WTO
Promote basic occupational health services, linked with PHC	WHO
Include employment and working conditions in regional policies and agreements	WTO, regional trade mechanisms
Global ban of hazardous products (eg asbestos)	International organizations
Control the application of double standards between and within countries (including top of corporate chain responsibility for employment practices at any subsequent level/ country damaging workers' health)	OECD, regional trade mechanisms, multinationals, WTO, ILO, financial institutions (IMF, WB)
Promote compliance OH in multinational cooperations	Corporates
Strengthen employment and working conditions considerations in collective bargaining tools and processes (unions) including multi-lateral/multinational agreements and inter-union movement agreements and strategies (eg US and China re wage levels)	Unions
Strengthen intersectoral action on WFCL (create alliance between ILO, WHO, WTO, UNICEF, with involvement of unions and employer organization)	UN and others
Global movement (civil society) against trade involving WFCL	Civil society
Global movement (civil society) against trade involving slavery and bonded labour	Civil society

Table 13. Typology of key policies and interventions at the national level on employment dimensions to reduce health inequalities stratified by main entry points.

Entry point	Full-time standard employment	Unemployment	Precarious employment	Informal employment	Child labour	Slavery and Bonded labour
A	Provide incentives for unionisation and collective bargaining	Policies to promote full employment (more emphasis on full-time and secure employment)	Limit temporary contracts	Legislation land reforms	Strengthen enforcement/sanctions	Legislation, effective enforcement and punishment of beneficiaries/sanctions on governments that tolerate slavery/bonded labour
	Provision of quality/safe work central policy objective (not subordinate to economic policy)	Strengthen employment component in poverty reduction programs (e.g., micro-credits)	Provide incentives for unionisation and collective bargaining	Provide incentives for informal workers organisation		
Universal access to public education Legislation / Minimum wage (poverty), Income redistribution through progressive tax system and social services Avoid wage discrimination (gender, race), Promote policies towards upwards social mobility						
B	Create incentives and sanctions for reduction of employment violations	Promotion of unemployment insurance	Regulatory controls on downsizing, subcontracting and outsourcing (including supply chain regulation)	Develop legislation and regulation on informal employment	Conditional cash transfer programs (e.g., for food, education and immunisation)	Anti slavery/bonded labour law/enforcement mandated internationally (target penalties for non-compliance)
	Incentives to promote working time flexibility (e.g., work-life balance)	Develop active labour market policies (e.g., interventions to facilitate access to employment among women, young and older workers)	Integrated minimum labour standards (industrial relations, OHS and workers' compensation)	Create incentives and sanctions for reduction of employment violations in informal economy	Civil society mobilization against worst forms of child labour (e.g., consumer boycotts)	Strengthen law enforcement agents (special agents to interdict and prosecute practices (e.g., NAPTIP in Nigeria)
	Regulate downsizing/job insecurity and outsourcing	Re-evaluate retention of rural area services/agricultural activities on basis of employment and sustainability (environmental and health effects)	Promote regulation to avoid employment discrimination of foreign born, migrants and other vulnerable workers	Establish worker health center network or integration activities to worker in the primary health care of the public health system		Civil society mobilization against slavery (e.g., consumer boycotts)
	Laws placing limits on use of 'atypical' employment		Create incentives and sanctions for reduction of employment violations			
Strengthen public capacity for regulation and control regarding employment conditions						

Table 13. Typology of key policies and interventions at national level on employment dimensions to reduce health inequalities stratified by main entry points (continued).

Entry point	Full-time standard employment	Unemployment	Precarious employment	Informal employment	Child labour	Slavery and bonded labour
C	Strengthen enforcement of OHS legislation (e.g., inspectorate)	Include OHS component in employment creation programmes	Include OHS in subcontracting and outsourcing (including supply chain) regulation	Include OHS dimension on microcredits	Education and awareness raising of health consequences of child labour	
	Expand coverage OHS prevention		Expand coverage of OHS services (temporary workers, self-employed, small business)	Expand coverage by OH legislation and services (intersectoral)	Develop special programs to prevent hazardous child labour	
	Strengthen prevention in social security and insurance mechanisms (public and private)		Include OHS in regional trade agreements	Develop minimum OHS standards and regulation for progressive improvements	Expand OHS coverage to apprenticeship	
	Include occupational health dimension in collective bargaining (e.g., right of know)		Regulate to avoid double standards and occupational hazard dumping	Increase coverage with basic occupational health services		
Promote worker's participation and action of safety representatives to prevent occupational hazards / Stimulate worker's participation and enforcement of legislation Create inter-sectoral OH policy for full coverage Train and sensitise health care providers						
D	Expand coverage (access, quality, compensation, rehabilitation) of occupational diseases and injuries (include mental illness)	Special re-training programmes to assist employment re-entry	Expand coverage and effective implementation of workers' compensation or national illness insurance (e.g., self-employed, undocumented and migrant workers)	Provision of basic income/anti poverty support for injured and their dependents		
	re-training programmes to assist employment re-entry of disabled workers	Stronger legal obligations on employers to re-engage injured workers (including agency workers)				
Universal access to health care / include occupational health in Primary Health Care Establish information centers or networks for injured workers Increase capacity of health system to recognize and treat occupational diseases and injuries Create adequate solidarity finance mechanisms to cover compensation and treatment for all						

3.6.5. Policy entry points

As noted above, there are several entry points for policies tackling health inequalities as they relate to employment conditions. Policies can be implemented at the workplace, for instance, but they can also affect welfare state provisions and, therefore, influence workers' protection. The emphasis or greatest developments in some of the proposed entry points relate to respective dominant models (Lynn Skillen 1996). For example, from the perspective of the biomedical model, the lifestyle approach converts the social problems of work into private problems of individuals. Or the environmental perspective emphasizes acceptable exposure limits for biological, chemical, ergonomic, and physical hazards, while it ignores psychosocial hazards and the organizational context (Addley 1999). A third perspective, the classic epidemiological approach, provides surveillance of hazard outcomes (disease and injury of industry), but not surveillance of the organizational factors underlying exposure to hazards. None of these three perspectives considers how power differentials determine hazardous exposures and vulnerability of the workers, how worker consent to exposure is negotiated, or how the labour force is segmented by gender, class, or race, ignoring institutional factors (e.g., weakened regulatory processes, public policy). These perspectives only partially respond to changes in society at large (Yañez 2003)

We now provide an outline of the policy entry points that we have identified, with examples, according to our theoretical framework. In this framework the greatest emphasis is on structural policies and interventions. Structural interventions refer to public health interventions that promote health by altering the structural context within which health and inequities of health are produced and reproduced (Blankenship 2006), because they are related to the production and reproduction of hazards from employment and working conditions.

3.6.5.1. Power relations (changing power relations between political and economic actors in society).

A first entry point for policies and interventions (which we shall designate as entry point "A"), would concern those interventions capable of changing power relations between the leading political and economic players, with potential repercussions on conditions of employment. Political power is understood here in a broad sense, not limited to traditional political actors (for example, political parties) but including any actor that is meaningful for understanding the social context in a country. The global growth of the under-employment/disguised unemployment, precarious employment, informal work, and child and bonded labour has both reflected and reinforced a disempowering of workers (those directly involved and the broader workforce) and their industrial and political representatives (where these exist). Neoliberalism, both as an ideology and as a set of policies, is antithetical to workers having a strong collective voice in economic and social affairs by which they can effectively articulate their interests. Weakened unions (Visser, 2006) play a diminished role safeguarding workers in many countries and social democratic/labour parties have pursued policies that have been increasingly compromised in this regard. Even within the European Union the dominant neoliberal discourse underpinning integration and economic development has progressively marginalised the role of unions and collective regulation (Visser 2005). Workers' rights centres (including those catering to immigrants, see Cho et al. 2006), community groups, and broader social alliances (local, national, and trans-national) provide a fulcrum of change and while fragmented, their achievements include consumer boycotts and supply chain regulation in pursuit of improved labour standards and working conditions. At the international level the current double standard in terms of the enforceability of "investor" and "worker" rights needs to be addressed (Taylor, 2000), as does undue corporate influence on labour law standards in developing countries (Global Labour Strategies, 2007).

In every society, even under dictatorial regimes, power is fragmented among social groups, power being understood as the capacity to exert one's influence over others' decisions to act, according to one's own interests. In contemporary societies, political actors include political parties, trade unions, corporations, trans-national companies, banks, employer associations, NGO's, civil society organizations, etc.; for example, as regards the labour market, a law setting or modifying the minimum wage or a change in the requirements for lawful dismissal. As regards the welfare state, an example could be the enactment of social protection legislation concerning, for instance, the provision of day-care centres for children between the ages of 0 and 3 years and the right of single mothers to financial assistance or free public provision of kindergartens. These policies have direct impact on mothers' real insertion in work (Whitehead et al. 2000). Another type of intervention in this category would be the banning of organisations such as trade unions or prohibition of workers' right to free association. Here, the involvement of informed and organized stakeholders is fundamental. It is not appropriate to continue considering businesses in their legal individuality when one is speaking about labour union organization. Since we are concerned with production processes and final products, it is misplaced to continue a segmentation of responsibilities in production chains, given that in the end it is a single product that reaches the consumer and that determines profitability. In this light, there should be representation of small and micro-enterprises, both for reasons valid for union organizing itself, and because the largest share of problems relating to these businesses stems from asymmetry in negotiating power vis-à-vis large companies, in a wide range of areas (Ferez, 2005; Human Rights Watch, 2002).

3.6.5.2. Employment conditions (modification of employment conditions to reduce exposures and vulnerability to health-damaging factors).

A second entry point (which we shall designate as entry point “B”) involves interventions concerning those changes in conditions of employment that reduce, via various mechanisms, the impact of certain exposures to health-damaging factors (e.g., in the workplace), and increase the vulnerability (e.g., the balance between family and work). Protection of workers from the adverse effects already described requires a reconsideration of labour standards and their implementation at both the national and international level. There have been several attempts at the latter including the ILO’s decent-work agenda and the quality of work policy debate within the European Union earlier in the decade, but the first though providing a global framework for intervention (including in the informal sector), needs to be supported by meaningful enforcement in order to be effective, while the latter appears to have lapsed in the face of opposition from employers and neoliberal interests. In several developed countries strong community pressure over the occupational health and safety problems identified in particular industries (such as agriculture, construction, road transport, and sweatshop garment making) in connection with elaborate subcontracting networks has led to the introduction of supply chain regulation (James et al. 2007). Some cases include the integration of labour/industrial relations, occupational health and safety, and workers’ compensation standards and laws, raising a broader question as to whether this historical trifurcation needs to be reconsidered. There is also a need to consider globally enforceable supply chain laws that protect workers in both developed and developing countries. Voluntary codes and other manifestations of corporate social responsibility (CSR) offer a fragmented and inadequately enforced remedy that fails to empower workers/producers (including affording them key input in terms of monitoring and enforcement) or challenge the commercial arrangements/social relations underpinning poor labour standards in global production systems (Lum, 2003; Barrientos and Smith 2007; McDonald 2007; Newell and Frynas 2007).

As yet little consideration has been given to policy interventions in relation to practices that lead to deteriorating occupational health and safety such as downsizing or taxation policies that encourage expansion of informal work/self-employment. Some countries are reconsidering/re-regulating areas of flexible employment without compromising gender/family options (EFILWC 2007) but contradictory socioeconomic policies and the underlying incentives for these arrangements remain largely unaddressed. The narrow notion of efficiency within neoclassical policy discourse which gives rise to problems and contradictions for policy makers needs to be questioned in favour of one that recognizes broader social efficiency based on UN human development indicators and sustainability, including OHS (Lefebvre and Vietorisz 2007). Ultimately, revised labour standards need to be dovetailed with a more proactive approach to work “quality” in developed countries and basic poverty abatement in developing/poor countries (including the provision of food and low-cost health etc services). Such changes may affect both the distribution of conditions of employment and their specific content. A change affecting the distribution of conditions of employment would, for example, be the legalization of temporary employment agencies. This would in all likelihood lead to an increase in temporary contracts and, in many cases, in precarious employment. There are also examples of changes that affect the nature of conditions of employment; for example, conditions of informal employment may be improved by the provision of free and universal access to health care for informal workers, independently from the social security system (Lund and Marriot 2005). Other examples are: the existence of unemployment insurance with mechanisms for sustainability, and the possibility of real reinsertion into the labour market linked to such insurance in the short and medium terms (ILO, 2004); the access to compensation for temporary injury, as well as parental leaves for both parents (ILO, 2004).

3.6.5.3. Working conditions (relates to different types of actions to modifications working conditions itself , health-related material hazards in the workplace, behaviour changes, and psychosocial factors)

The third entry point (which we shall designate as entry point "C") relates to actions to reduce the vulnerabilities and exposure of workers through intervention directed at working conditions and/or different pathways of health-related material hazard in the workplace, behaviour changes, and psychosocial factors. It is assumed that changes in working conditions will produce different results via these mechanisms. There is evidence that job strain and effort/reward imbalance are exacerbated in the case of many (though not all) workers in precarious employment (and the same might presumably apply to informal workers) indicating a need for policy interventions that reshape the parameters of job demands, control, and rewards (Sheeran and Silverman 2003; O'Rourke 2003). Similarly, long working hours can have detrimental effects on health-related behaviours (including insufficient sleep, poor diet, and drug use amongst truck-drivers, fatigue and poorer educational performance amongst children and student workers, and resort to drugs by poorly paid workers). However, this entry point is restricted to the micro stage. Some critics of this approach argue that the lifestyle perspective focuses on individual responsibility for protecting and promoting health through individual behaviours, e.g., stress management and smoking cessation, while ignoring the organizational context of those behaviours. Research suggests that social relations and structural working conditions, more than personal characteristics, determine employee reactions to the conditions under which they work. One example of a policy designed to change working conditions is the legal requirement for an enterprise to have trade-union representatives trained in occupational health and responsible for prevention in the workplace. This would in all likelihood bring about a reduction in occupational risks in the workplace and a decline in occupational injuries and illnesses. One element closely related to this entry point merits particular emphasis. This is that the strengthening of business interests, the atomization of companies, precariousness, short-term work, and rotation of employment do not exactly contribute to the constitution of strong union actors. Additionally, deregulation policies and strategies increase companies' aversion to unions and reinforce anti-union practices. Unemployment, freedom to fire workers at will, and management policies exert a powerful disciplining effect on workers, convincing them to give up their most basic rights, such as those to health, decent working conditions, and equity. They are forced to accept unilateral reductions in pay, extension of the workday, elimination of break periods, etc. They do not gain access to unionisation, given the expressions of hostility from employers and the fear of losing their jobs (Carnevale and Baldasseroni, 2005; Ferez, 2005). Another illustration is provided by norms relating to acceptable levels of occupational risk and working condition standards, norms on the length of the working day, and occupational health and working environment monitoring programmes (Westerholm, 1999; Rantanen, 1999; Hogstedt and Lundberg, 1998). Preventive programs of screening and surveillance in the workplace, on an area basis or at the level of the workers themselves, for the early detection of health problems or high levels of exposure to work-related risk factors (Rantanen, 1999). Development and implementation of specific occupational health programs aimed at workers, either in their workplaces or integrated into the public health network or at primary care level (Eijkemans, 2005).

3.6.5.4. Ill-health (reducing the unequal social consequences produced by ill-health and psychopathological change).

The last entry point (which we shall designate as entry point "D") concerns those interventions designed to lessen the different social and financial consequences of a change in or loss of health. A fundamental inequality that needs to be addressed is the

unequal access of workers suffering work-related ill-health to workers' compensation/social security, the limited recognition given to occupational diseases and mental illness under such schemes, and often limited scope for rehabilitation/return to work. In developed countries workers' compensation/social security schemes need to be reconfigured to ensure that all injured workers are covered (including self-employed and all foreign-born workers), the access of vulnerable workers (like the precariously employed, young, old, and female workers) is safeguarded and far stronger incentives are put in place to encourage the re-employment of workers (especially vulnerable groups like agency workers) after injury. In most developing countries the workers' compensation/social security net needs to be expanded to include all workers, including those in the informal sector, to provide a modicum of protection. Such protection was introduced into developed countries 100 years ago when these countries were poorer than they are today and then ratcheted up. There is no reason a similar process could not occur in developing countries. At the very least, government policies should aim to protect these workers and their families from starvation or malnutrition. In both developed and developing countries community-based schemes could assist workers suffering an illness to return to the workforce. This could be illustrated by policies on benefits or rehabilitation for people with chronic illnesses or lasting effects from occupational accidents, which would alter the financial and social consequences of the illness or accident (Bellaby, 1999; Graham, 2005). Other aspects concern occupational reinsertion programmes for people in such situations or occupational re-training programmes to learn new skills and find a new job.

It is important to emphasize, as already mentioned, that a multitude of mechanisms are responsible for inequalities in health. For the same reason, there are also a multitude of possible interventions. Without doubt, strengthening workers' organizations is a key factor for achieving greater equity and justice in employment conditions. However, the issue goes much farther. Reflection and intervention are needed on the system of labour relations, on the ways in which the fruits of economic growth are distributed. For this reason, it does not seem either possible or tolerable to continue accepting labour markets that generate vast inequities and that function as engines driving an increasing concentration of income, at the same time placing entirely on the state the responsibility for reducing these inequities through redistributive social policies that attempt to palliate the damage created by labour market structures (Berlinguer et al., 1996; Loewenson, 2004; Laurell, 1992).

Feasible options in the sphere of international collaboration appear to include: defining labour standards for international trade that integrate the rights contained in the declaration and fundamental principles of the ILO and its other International Labour Standards, including participation and the tripartite model; advancing in the development of the concepts of decent work and fair employment; and pursuing the development and application of indicators of equity in workers' health.

3.6.6. Assessing the effectiveness of policies

For a variety of reasons (including the recent nature of some interventions, such as supply chain regulation, and the comparatively recent nature of some though by no means all changes to employment conditions) few of the policy interventions just identified here have been the subject of detailed evaluation. Many of the policies identified make intuitive sense because they are directed at those characteristics that evidence suggests cause the problem. As noted elsewhere in this report, evidence on the effectiveness of some interventions that have been promoted internationally, such as corporate social responsibility and micro-credit, is ambiguous (Blowfield, 2007). On the other hand, available evidence indicates that less publicised measures such as food/income support for the poor has alleviated the incidence of child labour in countries like Brazil.

The foregoing tables and discussion place considerable emphasis on infrastructure (poverty alleviation, universal education and public health facilities, government

inspectorates) and regulation (international standards/agreements, laws and enforcement). This is because governments and their agencies are in a position to provide comprehensive standards and laws, and to enforce them. These policies also set a framework of community expectations that influence other actions. As noted by Landsbergis's analysis of work-related stress, interventions may also occur at the employer/organisational level and the job/task levels. While interventions in relation to employment conditions may occur at the organisational and job task level, employment conditions can be restructured (perhaps more so than working conditions) at the societal/regulatory level. Voluntary measures by employers/corporations have a role to play but are too fragmented to reshape employment conditions and lift standards generally. The same applies to union and community activities although unions can generalize collectively negotiated protections (nationally and internationally) and, as evidence from developing countries attests, community actions can act as an important adjunct/impetus to government measures. Historically, government action, often in response to community pressure, has set minimum social standards (see Table 9). Mandating of standards or enactment of regulation will have little effect without adequate supporting infrastructure and rigorous enforcement. Evidence of the failure of existing regulations to protect vulnerable workers even in developed countries (Lipscomb et al. 2007), generally reflects a failure of enforcement rather than an argument against the regulatory option. The combination of union/community pressure plays a vital role in ensuring government action, something well-illustrated by the prolonged struggle to ban asbestos and recent actions to address children kidnapped and forced to work in brick-making in the Shanxi and Henan provinces in China (Sydney Morning Herald 16-17 June 2007). As in the past (MacDonagh 1977), evidence attesting to the effectiveness or otherwise of new policy/regulatory measures addressing the OHS threats of employment conditions will only accumulate slowly, and involve a process of trial, error, and refinement in the context of ongoing community pressure. Fundamental questions also need to be asked about what employment conditions best serve the long-term health and well-being of the global community and to identify the current national and global policy settings that are inconsistent with this. Leaving the health consequences of employment conditions as an afterthought or "downstream" consideration in trade, commercial transactions and business practices will simply perpetuate the problems identified in this report. Enforceable standards (with effective sanctions) are essential at the national and international level along with economic and health policies designed to alleviate poverty in developing countries.

See also in appendix, case study A17: "Psychosocial working conditions and political responses."

4. Conclusions and recommendations

Breaking the myths of employment relations

Employment relations (i.e., the relation between buyers and sellers of labour as well as the behaviours, outcomes, practices and institutions that emanate or impinge upon the employment relationship) take place in historical contexts deeply influenced by institutions and social relations, including power relations.

- *Public efforts at improving the health inequalities produced by employment relations should take into account power differences among social actors such as employers, workers and government.*

Economic growth and increase of economic inequalities driven by neo-liberalism has not translated into jobs of proper quality and decent working conditions.

- *A more equitable balance of power in employment relations in most parts of the world is needed to create decent job growth and improve health.*
- *The quest for economic development in countries must not come at the cost of the health of the people who make that development possible.*

Value fair employment and decent working conditions

The concept of fair employment needs to be clearly distinguished from decent work. Fair employment reflects the need to understand power relations embedded in employment relations. Employment relations are an antecedent of working conditions that can affect health directly or through working conditions.

- *Fair employment should imply a just relation between employers and employees that requires: freedom from coercion, job security, fair income, job protection and social benefits, respect and dignity at work, workplace participation, and enrichment and lack of alienation.*

The concept of fair employment encompasses a public health perspective in which just employment relations are a prerequisite factor to reduce poverty, improve health, and reduce health inequalities.

- *There is a strong need to develop communication and dissemination campaigns concerning employment and working conditions as social determinants of health inequalities.*

Fair employment relations, including employment and working conditions, are key social determinants of workers' health. However, today fair employment is not acknowledged as a human right.

- *Political and public health international institutions should recognise fair employment and decent working conditions as universal human rights.*

The impact of employment relations on social inequalities

Social inequalities due to employment relations represent an enormous social and public health burden. Overall, in 2006 there were more about 195 million unemployed in the world, an all time high (6.3 per cent). In many non-industrialized countries, estimates of unemployment are around 30 per cent, while in developed countries unemployment is often around 4-12 per cent. Women are more likely to be unemployed than men (6.6 vs. 6.1 per cent respectively). There are over 85 million unemployed youth (aged 15 to 24) around the world, comprising nearly half of the world's total unemployment, though this age group makes up only 25% of the working age population. Compared to adults, youth are more than three times as likely to be unemployed. Worldwide, unemployment remained at an historical high in 2006 despite strong global economic growth. Growth failed to reduce global unemployment and even with continued strong global economic growth in 2007 there is serious concern about the prospects for fair job creation.

- *Full employment policies should be promoted to reduce the health inequalities associated with unemployment*
- *Tailored employment policies must be developed for young workers in developing/poor countries and for both, old and young workers, in developed countries.*

The large burden of the precarious workers (i.e., working poor) is overwhelmingly located in low-income countries and low-middle income countries. The working poor constitute around 25 per cent of the employed labour force in all developing countries. In other words, one in every four employed persons in the developing world belongs to a poor household. For example, poor countries classified in the periphery according to the typology used in this report such as Bolivia, Haiti or Nigeria had in 2003 high percentages of working poor: 16.8, 32.7 and 78.2% respectively and the highest levels were mainly located in very poor Sub-Saharan countries such as Sierra Leone (81.5%), Liberia (83.7%) or Uganda (87.8%). The number of working people living on US\$2 a day has continued to grow in absolute numbers, reaching 1.37 billion in 2006. Out of the 550 million working poor in the world, an estimated 330 million, or 60% are women. Of the 1.1 billion young people aged 15 to 24 worldwide, one out of three is either seeking but unable to find work, has given up the job search entirely or is working but living on less than US\$2 a day. Since the concept of "working poor" is defined as the proportion of employed persons living in a household whose members are estimated to be below the poverty line (US\$1 or US\$2), this indicator does not seem to be quite appropriate to analyse precarious employment in developed countries.

- *Regulation of the labour market via protective legislation (wages, benefits and working conditions) and independent strong unions is necessary to reduce the size of the precarious workforce and its determination of health inequalities.*

Over the past two decades, employment in the informal economy has grown rapidly in all regions in most mid- and low-income countries. Even before the Asian crisis of the late 90s, the share of informal economy in the non-agricultural workforce ranged from over 55 % in Latin America to 45-85 % in Asia, to nearly 80 % in Africa. A feature of informal employment is that statutory regulation to protect working conditions, wages, occupational health and safety, and disability compensation are not applicable since they are out of state control. Twenty five per cent of the world's working population are active in the informal economy and generate 35% of global GDP. Informal economy affects 50 to 75% of workers in developing countries, excluding those employed in agriculture, and 30% of workers in the European Union. Women are over-represented in the informal economy.

Two-thirds of the female active population in developing countries work in the informal economy.

- *Economic development policies and programs should be promoted mostly in middle and low income countries taken into consideration the offer of formal job posts thus assuring social sustainability and unemployment reduction.*
- *Development of policies targeting the reduction of informal business such as special taxation gradients for unregistered small and home-based firms.*
- *Support the creation of informal workers organizations based on shared relevant features such as occupation (domestic workers, taxi drivers, etc.), workplace location (farmer markets, streets), conditions such as being a migrant worker, and production chains (food industry chain composed of small agricultural farmers to international trade corporations). These organizations, like labour unions, will strength and make politically visible informal workers interests and needs.*
- *Development of occupational training and empowerment programs, including occupational health and safety contents, targeting informal workers and social movements.*
- *Support collective arrangements for production based on solidarity as exemplified by the so-called solidarity economy.*
- *Provision of universal coverage by health care, including occupational health and safety programs integrated to primary health care, specially family health care programs.*

About 317 million children aged 5-17 are economically active and 218 million are child labourers; of these, approximately 126 million are engaged in hazardous work. The proportion of children in the labour market in the group of low-income countries shows a large variation. In industrialised countries, child labour accounted for about 2.5 million children under the age of 15 in 2000. Child labour has been associated with health problems related to the physical, physiological, mental and social development of children. In low-income countries child labour varied from 4% in Timor-Leste, Asia, to 67% in Niger, Africa, close to the estimates reported from Togo (63%) and Burkina Faso (57%), which has similar values of other African countries, namely Sierra Leone, Ghana and Chad. Males were more likely to be in the labour market than females in the majority of countries.

- *Government lead national industrial policies devoted to full employment, universal education and enforcement of fair employment standards are necessary to eliminate child labour.*
- *Development of programs to raise parents' awareness about the social and health problems caused by child labour, and when applicable, conditional cash transfer programs to poor families with school-age children.*

It has been estimated that there are 27.9 million victims of slavery globally, of which 26.4 million in Asia. According to the ILO, it is estimated that 12.3 million people who are victims of forced labour, approximately 9.48 million reside in Asia and Pacific region (making up 77% of the total number of forced labourers) and followed by Latin America and Caribbean (11%). The remainder is distributed throughout Sub-Saharan Africa (5%), industrialized economies (3%), the Middle East and North Africa and Transition economics (2% each). Globally, there are at least 2.4 million people in forced labour as a result of trafficking in persons representing about 19.8% of total forced labour. This estimate includes both transnational trafficking and trafficking within countries. The 'new' form of slavery is based not on formal ownership but on other legal instruments such as contracts and debts, most of it located in Asia and Pacific Region. Bonded labourers are forfeited the freedom of changing employment, the right to move freely from place to place and the right to sell his or her property or the product of his labour at market value. 5.7 million

children are in forced or bonded labour; 1.2 million are victims of trafficking; 300,000 children are involved in fighting forces; 1.8 million in prostitution and pornography; and 600,000 in illicit activities such as drug trafficking. On average, women and girls represent 56% of victims of forced economic exploitations. Regarding forced commercial sexual exploitation, they are an overwhelming majority (98%).

- *Government lead national policies devoted to full employment, and educational opportunities, national and international law enforcement of fair employment standards are necessary to eliminate slavery;*
- *Developments of international campaigns to raise awareness about sex traffic targeting potential victims, and provision of support and protection to those who is seeking for help;*
- *Supporting land reform in developing countries can potentially reduce slavery most common in areas of rural land conflicts;*

Employment conditions mainly determine the working conditions that exist in workplaces and posts. The conditions under which people labour have a direct impact on their health. Inequalities derived from employment and working conditions are closely linked with increased health inequalities in injuries, chronic diseases, ill health, and mortality. Every day 970 workers die due to their working conditions and 5,000 workers die due to work-related diseases. Work-related deaths, including injuries but also caused by cancers, cardiovascular disease, and communicable diseases, are estimated at about 2 million annually.

- *Unless guaranteeing fair employment is recognised as a priority by public health agencies and international regulatory institutions, health inequalities at the workplace are unlikely to be reduced.*

Pathways linking employment relation to health inequalities

There is an emergent body of evidence on the impact of employment relations on health at the macro social (population) level of analysis. In wealthy countries labour institutions (e.g., union density and collective bargaining coverage) are often associated with better population health indicators. In Semi-Peripheral Countries, labour market characteristics are significantly associated with health outcomes. However, a large informal sector in these countries does not necessarily mean worse population health (e.g., due to a large presence of small entrepreneurs relative to workers in the informal economy). While the labour institution indicators are scarcely recorded in Peripheral countries, labour market characteristics correlate significantly with health outcomes.

Employment conditions are closely linked to material deprivation and have a strong effect on chronic diseases and mental health via several psychosocial factors, life-style behaviours, and direct physio-pathological changes.

Employment dimensions (unemployment, precariousness, bonded labour, slavery) may share some common pathways (e.g. lack of autonomy at work leading to mental illness) but may also be characterized by specific pathways (e.g., child labour leading to low growth). At the proximal level the links between psychosocial stress (in large part a direct or indirect consequence of employment relations) is well understood and common to a host of social determinants.

A country's employment relations determine proximal exposures that affect workers' health via two social causal pathways: compensation and working conditions. The specific pathways between employment and working conditions and health should be

contextualised for each country based on its economic, political and cultural/technological characteristics.

Gaps in knowledge

Most studies on employment dimensions and health inequalities are descriptive. Empirical evidence concerning the impact of employment dimensions and health inequalities is scarce, particularly for rural settings and poor countries.

- *More longitudinal empirical research and reviews are needed in relation to issues such as the mediating mechanisms between employment dimensions, their interrelation one to each other, and several health outcomes. Most studies of employment dimensions should stratify by social class, gender, age, ethnicity/race and migration status.*
- *Much more research is needed about the public health and health inequalities consequences of employment relations in middle and low-income countries.*

Most research, concepts and theories are developed within developed countries without taking a multilevel (from social system to individual health) perspective into account.

- *There is a lack of theoretical frameworks showing the links and pathways that create employment dimensions leading to poor health outcomes.*
- *There is a need to generate models that specify how macro-social processes, operating at the country and regional levels, individual employment situations, and health are interrelated.*
- *Explanatory models are also needed for guiding public health interventions but also for the evaluation of policy interventions at various levels.*

Quality data on employment relations is lacking from health information systems of most low and medium income countries in particular. For example, knowledge on the health consequences of forced labour is very limited due to the secrecy of this activity, the inadequate understanding of this social problem and the lack of proactive measures by concerned authorities.

- *Governments and health agencies should establish adequate surveillance information systems and research program to gather public health data on new forms of non-standard employment and "hard to reach" precarious employees.*
- *There is a large gap in employment relations and health data between high, middle and low-income countries. Middle and low-income countries should be able to update their information systems on employment relations to establish useful comparisons with wealthy countries. For example, in poor countries there is a massive gap in data regarding work related injuries and accidents among children*

Develop integrated macro and meso public policies

In an increasingly globalized market-based economic system, the political, economic (financial and trade) and cultural decisions of a handful of institutions and corporations have an effect on the daily lives of millions of people worldwide, setting up labour

standards, occupational health and safety regulations, union protections, among other important social determinants of health.

- *While interventions in relation to employment conditions may occur at the organisational and job task level, employment and working conditions should be restructured at the social policy/regulatory level*

The state plays a fundamental role in health equity outcomes among workers, given that the market in itself cannot be expected to regulate employment and working conditions fairly, nor does it include among its objectives protecting the health of the population, especially its most vulnerable groups.

- *Voluntary measures by employers/corporations have a role to play but are insufficient and too fragmented to reshape employment conditions and lift standards generally. Union, social movements and grassroots community activities are important. Unions can generalize collectively negotiated protections (nationally and internationally) and, as evidence from developing countries attests, community actions can act as an important adjunct/impetus to government measures.*

Countries whose governments favour fair employment policies tend to have better health indicators.

- *Evidence of the failure of existing regulations to protect vulnerable workers even in developed countries, generally reflects a failure of enforcement rather than an argument against the regulatory option.*
- *International regulatory agencies should have the power to influence governments to adopt fair employment policies. United Nations other international agencies dealing with the rights of workers should have the power to influence the adoption of fair employment practices among countries members.*

Combine state and community level policies

The combination of union/community pressure plays a vital role in ensuring government action. Cooperative models of organization and production management based on solidarity, need to be emphasized and their impact evaluated in comparison to individual bank loans. Mobilization of savings and credit extension might be a beneficial strategy for reducing poverty for some regions and households. However, its effects on health inequalities needs to be evaluated rigorously and tailored to the realities of developed and developing/poor countries before any definite conclusion can be adopted with confidence.

- *Policies to achieve better employment and working conditions require the implementation of evaluated inter-sectorial actions and programs, where health policymakers need to be actively engaged.*

Leaving the health consequences of employment conditions as an afterthought or 'downstream' consideration in trade, commercial transactions and business practices will simply perpetuate the problems identified in this report.

- *Enforceable standards (with effective sanctions) are essential at national and international level along with economic and health policies designed to alleviate poverty in developing countries.*

- *The state should guarantee health and work as rights, along with access to fair employment and decent work. The state bears a fundamental role in the mitigation and reduction of the negative health effects caused by inappropriate employment and working conditions. It achieves this through social policies and workers' full and real participation. Power relations in negotiation between trans-national corporations, businesses, employers and workers' associations are unequal. The state must take responsibility to ensure real participation of the less powerful social actors.*

Health is a human right and a value in itself. Its pursuit should not be justified on the basis of its contribution to meeting economic goals.

To judge that an economic model has been successful, it is necessary to include as parameters of evaluation its degree of health equity among workers and the level of workers' participation in its development. Exploitation of workers and stripping away workers' social protections should not be prerequisites for economic success.

The concern about sustainable environmental development, and about climate change, misses the health costs and impacts on workers linked to this model of development.

Much of the history of employment relations has been characterised by unequal power and conflict between labour and capital, the former often represented by unions demanding higher wages, shorter hours, and better working conditions with strikes, and the latter resisting those demands through firings, lockouts, or court injunctions.

- *The health sector should assume a fundamental role in the achievement of health equity for workers and their families. It can do so by including in discussions about economic development models, the labour market, and norms and regulations on employment and working conditions the centrality and importance of the impact of these factors upon the protection and promotion of the health of workers and their families.*
- *Health and health equity among workers should be a matter of public health, thus they should be guaranteed to working people independent of their conditions of employment. Here the strategy and model of primary health care has a capacity and a responsibility to reach these sectors with preventive and curative interventions and with support for reinsertion into work.*
- *The principal guarantors of health and health equity for workers are the workers themselves. Health cannot be delegated. For this reason, society as a whole must guarantee to workers the right to know about the health risks generated by employment and working conditions and must provide them with the tools for participation and real influence in the negotiation and modification of employment and working conditions.*
- *It is necessary to develop information systems that include health and health equity among workers, as well as follow-up and impact of policies and programs to mitigate and reduce health inequities among workers.*
- *It is necessary to develop education and training in social epidemiology, with emphasis on workers' health and employment conditions, directed both at health professionals and workers.*

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6. Appendices

6.1. Tables of typology of countries

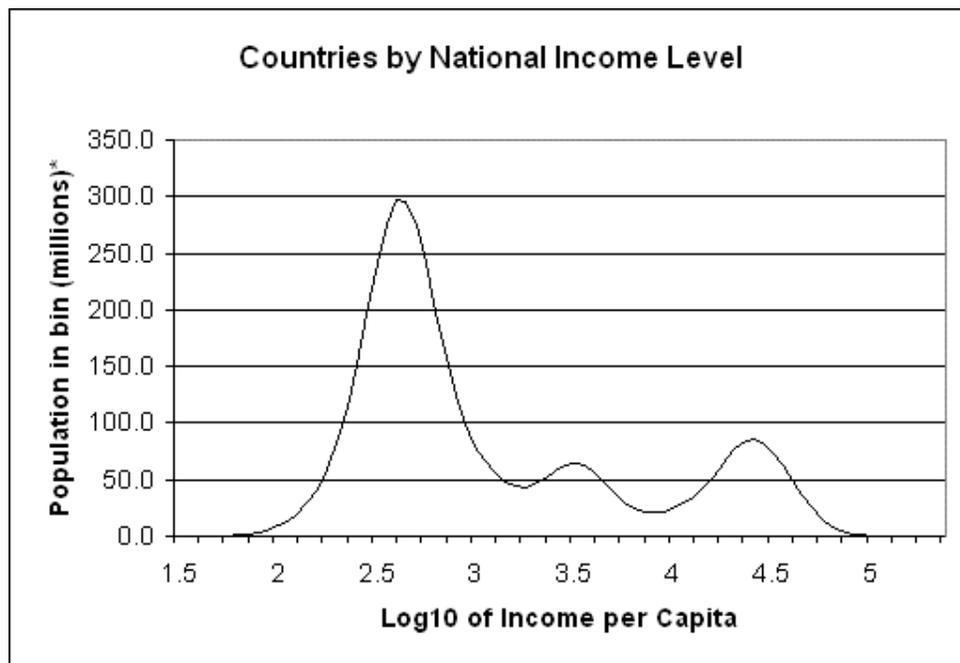
Table A1. Descriptive Statistics in the Typology of Countries.

	Periphery					Semi-periphery						
	N		Mean	Std. Dev.	Min.	Max.	N		Mean	Std. Dev.	Min.	Max.
	Valid	Missing					Valid	Missing				
Informal economy in % of gnp 1999-2000	53	35	39.31	12.39	13.10	67.30	26	23	35.58	11.53	18.90	64.10
Child labor 1997	83	5	19.28	16.02	0.00	53.52	39	10	4.45	6.63	0.00	23.22
Child labor 2003	83	5	17.31	15.25	0.00	49.11	39	10	3.36	5.31	0.00	20.98
Working poor 1997	83	5	36.01	29.52	0.00	89.50	39	10	10.15	14.13	0.00	54.96
Working poor 2003	83	5	34.76	30.08	0.00	87.84	39	10	10.73	15.47	0.00	55.39
Lfp gap (female-male) 1997	83	5	27.08	15.75	56.20	-0.50	39	10	29.38	12.72	65.30	-
Lfp gap (female-male) 2003	83	5	26.42	15.42	55.10	1.60	39	10	26.76	11.85	61.00	-
Epr 1997	82	6	67.53	12.34	33.18	92.66	39	10	60.24	8.51	39.25	80.56
Epr 2003	82	6	67.00	12.06	30.38	91.15	39	10	60.58	9.21	38.93	78.61

Table A2. A Cluster of Peripheral Countries Based on Labor Market Inequality Factors

INFORMAL MORE SUCCESSFUL		INFORMAL LESS SUCCESSFUL	INSECURE	INSECURE
<ul style="list-style-type: none"> Indonesia Nicaragua Romania Ukraine Moldova Cape Verde Georgia Kazakhstan India Armenia Bosnia and Herzegovia Kyrgyz Republic Philippines Honduras Belarus Uzbekistan Azerbaijan 	<ul style="list-style-type: none"> Turkmenistan Cote d'Ivoire Mongolia Albania Pakistan Bulgaria Tajikistan Guatemala Syrian Arab Rep. Swaziland Yemen, Rep. Sudan Dominican Rep. Sri Lanka Mauritania Guyana 	<ul style="list-style-type: none"> Jordan Algeria Morocco Egypt, Arab Rep. Iran, Islamic Rep. West Bank and Gaza 	<ul style="list-style-type: none"> Ghana Zambia Benin Sierra Leone Papua New Guinea Equatorial Guinea Kenya Bhutan Togo Gambia, The Nepal Bolivia Cameroon Haiti Solomon Islands Lao PDR Vietnam Nigeria China Senegal Bangladesh 	<ul style="list-style-type: none"> Angola Guinea-Bissau Eritrea Comoros Ethiopia Congo, Dem. Rep. Cambodia Congo, Rep. Zimbabwe Uganda Burundi Rwanda Mali Tanzania Madagascar Central African Rep. Chad Burkina Faso Guinea Niger Malawi Mozambique

Figure A1. Three Positions in the World-System (year 1995, smoothing=0.15)



Troughs in Distribution

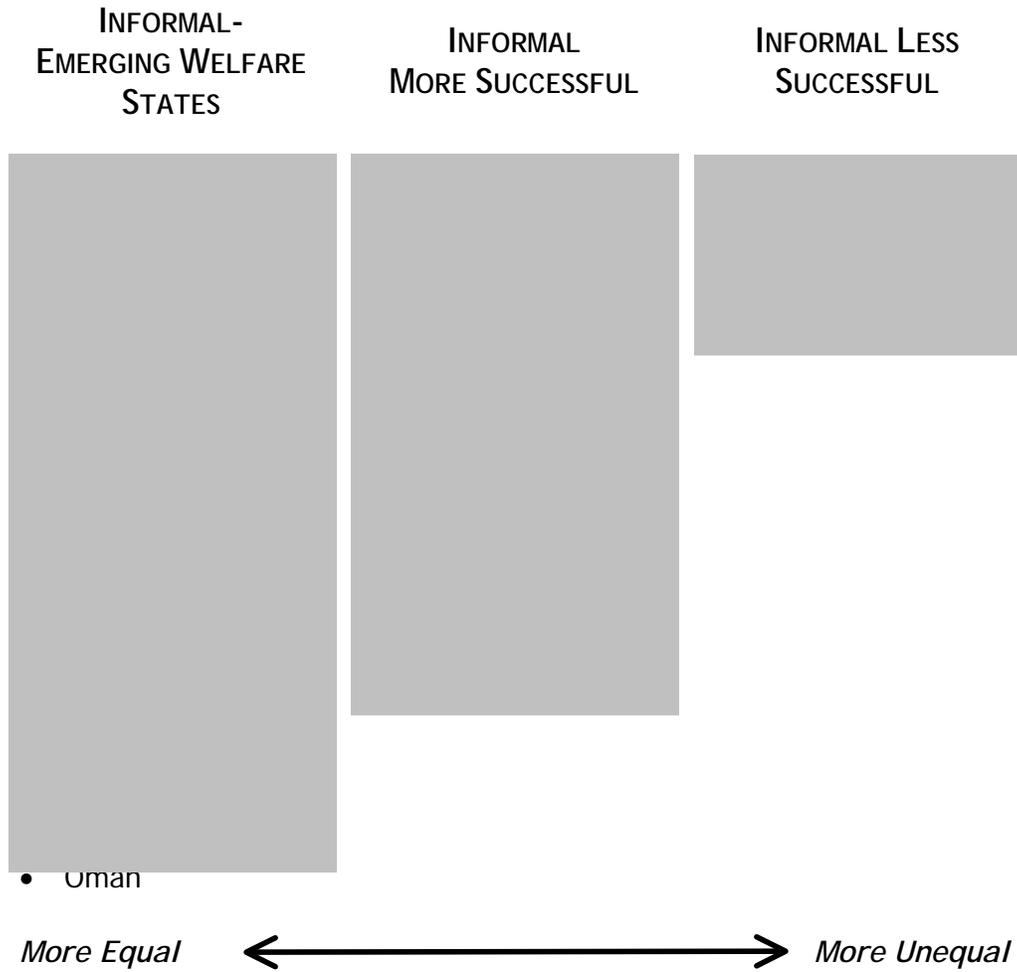
	Log10	Value
Trough 1 midpoint:	3.225	\$1,679
Trough 2 midpoint:	3.875	\$7,499
Trough 3 midpoint:	#N/A	#N/A
Trough 4 midpoint:	#N/A	#N/A
Trough 5 midpoint:	#N/A	#N/A

Peaks in Distribution

	Log10	Value
Peak 1 midpoint:	2.575	\$376
Peak 2 midpoint:	3.475	\$2,985
Peak 3 midpoint:	4.375	\$23,714
Peak 4 midpoint:	#N/A	#N/A
Peak 5 midpoint:	#N/A	#N/A

COUNTRIES included: 104
 POPULATION (millions): 4,732

Table A3. A Cluster of Semi-Peripheral Countries Based on Labor Market Inequality Factors



6.2. Summary of representative scientific findings

Full-time permanent employment

Health hazards at work are a major determinant of poor health and injuries, even though remarkable progress towards healthier workplaces can be observed in many European countries. In the 1990s, for example, work-related ill health was the fourth major contributor to the total disease burden in the 15 countries that belonged to the EU before 1 May 2004 (Diderichsen, Dahlgren & Vågerö, 1997).

The proportion of the total burden of disease caused by work-related risk factors is, however, different in different countries. For the 15 countries that belonged to the EU before 1 May 2004 as a whole, for example, 3.6% of the total burden of disease was directly related to the work environment, while in Sweden it was only 2.2% (Diderichsen, Dahlgren & Vågerö, 1997).

This indicates that significant possibilities still exist for reducing work-related poor health and premature death. Major hazards include exposure to chemicals, biological agents, physical factors, adverse ergonomic conditions, allergens, different safety risks and varied psychosocial factors. Psychosocial factors, such as work-related stress, are recognized increasingly as major health hazards. People with less control over their work tend to have higher death rates (Bosma et al., 1997; Hemingway, Kuper & Marmot, 2003; Wilkinson, 2005).

Studies in eastern Europe have also shown that the balance at work between effort and reward has a significant inverse association with self-reported health and depression, as well as with alcohol consumption (Pikhart et al., 2001; Walters & Suhrcke, 2005). Conversely, the social aspect of a working environment can constitute a very positive determinant of health. For many people, the feeling of doing something useful together with colleagues is one of the most important dimensions of life and positive health.

Diderichsen F, Dahlgren G, Vågerö D. Analysis of the proportion of the total disease burden caused by specific risk factors. Stockholm, National Institute for Public Health. 1997.
Bosma H et al. Low job control and risk of coronary heart disease in the Whitehall II (prospective cohort) study. *BMJ*, 1997;314(7080):558-565.
Hemingway H, Kuper H, Marmot M. Psychosocial factors in the primary and secondary prevention of coronary heart disease: an updated systematic review of prospective cohort studies. In: Yusuf S et al., eds. *Evidence based cardiology*, 2nd ed. London, BMJ Books, 2003:181-218.
Wilkinson RG. *The impact of inequality: how to make sick societies healthier*. London, Routledge, 2005.
Pikhart H et al. Psychosocial work characteristics and self rated health in four post-communist countries. *Journal of Epidemiology and Community Health*, 2001;55:624-630.
Walters S, Suhrcke M. Socioeconomic inequalities in health and health care access in central and eastern Europe and the CIS: a review of recent literature. Copenhagen, WHO Regional Office for Europe (Working paper 2005/1; http://www.euro.who.int/Document/SED/Socioecon_ineq.pdf, accessed 17 May 2006).

Health hazards at work are often related to the socioeconomic background of those performing the work. The lower the social position, the higher the risk of having an unhealthy job. Psychosocial factors related to the organization of work play an important role in explaining socioeconomic inequities in cardiovascular diseases. For example, in the British Whitehall Study of civil servants, low control of decision-making in the workplace accounted for about half of the social gradient observed in cardiovascular disease. Also, the negative effects of chemicals and other work-related health hazards are often reinforced by tobacco smoke. Intensified efforts to improve working environments overall, and the unhealthiest workplaces in particular, are of critical importance in any strategy for reducing social inequities in health.

Mackenbach JP (2005). *Health inequalities: Europe in profile*. An independent expert report commissioned by and published under the auspices of the United Kingdom Presidency of the European Union, October 2005 (http://www.fco.gov.uk/Files/kfile/HI_EU_Profile,0.pdf, accessed 16 May 2006).
Marmot M et al. Contribution of job control and other risk factors to social variations in coronary heart disease incidence. *Lancet*, 1997;350(9073):235-239.

Unemployment

The mortality of men aged 15-64 who were seeking work in the week before the 1971 census was investigated by means of the OPCS Longitudinal Study, which follows up a 1% sample of the population of England and Wales. In contrast to the current position, only 4% of men of working age in 1971 fell into this category. The mortality of these unemployed men in the period 1971-81 was higher (standardised mortality ratio 136) than would be expected from death rates in all men in the Longitudinal Study. The socioeconomic distribution of the unemployed accounts for some of the raised mortality, but, after allowance for this, a 20-30% excess remains; this excess was apparent both in 1971-75 and in 1976-81. The data offer only limited support for the suggestion that some of this excess resulted from men becoming unemployed because of their ill-health; the trend in overall mortality over time and the pattern by cause of death were not those usually associated with ill-health selection. Previous studies have suggested that stress accompanying unemployment could be associated with raised suicide rates, as were again found here. Moreover, the mortality of women whose husbands were unemployed was higher than that of all married women (standardised mortality ratio 120), and this excess also persisted after allowance for their socioeconomic distribution. The results support findings by others that unemployment is associated with adverse effects on health.

Moser KA, Fox AJ, Jones DR. Unemployment and mortality in the OPCS Longitudinal Study. *Lancet* 1984;ii:1324-9.

BACKGROUND: Previous studies have found evidence of higher mortality rates among unemployed people than among those in employment, but the effect of changes in national unemployment rates on this association is unclear. We studied mortality in both men and women during a period of rapidly increasing unemployment in Finland.

METHODS: In this prospective study of mortality in the Finnish population aged 25-59 years (2.5 million people), baseline sociodemographic data were obtained from the 1990 census and information on employment status in 1987-92 from Statistics Finland's labour force data files. Mortality follow-up was established by record linkage to death certificates from 1991 to 1993.

FINDINGS: Individuals who experienced unemployment between 1987 and 1992 had greater mortality than those in employment after control for age, education, occupational class, and marital status. The mortality ratios for men and women unemployed for the first time in 1990, at a time of low national unemployment were 2.11 (95% CI 1.76-2.53) and 1.61 (1.09-2.36), respectively. These values were lower for those who were unemployed for the first time in 1992 when the national unemployment rate was very high (men 1.35 [1.16-1.56], women 1.30 [0.97-1.75]). The jobless who were re-employed had higher mortality than those who were continuously employed, but not as high as those who remained unemployed.

INTERPRETATION: We have found that the association between unemployment and mortality weakens as the general unemployment rate increases. Studies that took place when the unemployment rate was low may thus overestimate the effect of unemployment on mortality because of unaccounted confounding.

Martikainen PT, Valkonen T. Excess mortality of unemployed men and women during a period of rapidly increasing unemployment. *Lancet*. 1996;348(9032):909-12.

In a study conducted in Finland among 15,468 persons who were at work or seeking a job it was distinguished between unemployed using income-based compensation, subsidized income, and fixed basic daily allowance, a measure sensitive to income differentials. Results of this study show that the health effects of unemployment were strongest for those with greatest material disadvantage (unemployed with basic allowance). These findings are in line with the hypothesis of financial strain as a major source of poor health among the unemployed. The fact that the subsidy and compensation-income unemployed are found in relatively good health gives grounds to underline the importance of employment and social policy measures. The impacts of these measures are most clearly apparent with respect to depression and particularly the non-elevated depression rates among women in subsidized work. This may also indicate a gender difference in the mental health promoting effect of these re-employment programmes. A study in the U.S. showed a corresponding association with government entitlement benefits. It seems that the 'interruption' of unemployment less effectively alleviates the socioeconomic and psychological impact of

unemployment among men. All in all, the highly significant gender difference in the association between unemployment and depression may indicate that men's values are mainly work-oriented, while women may attach more importance to family and other spheres of life. Our results showed poorest mental health in the long-term low-income unemployed. These findings, based on a dichotomized variable derived from Beck's Depression Inventory (BDI), were confirmed by using a sum score measure. For instance, in permanently employed men the estimated marginal mean was 4.93 (95% CI: 4.64, 5.21), while the respective figure in the low-income unemployed men was 9.47 (95% CI: 8.64, 10.30). Most participants in the subsidized re-employment programmes come from the low-income unemployed group, which also comprises individuals who are unable to work even as subsidized employees. Health-related selection mechanisms may also operate for entering re-employment programmes, as the odds for physician-diagnosed disease among subsidized men were relatively low. On the other hand, their 'paradoxically' high odds for poor self-rated health may reflect a situation where working in the subsidy programme after unemployment may reveal defects in participants' functional capacity that further affected their health perceptions. The basic allowance provides for no more than a minimal subsistence income, and there are more recipients of this type of allowance than those who receive compensation-income benefits among the Finnish unemployed. Thus, the high prevalence of mental health problems seen in the former group is an alarming finding (e.g. 48% of the age group 40-44 years were trapped in Beck's depression screen). The question of whether the high odds for disease is due to previous labour market disadvantages and occupational hazards rather than actual unemployment needs to be approached with longitudinal data in future studies.

Virtanen P, Liukkonen V, Vahtera J, Kivimäki M, Koskenvuo M. Health inequalities in the workforce: the labour market core-periphery structure. *Int J Epidemiol* 2003;32(6):1015-21.

Precarious employment

Population provided by the 10-Town Study. 85,271 (22,853 men and 62,418 women) municipal employees and 7,080 (3,739 men, 3,341 women) long-term unemployed aged 18-63 years. The employed constituted the total full-time staff who had worked more than 6 months between 1990 and 2000 in the service of 10 Finnish towns. Four categories were used: permanent employees, employees who moved from a temporary to a permanent job, temporarily employed workers, and long-term unemployed persons. Mortality data (1990-2001) collected from the national mortality register analyzed all-cause mortality and deaths from cardiovascular disease, cancer, external causes, smoking- and alcohol related causes. Temporary employment was associated with higher mortality than permanent employment (Men, HR=1.61, CI:1.25-2.09; Women HR=1.24, CI:1.01-1.54) but with lower mortality than unemployment. Mortality ratios were mainly increased for deaths from external causes. Socioeconomic confounding is unlikely to explain these findings. Temporary employment was associated with increased deaths from alcohol-related causes (Men, HR=2.0, CI:1.4,2.9; Women HR=1.7, CI:1.1,2.5) and, smoking-related cancer (Men, HR=2.8, CI:1.3,6.0). Moving from temporary to permanent employment was associated with a lower risk of death than remaining continuously in permanent employment; Men and women combined (HR=0.7, CI:0.5,0.9).

Kivimäki M, Vahtera J, Virtanen M, et al. Temporary Employment and Risk of Overall and Cause-specific Mortality. *Am J Epidemiology*, 2003;158,663-668.

Two cross-sectional surveys of a representative sample of the European Union (EU) total active population (n=15,146 workers in ES1995 and n=21,703 workers in ES2000). Based on their comparability in both surveys four health indicators were considered: job dissatisfaction, stress, fatigue and backache. This study has compared the associations between various types of employment and four health indicators for the EU in ES1995 and ES2000, by gender. Non-permanent employment reported high percentages of job dissatisfaction but low levels of stress. Small employers were more likely to report fatigue and stress but less likely to report job dissatisfaction. Sole traders were more likely to report fatigue and backache. Workers in full-time employment almost always reported worse levels of health indicators than part-time. Results by gender were similar in both surveys. Overall, a slight increase in all health indicators was observed in the ES2000 compared to ES1995, and results were very consistent between both surveys suggesting that causal interpretation may be enhanced.

Benach J, Gimeno D, Benavides FG, et al. Types of employment and health in the European Union: changes from 1995 to 2000. *Eur J Public Health*, 2004;14,314-321.

Catalonia (a region in the north east of Spain). Cross sectional health survey. Four types of contractual arrangements: permanent, fixed term temporary contract, non-fixed term temporary contract, and no contract. Multiple logistic regression models separated for sex and social class (manual and non-manual workers) and controlling for age were fitted. Some forms of temporary contracts are related to adverse health and psychosocial outcomes with different patterns depending on the outcome analysed and on sex and social class. Fixed term temporary contracts were not associated with poor mental health status. The impact of other forms of flexible employment on mental health depended on the type of contractual arrangement, sex, and social class and it was restricted to less privileged workers, women, and manual male workers. Among both manual and non-manual male workers, those with fixed term temporary contracts were less likely to have children when married or cohabiting and among non-manual male workers they also were more likely to remain single (aOR=2.35; CI=1.13,4.90).

Artazcoz L, Benach J, Borrell C, et al. Social inequalities in the impact of flexible employment on different domains of psychosocial health. *J Epidemiol Community Health*, 2005;59,761-7.

Data systematically recorded for 2000 and 2001 by the Spanish Ministry of Labour and Social Affairs on fatal and non-fatal traumatic occupational injuries were examined by type of employment and type of accident, while adjusting for gender, age, occupation, and length of employment in the company. In the study period there were 1500 fatal and 1 806 532 non-fatal traumatic occupational injuries that occurred at the workplace. Incidence rates and rate ratios (RR) were estimated using Poisson regression models. Temporary workers showed a rate ratio of 2.94 for non-fatal occupational injuries (CI:2.40,3.61) and 2.54 for fatal occupational injuries (CI:1.88,3.42). When these associations were adjusted by gender, age, occupation, and especially length of employment, they loose statistic significance: 1.05 (CI:0.97,1.12) for non-fatal and 1.07 (CI:0.91,1.26) for fatal. Lower job experience and knowledge of workplace hazards, measured by length of employment, is a possible mechanism to explain the consistent association between temporary workers and occupational injury.

Benavides FG, Benach J, Muntaner C, et al. Associations between temporary employment and occupational injury: what are the mechanisms? *Occup Environ Med*. 2006; 63:416-421.

Informal employment

Information about occupational health in the informal sector is lacking, despite its growing contribution to employment. The author describes a survey of occupational health in urban and rural informal-sector workers in Zimbabwe. Common hazards included poor work organization, poor hygiene, ergonomic hazards, hazardous hand tools, and chemical exposures, particularly to pesticides and solvents. An annual occupational mortality rate of 12.49/100,000 was half the formal-sector rate. Reported rates of 131 injuries/1,000 workers and 116 illnesses/1,000 workers exceeded formal-sector rates tenfold and a hundredfold, respectively, although the distribution of injuries by economic sector correlated significantly with formal-sector rates. The survey found high levels of musculoskeletal and respiratory illness, thought to be underdetected in formal systems. A fifth of the injuries had resulted in permanent disability, with little consequent job loss, but no compensation granted. The author recommends improvements to occupational health in the informal sector, and suggests a broader survey of occupational morbidity in all sectors of employment.

Loewenson R. Health impact of occupational risks in the informal sector in Zimbabwe. *Int J Occup Environ Health* 1998;4(4):264-74.

Women's market work in developing countries is thought to improve their well-being directly through increased income for health-related purchases and indirectly through elevating women's status within the household. While a number of studies have looked at the effects of women's work

and the cost of women's time on child nutrition and welfare, the direct effects of women's work on their own welfare have been largely untested. Using data on 1963 urban Filipino women from the Cebu Longitudinal Health and Nutrition Survey, we examined the relationship between women's work and their dietary intakes of energy, protein, fat, calcium, and iron from home and commercially prepared foods. Determinants equations for home and commercial intakes were estimated simultaneously to adjust for non-independence. Appropriate methods were used to deal with selectivity, endogeneity, and unobserved heterogeneity. Nearly half (48%) of the women worked for pay, and commercially prepared foods made up an important part of working women's diets. Not only did women's work improve the quality of their diets, but there were strong distributional implications; lower-income women gained more than higher-income women. Employment sector also influenced women's dietary patterns. Informal non-wage work was associated with increased intakes, whereas formal sector work was associated with decreased intakes. Positive effects of work in the informal sector were greater for women from low-income households. Policy implications of the dietary benefits of informal non-wage work for low-income women are discussed.

Bisgrove EZ, Popkin BM. Does women's work improve their nutrition: evidence from the urban Philippines. *Soc Sci Méd* 1996;43(10):1475-88.

BACKGROUND: Research suggests that rates of occupational injury and death may be higher among self-employed workers than in the wage and salaried population. This analysis was conducted to describe the demographic and occupational characteristics, as well as injuries, activities, and occupations of self-employed workers who are fatally injured on the job. **METHODS:** Characteristics of workers by type of employment were compared using data from the North Carolina Office of the Chief Medical Examiner, 1978-1994. Age-, activity-, and industry-specific fatality rates in self-employed workers (N=395) were contrasted to those privately employed (N=1,654). **RESULTS:** Highest fatal injury rates among the self-employed occurred in agriculture, retail, and transportation industries. Homicide deaths occurred more frequently among self-employed workers; deaths resulting from unintentional injuries occurred more frequently among non-self-employed workers. **CONCLUSIONS:** Elevated occupational fatality death rates among self-employed workers, especially in retail and transportation industries, provide justification for addressing work-related conditions of self-employed workers in North Carolina. Copyright 2003 Wiley-Liss, Inc.

Mirabelli MC, Loomis D, Richardson DB. Fatal occupational injuries among self-employed workers in North Carolina. *Am J Ind Med* 2003;44(2):182-90.

OBJECTIVES: In Brazil, workers without a formal job contract represent approximately half of the labor force but there are no official statistics on occupational injuries for them. This study estimates the annual incidence of non-fatal work-related injuries for workers with and without job contracts and examines gender differences. **METHODS:** This is a community-based study carried out with a random cluster area sample of the residents of Salvador, a city with 2.7 million inhabitants, the capital of the state of Bahia, northeast Brazil. Individuals from 18 to 65 years of age who reported having a paid job comprise the study population (n=2907). Data were obtained in individual household interviews with questionnaires applied by trained field workers. **RESULTS:** The overall estimated annual incidence rate (IR) was 5.6/100 full-time equivalent workers (FTE). The incidence of injuries differed between workers with informal (IR=6.2/100 FTE) and formal jobs (IR=5.1/100 FTE), and according to gender (IR=5.8/100 FTE for female and 5.5/100 FTE for male), but these differences were not statistically significant. Statistically significant positive associations between informal jobs and non-fatal work injuries were observed among women with medium education [incident rate ratio (IRR) 2.02, 95% CI 1.00-4.00] and women with black skin (IRR 1.71, 95% CI 0.99-2.97) who perceived a job as dangerous (IRR 2.00; 95% CI 1.09-3.64) or who had no occupational training (IRR 2.08; 95% CI 1.05-4.20). **CONCLUSIONS:** This study shows that non-fatal work injuries are a common health problem among adults in urban Brazil, regardless of the type of job contract or gender, which points to a need to improve workers' health and safety programs for formal and informal hired workers.

Santana VS, Loomis D. Informal jobs and non-fatal occupational injuries. *Ann Occup Hyg* 2004;48(2):147-57.

Child labour

AIMS: To explore associations between work status and multidimensional health indices in a sample of urban Lebanese children. **METHODS:** A cross-sectional survey was used to compare 78 male children (aged 10-17 years) working full time in small industrial shops, and a comparison group of 60 non-working male schoolchildren. All children lived and worked or studied in the poor neighbourhoods of three main Lebanese cities. **RESULTS:** Working children reported frequent abuses. They smoked and dated more than the comparison group. They also reported a higher number of injuries (last 12 months) and recent skin, eye, and ear complaints (last two weeks). Physical examination revealed more changes in their skin and nails, but no differences in height or weight compared to non-working group. A higher blood lead concentration was detected among working children, but no differences in haemoglobin and ferritin. No differences were noted between the two groups of children regarding anxiety, hopelessness, and self-esteem. The drawings of the working children, however, revealed a higher tendency to place themselves outside home and a wider deficit in developmental age when compared to non-working children. **CONCLUSION:** Significant differences were found between working and non-working children with respect to physical and social health parameters, but differences were less with regard to mental health. Future research should focus on (1) more sensitive and early predictors of health effects, and (2) long term health effects. The generality of findings to other work settings in the developing world should also be tested.

Nuwayhid IA, Usta J, Makarem M, Khudr A, El-Zein A. Health of children working in small urban industrial shops. *Occup Environ Med.* 2005 Feb;62(2):86-94.

OBJECTIVE: To examine the effects of work on growth among boys aged 10-16 years in Jordan. **STUDY DESIGN:** Cross-sectional health survey comparing working and non-working boys. **MAIN OUTCOMES:** Height for age z-score; weight for age z-score. **METHODS:** One hundred and thirty-five working and 405 non-working boys aged 10-16 years were studied in the Jordanian areas of Irbid, Jarash and North Jordan Valley. The boys and their mothers were interviewed and data collected on work status, child's smoking status, and family socio-economic characteristics including per capita income, family size, maternal and paternal education, area of the house in square metres and expenditure on household durables. Height and weight were obtained at the time of interview. Linear regression models were fitted on height for age z-score and weight for age z-score. **RESULTS:** In bivariate analysis, child's work status ($r = -0.221$), household per capita income ($r = 0.104$), family size ($r = -0.102$), house m² per capita ($r = 0.090$) and monthly expenditure on durables ($r = 0.086$) were significantly correlated with height z-score. Work status ($P < 0.0001$) and household m² per capita ($P = 0.002$) were retained in the regression model fitted on height z-score which explained 9.8% of the variance. The model fitted on weight z-score explained 6.5% of the variance and work status ($P < 0.0001$), household per capita income ($P = 0.041$) were retained. **CONCLUSIONS:** The results of this study suggest that, independent of a range of socio-economic factors, work has a negative effect on child growth. Given the extent of child labour internationally these findings have profound implications for global child well-being and for global social and economic policy.

Hawamdeh H, Spencer N. The effects of work on the growth of Jordanian boys. *Child Care Health Dev.* 2003 May;29(3):167-72.

In a prospective cohort study, the hypotheses that adolescent students who work have poorer school performances, more sick days, and poor self-perceived health were examined. From a one-stage random cluster area sampling of 2512 households in Bahia, Brazil, 888 students 10-21 years of age were asked to answer questionnaires. School dropouts were more common among working students independently of gender. Both full-time (PAdjusted = 2.43; 95% CI: 1.49-3.96) and part-time (PAdjusted = 2.07; 95% CI: 1.28-3.35) working males were more likely to report frequent class skipping. Among females, paid jobs also were associated with poor self-perceived health, but not after adjustment for age and SES. Brazilian labor legislation for adolescent workers needs to be revised to take into account that jobs can compromise educational achievement.

Santana VS, Cooper SP, Roberts RE, Araujo-Filho JB. Adolescent students who work: gender differences in school performances and self-perceived health. *Int J Occup Environ Health.* 2005;11(3):294-301.

OBJECTIVES: Research on child labor and its effect on health has been limited. We sought to determine the impact of child labor on children's health by correlating existing health indicators with the prevalence of child labor in selected developing countries. **METHODS:** We analyzed the relationship between child labor (defined as the percentage of children aged 10 to 14 years who were workers) and selected health indicators in 83 countries using multiple regression to determine the nature and strength of the relation. The regression included control variables such as the percentage of the population below the poverty line and the adult mortality rate. **RESULTS:** Child labor was significantly and positively related to adolescent mortality, to a population's nutrition level, and to the presence of infectious disease. **CONCLUSIONS:** Longitudinal studies are required to understand the short- and long-term health effects of child labor on the individual child.

Roggero P, Mangiaterra V, Bustreo F, Rosati F. The health impact of child labor in developing countries: evidence from cross-country data. *Am J Public Health.* 2007 Feb;97(2):271-5. Erratum in: *Am J Public Health.* 2007 Mar;97(3):393.

OBJECTIVE: To determine the effect of employment in childhood on self-reported health in adulthood. **METHOD:** A cross-sectional household survey, with households selected through two-stage sampling, in urban and rural areas in the northeast and southeast of Brazil. A total of 4940 individuals, aged between 18 and 65 years, were included. The main outcome measure was self-reported health. **RESULTS:** There has been a marked reduction in the proportion of people starting work during childhood although, even in the youngest age group, nearly 20% of males began work when under 10. Early entrance into the labour market is strongly associated with low levels of both education and income, with income differentials remaining at later ages. Age starting work is also linked to current household income, with approximately 35% of those starting work when 15 or over currently in the top quartile of household income, compared with 12% of those starting work when under 10. Males, those living in rural areas, and non-whites are most likely to start work early. In univariate analyses, the younger a person started working, the greater the probability of reporting less than good health status as an adult. This persists through all ages, although the difference attenuates with increasing age. In multivariate analyses, adjustment for education or household income substantially reduces the effect but fails to eliminate it in several age bands up to the age of 48, indicating that age starting work has an independent effect on self-reported health in adulthood. **CONCLUSIONS:** The debate about the appropriate policy response to child labour is complex, requiring a balance between protecting the health of the child and safeguarding the income of the family. These findings indicate the need for more research on the long-term sequelae of beginning work at an early age.

Kassouf AL, McKee M, Mossialos E. Early entrance to the job market and its effect on adult health: evidence from Brazil. *Health Policy Plan.* 2001;16(1):21-8.

A review of English-language journals published since 1990 and three global mental health reports identified 11 community studies on the association between poverty and common mental disorders in six low- and middle-income countries. Most studies showed an association between indicators of poverty and the risk of mental disorders, the most consistent association being with low levels of education. A review of articles exploring the mechanism of the relationship suggested weak evidence to support a specific association with income levels. Factors such as the experience of insecurity and hopelessness, rapid social change and the risks of violence and physical ill-health may explain the greater vulnerability of the poor to common mental disorders. The direct and indirect costs of mental ill-health worsen the economic condition, setting up a vicious cycle of poverty and mental disorder. Common mental disorders need to be placed alongside other diseases associated with poverty by policy-makers and donors. Programmes such as investment in education and provision of microcredit may have unanticipated benefits in reducing the risk of mental disorders. Secondary prevention must focus on strengthening the ability of primary care services to provide effective treatment.

Patel V, Kleinman A. Poverty and common mental disorders in developing countries. *Bull World Health Organ.* 2003;81(8):609-15.

Slavery and bonded labour

AIMS: To explore associations between work status and multidimensional health indices in a sample of urban Lebanese children. **METHODS:** A cross-sectional survey was used to compare 78 male children (aged 10-17 years) working full time in small industrial shops, and a comparison group of 60 non-working male schoolchildren. All children lived and worked or studied in the poor neighbourhoods of three main Lebanese cities. **RESULTS:** Working children reported frequent abuses. They smoked and dated more than the comparison group. They also reported a higher number of injuries (last 12 months) and recent skin, eye, and ear complaints (last two weeks). Physical examination revealed more changes in their skin and nails, but no differences in height or weight compared to non-working group. A higher blood lead concentration was detected among working children, but no differences in haemoglobin and ferritin. No differences were noted between the two groups of children regarding anxiety, hopelessness, and self-esteem. The drawings of the working children, however, revealed a higher tendency to place themselves outside home and a wider deficit in developmental age when compared to non-working children. **CONCLUSION:** Significant differences were found between working and non-working children with respect to physical and social health parameters, but differences were less with regard to mental health. Future research should focus on (1) more sensitive and early predictors of health effects, and (2) long term health effects. The generality of findings to other work settings in the developing world should also be tested.

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Patel V, Kleinman A. Poverty and common mental disorders in developing countries. *Bull World Health Organ.* 2003;81(8):609-15.

6.3. Selected case studies

Case Study A1. Ikea, a (social) model to be dismantled. J.M. Caudron, D. Lambert (Oxfam-Magasins du monde)

Ikea is a large worldwide corporation which operates 210 of the 240 Ikea furniture stores with a turnover of €17.3 billion (website: www.ikea.com) and a profit estimated at around €2.8 billion (Buss 2007) for 2006. Ikea sources from 1,300 suppliers based primarily in Europe and Asia (18% in China) and from its own thirty-five factories. As a result of several scandals as well as social pressure, Ikea has recognised its responsibility toward its suppliers and has developed a “Corporate Social Responsibility” (CSR) policy based on its “Iway” code of conduct. With the aim of assessing the concrete impact of this social policy, Oxfam-Magasins du monde (website: www.madeindignity.be)-a Belgian Fair Trade NGO-has conducted research in eleven of Ikea’s suppliers in India, Vietnam, and Bangladesh (De Haan & Van Dijk 2006; Samy 2006). The results show that different Iway standards such as excessive working hours, payment delay, employment relationship, and freedom of association are still violated on a large scale. Moreover, the living conditions of many Ikea workers are still at the level of extreme poverty. Workers live on less than \$2 a day, with a workload of 80 to 90 hours a week. Even in these countries, where the cost of living is relatively low, this does not constitute a living wage. With this income, workers cannot provide meat more than once a week to their family, they cannot give their children a good education—in short, they do not earn a decent living. What underlies these violations and these workers’ stagnation in poverty? (1) The level of standards is globally too low. In fact, Ikea undertakes to respect the law. For example, they respect the minimum legal wage, which is hardly a living wage in these countries, so workers have to work overtime or on a piece rate (informal sector) to increase their income; (2) Ikea’s purchasing practices don’t support the necessary conditions of a decent life for workers among its suppliers. The price paid by Ikea to its suppliers is the lowest on the market. One of the consequences of the Ikea practices is the frequent use of informal labour, which lies outside—and usually below—any wage standard at all; (3) The lack of transparency. The system of private audits suffers from a lack of information—suppliers have a system of double registers for working hours and wages, managers coach workers on how to answer auditors’ questions, etc.—How can auditors verify such things as freedom of association during a visit of two or three days in a factory? To be socially efficient, Ikea needs an independent control that includes the participation of stakeholders, specifically workers. The Ikea case shows that CSR policies on a voluntary basis may have a positive effect as long as there is no cost to the “responsible” corporation. In the face of this conclusion, the only way to go further lies in better public regulation to force multinational corporations to respect a minimum level of decent standards and to prevent social dumping.

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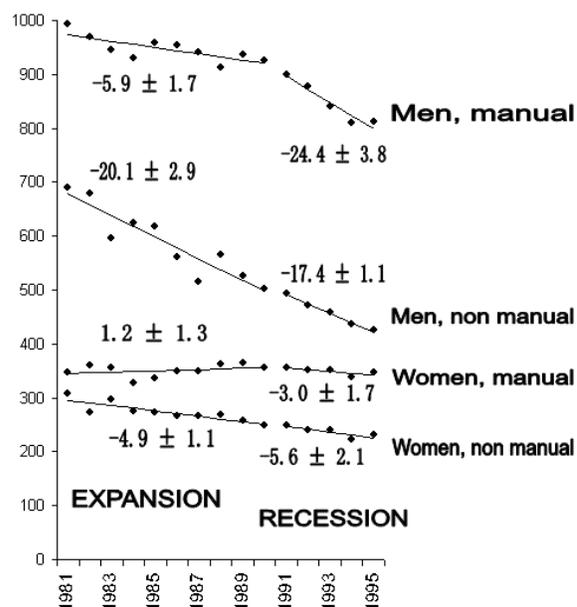
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Website: www.madeindignity.be

Case Study A2. Do health inequalities increase when employment grows? J. A. Tapia Granados (University of Michigan)

Recent research has proved the counterintuitive fact that for the evolution of mortality rates, periods in which the economy expands, jobs are created, and unemployment drops, are worse than economic downturns in which jobs disappear and unemployment grows. Death rates tend to increase in expansions and decrease in recessions (Gerdtham and Ruhm 2006; Tapia Granados 2005; Ortega and Reher 1997; Abdala et al. 2000). Atmospheric pollution, consumption of harmful substances or foods, and the worsening of quality of life and working conditions when economic activity accelerates have been suggested as potential links between “the economy” and changes in mortality. In the United States, in the last decades of the 20th century, the death rates of females

and nonwhites seem to be substantially more linked to the fluctuations of the economy than those of males and whites (Tapia Granados 2005). Using the U.S. National Longitudinal Mortality Study it has been found that during the 1980s, low-income and low-education groups may have been disproportionately at risk during periods of increased economic activity (Edwards 2006). Mortality increase during expansions seemed to be greater among those who were working than among those who were not, and it appeared greater in African Americans than in whites, though the increase in mortality was much smaller in the top third of family income. In general, high income seemed to be protective against rising mortality during economic expansions. Additional evidence suggesting that health inequalities may increase during economic expansions rather than during recessions is provided by a study of mortality at working ages 35-64 in Finland (Valkonen et al. 2000). During the years 1981-1995 (figure A2), which included an economic expansion (1981-1990) and a strong recession (1991-1995), mortality of women in manual work occupations is flat though showing a slight (not statistically significant) tendency to rise during the expansion, while mortality of women in non-manual occupations decreases significantly in that period. During the expansionary 1980s the manual/non-manual gap in female mortality is clearly widening. During the recession, female mortality significantly dropped in both groups. Male mortality was manifestly falling throughout the whole period, but for manual occupations the decline was slow during expansion and accelerated significantly with the downturn. Mortality of men in non-manual occupations seems to fall at a slightly faster rate during the expansionary years, than in the recessionary 1990s. Mortality overall evolved for the better during the recession than during the expansion, and if the health inequality gaps are widening in any period, it seems to be precisely during the expansion years.

Figure A2. Evolution of annual age-standardized mortality at ages 35-64 (per 100,000 population), by sex and social class, Finland, 1981-1995. Straight segments are regression lines (slopes with standard errors are indicated) computed with the data corresponding to the expansion (1981-1990) or recession years (1991-1995) of the period considered.



Computed from data used in Valkonen et al., (2000).

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Case Study A3. Precarious employment, health, and the life cycle. Wayne Lewchuk (Labour Studies Program & Economics, McMaster University), Marlea Clarke (Labour Studies Program, McMaster University), Alice de Wolff (McMaster University).

As precarious employment relationships become more common, two questions need to be explored. Is precarious employment concentrated amongst younger and older workers, and do the health effects of precarious employment vary across the life cycle? We use survey data and interviews to explore these questions. We found that precarious forms of employment (includes working through a temporary employment agency, working on a contract of less than one year, or being self-employed) is most common amongst individuals under age 25 and least likely for those between 25 and 50. Compared with this middle-age group, young workers and those over 50 are two to three times more likely to be in precarious employment relationships. Among non-full-time students the differences are less dramatic, but still significant. Those under 25 and those over 50 are 50 percent more likely to be in precarious employment than those in the middle-age category. However, almost one-quarter of the individuals in our sample between the ages of 25 and 50 were still in precarious forms of employment. The second question is whether precarious employment has differential effects on health across the life cycle. We were particularly interested in whether middle-aged workers were experiencing more stress than younger and older workers in precarious employment. In general, the data do not support this hypothesis. Focusing on individuals in precarious employment relationships, self-reported overall health status declines with age, but the prevalence of stress at work and employment-related pain was not associated with age. Our research suggests that factors other than age are more significant in explaining the relationship between health and precarious employment. Regardless of age, individuals who feel they are on a path to something better cope reasonably well with precarious employment, and those who value, and can afford to value, the flexibility and lack of commitment associated with precarious employment also cope well. The most significant health effects were reported by a third group who felt trapped in their position with little hope of gaining better employment. The relationship between the life cycle and these three categories of precariousness was relatively weak. This was especially the case for the third group, who felt trapped and were drawn from all age groups.

Reference:

Details of this research can be found in a forthcoming article in the *International Journal of Law and Psychiatry*.

Case Study A4. The lives behind the piles. Amanda Fortier (Journalists for Human Rights)

Stepping over piles of rotting fruit, torn fabric, and smashed tins, Sahir Cisse lights a Marlboro and expertly manoeuvres his way through his workplace. Mbeubeuss landfill site, located just outside Senegal's capital city, Dakar, has been around for thirty-five years. On a daily basis, more than 1,300 tons of waste is dumped onto the 600 hectares of soil, further polluting the air and water with poisonous dioxins, PCBs and explosive and chemical solvents. Mbeubeuss is considered one of Dakar's most dire environmental hazards. Since 1960, Dakar's population has increased five-fold to 2.5 million, and solid waste production averages around 460,000 tons. The Italian-owned company contracted to deal with Dakar's solid waste management, AMA, has only been able to gather less than 50 per cent of this amount. Hundreds of union and non-union employees rummage through mounds of household, industrial, and septic waste. Truck drivers like Cisse may earn up to 30,000 to 40,000 CFA (CA\$65 to \$87) daily. This offers enough incentive to risk the ensuing health and safety implications. Aside from the obvious threats of toxic fume inhalation and chemical explosions, there

are countless truck accidents and instances of onsite drug and alcohol abuse. For an estimated 300 individuals, Mbeubeuss is more than a workplace. It is their home. With each unloading vehicle at the dump comes hope for survival: a pair of shoes, an iron wire, or an electrical piece to repair and sell at the market. Many of these garbage collectors live just below the landfill site in a small makeshift village. Their walls are made from worn bed-sheets and refurbished iron-rods, their rooms from collected garbage pails and styrofoam blocks. There are six restaurants, scattered general stores, and even a center for prayer. Officials pledged in 2003 to close the site, but construction of the new site 80 kilometres away is delayed due to lack of funding.

Case Study A5. Are we going backward in the global economy? Charles Kernaghan and Barbara Briggs (The National Labor Committee for Worker and Human Rights).

Forced to work 13 ½ hours a day, six days a week for an 81-hour workweek, 2,000 child cotton mill workers aged 10 to 18 went out on a six-week strike in Paterson, New Jersey, beginning in July 1835. The children demanded an 11-hour day, but had to settle for a compromise: 12 hours a day Monday through Friday and 9 hours on Saturday, for a 69-hour week. Their pay at the time was \$2.00 a week, which in today's dollars would be \$44.08 or 64 cents an hour. Child labor has not changed much in today's world. In 2006, between 200 and 300 child garment workers as young as 11 years old, and some perhaps even younger, were found working in the Harvest Rich factory in Bangladesh. They were being forced to work 12 to 14 hours a day, often seven days a week, sometimes with grueling mandatory all-night, 19- to 20-hour shifts. During busy periods, these child workers could be at the factory 80 to 110 hours a week, while earning just 6 ½ cents to 17 cents an hour - *only one-tenth to one-quarter of what the child workers were paid in Paterson, New Jersey, back in the early nineteenth century.* Daily production goals are arbitrarily set by management, and are excessive. For example, the child workers are allowed just 24 seconds to clean each pair of Hanes underwear, using scissors to cut off any loose threads. They are paid just one twenty-third of a cent for each operation. The workers must receive permission to use the bathroom and are limited to two, or at most three, visits per day. The bathrooms are filthy, lacking toilet paper, soap, and towels. Sometimes—on average two days a week—the bathrooms even lack running water. Anyone spending too much time in the bathroom will be slapped. Speaking during working hours is strictly forbidden and workers who get caught are punished. The workers say that the factory drinking water is not purified and sometimes makes them sick. The sewers are provided only hard stools without cushions or backs. If the workers bring their own cushions, managements takes them away. The workers say the factory is very hot and they are constantly sweating while they work. According to the workers, Harvest Rich does not respect women workers' legal right to three months maternity leave with full pay. Pregnant women have to quit and return as new workers. For being one minute late, a worker can be punished with loss of their attendance bonus for the full month. The workers say they do not receive national public holidays. Nor are they allowed the legal vacation time due to them. The workers at Harvest Rich have no voice and no rights. Anyone daring to ask for their proper pay, or that their most basic legal rights be respected, will be attacked and fired. The rights of freedom of association and to organize are 100 per cent denied. The children report being routinely beaten, slapped, and cursed at for falling behind on their production goals, making mistakes, taking too long in the bathroom, or for being absent for a day due to sickness. One can only imagine what would happen to the child and teenaged workers in the Harvest Rich factory in Bangladesh if they dared declare a strike. At best, they would face beatings and firing.

Reference:

The National Labor Committee. Child Labor is back. October 2006.

Case Study A6. Close to slavery: guest worker program in the United States. Mary Bauer (The Southern Poverty Law Center's Immigrant Justice Project).

In his 2007 State of the Union Address, the President of the United States called for legislation creating a "legal and orderly path for foreign workers to enter our country to work on a temporary basis." Doing so, the president said, would mean "they won't have to try to sneak in." Such a program has been central to Bush's past immigration reform proposals. Similarly, recent

congressional proposals have included provisions that would bring potentially millions of new “guest” workers to the United States. What George Bush did not say was that the United States already has a guest worker program for unskilled labourers—one that is largely hidden from view because the workers are typically isolated both socially and geographically. Before we expand this system in the name of immigration reform, we should carefully examine how it operates. Under the current system called H-2, a program created in 1943, revised by Congress in 1986, and administered by the U.S. Department of Labor, employers brought about 121,000 guest workers into the United States in 2005—approximately 32,000 for agricultural work and another 89,000 for jobs in forestry, seafood processing, landscaping, construction, and other non-agricultural industries. These workers are not treated like “guests,” however. Rather, interviews with thousands of workers and dozens of legal cases show that they are systematically exploited and abused (The Southern Poverty Law Center, 2007). Unlike U.S. citizens, guest workers do not enjoy the most fundamental protection of a competitive labour market—the ability to change jobs if they are mistreated. Instead, they are bound to the employers who “import” them. If guest workers complain about abuses, they face deportation, blacklisting, or other retaliation. Federal law and U.S. Department of Labor regulations provide some basic protections to H-2 guestworkers, but they exist mainly on paper. Government enforcement of their rights is almost nonexistent. Private attorneys typically won’t take up their cause. Guestworkers who come to the United States are routinely cheated out of wages, forced to mortgage their futures to obtain low-wage, temporary jobs, held virtually captive by employers who seize their documents, forced to live in squalid conditions, and denied medical benefits for injuries. The current program is shamefully abusive in practice, and there is almost no enforcement of worker rights. Guestworkers are usually poor, powerless people who are lured here by the promise of decent jobs. But all too often, their dreams are based on lies, their hopes shattered by the reality of a system that treats them as commodities. They’re the disposable workers of the global economy. The federal government has failed to protect them from unscrupulous employers, and most cannot obtain private legal assistance to enforce their rights through the courts. The structure of this system creates an unequal power between employer and worker that leaves the worker in a dangerously vulnerable position. The H-2 should not serve as a model for immigration reform, but in fact should be overhauled if allowed to continue. As part of the reform of the broken U.S. immigration system, Congress should eliminate the current H-2 system entirely or commit to making it a fair program with strong worker protections that are vigorously enforced.

Reference:

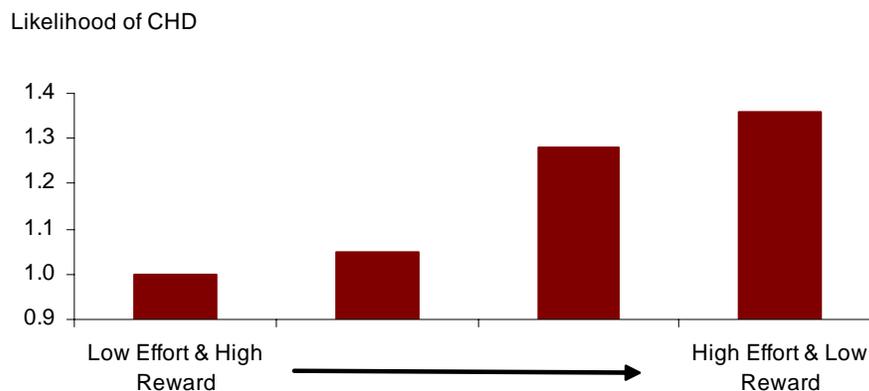
The Southern Poverty Law Center. Close to Slavery: Guestworker Programs in the United. March 2007.

Case Study A7. Psychosocial working conditions and health. J Head, T Chandola (UCL)

The main conceptual models of psychosocial working conditions used in health research have separated the measurement of potentially stressful working conditions from the health effects of work stress. A widely used work stress model, developed by Karasek and Theorell, conceptualizes work stress in terms of the psychological demands of work and the degree of control over working conditions (Karasek, 1979; Karasek and Theorell, 1990). In Karasek’s initial formulation of the model, it was hypothesized that high job demands together with low control over working conditions would be particularly bad for health, and this was labeled job strain. The Karasek model was developed further by the addition of a third dimension relating to degree of social support at work. A supportive working environment is considered to be one where employees receive good support from both colleagues and supervisors and where employees receive clear and consistent information from their supervisors. A different model of working conditions, the effort-reward imbalance model, developed by Siegrist, is based on the notion of social reciprocity. This model proposes that a combination of putting high effort into work without adequate reward is detrimental to health (Siegrist, 1996). Effort includes both extrinsic and intrinsic components (for example, work over-commitment) and reward includes esteem or respect, career opportunities including job security and promotion prospects, and financial remuneration. The concept of organizational justice is a more recent model of psychosocial working conditions (Elovainio et al, 2002) which may have health consequences. This model concerns fairness of treatment at work and has procedural and relational dimensions. Relational justice refers to the extent to which supervisors consider employees’

viewpoints, are able to suppress personal biases, and take steps to deal with their employees in a fair and truthful manner. The procedural component relates to the fairness and consistency of formal decision-making procedures in an organization. Although there have been some attempts to obtain objective measures of psychosocial working conditions, it is more usual for psychosocial working conditions to be based on self-report questionnaire measures collected by surveys of employees. Self-report measures have the advantage that they take account of the employees' perception of their work environment, which may be an important determinant of health; work characteristics can also vary within the same occupation, for example, depending on the style of the line manager, and self-report measures capture this variation. On the other hand, it has been argued that health status can influence perceptions of work characteristics (reverse causality). In addition, the inclusion of people with negative affectivity characteristics, the tendency to complain in general, may induce spurious associations between self-report measures of both work and health. There is a considerable body of evidence from prospective studies showing that all three of these models of work stress are associated with health. In the United Kingdom, these associations have been studied in depth in the Whitehall II longitudinal cohort of 10,308 London-based civil servants. Predictors of incident coronary heart disease included low control at work and high job demands (Kuper and Marmot, 2003), effort-reward imbalance (see Figure A7) and relational justice (Kivimaki et al., 2005). Working conditions including low job control, high job demands, low levels of work social supports, effort-reward imbalance and relational injustice were associated prospectively with psychiatric morbidity (Stansfeld et al., 1997; Ferrie et al., 2006). Low decision latitude and low levels of social supports were associated with increased rates of sickness absence (North et al., 1996) and indicators of both effort-reward imbalance and relational justice were associated with medically certified spells of sickness absence (Head et al., 2007).

Figure A7. Effort Reward Imbalance at Work and Coronary Heart Disease (Adjusted for age, sex and grade).



Source of data for Figure: Kuper et al, 2002.

The table A7 summarises the evidence from the Whitehall II study for associations between the different dimensions of psychosocial working conditions and health.

Table A7. Working conditions and health: summary of Whitehall II study findings to date

Work characteristic:	Associated with:
Low decision latitude	<ul style="list-style-type: none"> - Obesity - Alcohol dependence - Poor mental health - Poor health functioning - Back pain - Sickness absence - Coronary heart disease

High job demands	<ul style="list-style-type: none"> - Obesity - Poor mental health - Poor health functioning - Coronary heart disease
Low social support at work	<ul style="list-style-type: none"> - Obesity - Poor mental health - Poor health functioning - Sickness absence
Combination of high effort and low rewards	<ul style="list-style-type: none"> - Alcohol dependence - Poor mental health - Poor health functioning - Poor self rated health - Sickness absence - Diabetes - Coronary heart disease
Low relational justice	<ul style="list-style-type: none"> - Poor self rated health - Poor mental health - Sickness absence - Coronary heart disease
High job strain (low control and high demands)	<ul style="list-style-type: none"> - Weight gain and weight loss - Coronary heart disease
Isostrain (low control, high demands, lack of support)	<ul style="list-style-type: none"> - Metabolic syndrome
Organisational change	<ul style="list-style-type: none"> - Poor mental health - Poor self-rated health - Increased general symptoms - Increased incidence of longstanding illness - Adverse sleep patterns - Increase in blood pressure - Increase in body mass index
Job insecurity	<ul style="list-style-type: none"> - Poor mental health - Poor self-rated health - Increased general symptoms and minor health problems - Increased use of health services - Sickness absence - Sickness presenteeism - Increase in blood pressure

Other studies, mostly carried out in industrialized countries, have also demonstrated associations between psychosocial working conditions and both mental and physical health. A systematic review and meta-analysis of prospective studies reported that job strain, effort-reward imbalance and organizational injustice were all associated with incident coronary heart disease although the magnitude of effects varied between studies (Kivimaki et al., 2006). A meta-analysis of studies of psychosocial work stressors and mental health found consistent evidence that low decision latitude, high job demands, low work social supports, job strain and effort-reward imbalance were risk factors for subsequent mental health problems (Stansfeld and Candy, 2006). Although there appears to be some conceptual overlap between the three work stress models, empirical evidence suggests that they each independently influence health (Bosma et al., 1998, Kivimaki et al., 2007). Are these observed associations causal or are they a product of methodological problems associated with epidemiological studies of psychosocial factors and health such as reverse causality, reporting bias, and residual confounding (Macleod and Davey Smith, 2003) First, this has been studied by investigating plausible biological pathways which may mediate the association between work stress and health. In Whitehall II, there was a dose-response association between iso-strain (a combination of high demands, low control, and low support) and the metabolic syndrome, a cluster of physiological risk factors which increase the risk of heart disease and diabetes (Chandola et al., 2006). Body mass index is another potential intermediate factor that has been associated with job strain (Kivimaki et al., 2006) and iso-strain (Brunner et al., 2007). Secondly, opportunistic studies of the effects of change in working conditions can provide stronger evidence for a causal link. For example, studies that have taken place in the context of downsizing have shown an association

between change in working conditions and subsequent health (Vahtera et al., 1997). In the Whitehall II study, adverse changes in working conditions following civil service restructuring predicted increased rates of sickness absence (Head et al., 2006). Intervention studies can provide the best evidence for a causal link between working conditions and health. In addition, intervention studies may offer indications of how best to implement improvements to working conditions. So far, intervention studies to evaluate the effect on health of changing working conditions have tended to be conducted in small samples and findings have not been conclusive (Parkes and Sparkes, 1998). More recently, findings from workplace intervention studies have demonstrated that interventions aimed at improving psychosocial working conditions support led to short term reductions in sickness absence (Bond and Bunce, 2001; Michie et al., 2004), lowered serum cortisol (Theorell et al., 2001) and reduced mental health problems (Bourbonnais et al., 2006). Further research is needed in this area including evaluation of the development and implementation of work-place interventions as well as their effectiveness (Goldenhar et al., 2001; Kristensen 2005). Overall the body of evidence on psychosocial working conditions and health has led to recognition by policy makers of work stress as a work place hazard and calls to begin discussions on setting reference values (Benavides et al., 2002) similar to standards already existing in many countries for physical workplace hazards.

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Case Study A8. Occupational Health inequalities in the United States: The Workforce Changes, but Patterns Persist. Dana Loomis (University of Nevada)

Throughout its history, the economy of the United States has depended on the labour of workers from ethnic and racial minority groups and new immigrants. In the early years, these workers helped build the nation: the system of plantation agriculture that was established in the south during the colonial period was sustained by the work of Africans brought to the New World as slaves; as the nation expanded and industrialized in the nineteenth century, new immigrants from Europe toiled in the factories of the North and Chinese labourers built the railroads and worked the mines in the West. Today a rapidly-growing population of migrants from Latin America fills the demand for labour in construction, cleaning, landscaping, food service, and other essential but low-paying occupations. The American economy's historical dependence on minority and immigrant labour is linked to pervasive patterns of discrimination that have resulted in inequalities in both exposure to occupational hazards and health outcomes. African-Americans have endured a particularly long history of discriminatory placement in dirty and dangerous jobs. A notable example of these practices in the modern era was documented in an epidemiological study of workers in the U.S. steel industry (Lloyd, 1971): excess lung cancer in this large cohort was almost entirely attributable to a tenfold increase in lung cancer mortality among workers on the top side of the coke ovens (a hot location with heavy exposure to fumes), of whom 80% were African-American. Recent research suggests that discriminatory work assignment also occurs with respect to injury hazards, and that it continued to operate in the last decades of the twentieth century. Data from the state of North Carolina in 1977-1991 show divergent patterns of employment by race and higher rates of fatal occupational injury among African-American compared to white workers, which persisted even after adjustment for employment structure (Loomis and Richardson, 1998). These findings suggest differences in risk between African- and European-American workers supposedly performing the same job. The ethnic and gender profile of the U.S. workforce is continuing to evolve, as it has throughout the nation's history, but although the groups affected may change, occupational health disparities based on ethnicity and race persist. Our research with national data suggests that as Hispanic workers began to move into the U.S. labour force in large numbers in the 1990s, they began to replace African-Americans as the group with the highest risk of fatal occupational injury; while all other ethnic groups enjoyed decreasing risks of fatal injury on the job during that decade, the rates for Hispanic workers actually increased (Richardson et al., 2004).

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Case Study A9. Working conditions as promoters of health inequalities. Salvador Moncada, Clara Llorens (Union Institute of Work Environment and Health, ISTAS, Spanish CC.OO. Union, Barcelona, Spain), and Teresa Castellà (Gabinet Higia Salut i Treball (Higia Work and Health), Catalan CC.OO. Union, Lleida, Spain)

Working conditions have been identified as a cause of health inequalities, that is, unhealthy working conditions unequally distributed among a population. The evidence of the impact of working conditions on health increases when we include not only working conditions but also employment conditions. Research on gender, age, and ethnic segregation of workplaces, unemployment, downsizing, and precarious work have provided clear evidence of such negative impact. Worse yet, unhealthy working conditions increase existing health inequalities by pushing away from employment workers whose health is damaged by previous exposure to unhealthy working conditions. And overall, lower-class workers suffer these negative effects to a much greater degree than do higher-class workers. This is the case we present. The following table shows the percentage of people in each level (low, medium, high) of self-perceived general health (measured by the Spanish version of SF36) by age group of the workers in a Spanish slaughterhouse, and the same

information corresponding to a population-based representative survey. The slaughterhouse employed 170 people (women 60%; manual workers 90%; administrative 6%; managers and supervisors, all men, 4%) and is a typical Taylorist organization, with strict segregation not only of gender but also with respect to planning and execution of tasks. Most workers were doing repetitive tasks, under high psychological demands and uncomfortable ergonomic conditions (working posture, repetitive movements, high humidity, and low temperature), and there were safety hazards related to the use of cutting machines and tools. The data show that the self-perceived health improved as the age increased among both men and women, contrary to expectations as well as observations among the employed reference population, showing a “survival” effect: only healthier people “survive” to older ages in this company because people who become ill leave the company at younger ages. This cross-sectional data is supported by interviews with worker representatives and managers in a health risk assessment demanded by the union workers.

Table A9. Percentage of slaughterhouse workers and employed reference population in each level of general health, by sex and age group.

Age	Self-Perceived General Health Levels					
	Slaughterhouse			Employed Reference Population		
	Low	Medium	High	Low	Medium	High
Men						
≤ 35	28.3	10.00	53.33	25.4	29.6	45.0
36-45	25.9	0.00	59.26	39.3	29.5	31.1
> 45	5.7	17.05	67.05	51.4	22.0	26.6
Women						
≤ 35	17.3	21.6	56.2	24.4	22.6	53.0
36-45	16.4	6.6	59.0	35.4	26.3	38.4
> 45	13.5	5.4	78.4	36.2	27.6	36.2

Case Study A10. Unions and safety representatives are good for worker's health. María Menéndez (Catalonian Workers Commissions, Girona, Spain) and Joan Benach (Pompeu Fabra University, Barcelona, Spain).

Historically, workers have organized in trade unions to strengthen their efforts at improving job conditions, working hours, wages, job contracts, social security, and workplace health and safety. In the face of neo-liberal globalization, trade unions are still one of the most effective tools to ensure good health and safety at work (Johansson and Partanen, 2002). Extensive research mainly conducted in Canada, Australia, the United States, and especially in the United Kingdom, shows that workplaces where trade unions are present are safer, improving occupational health outcomes (Milgate et al, 2002; Walters 2006). Participation of unions and the workforce at different levels can have a considerable effect in changing health and safety at the workplace. For instance, unions dramatically increase enforcement of the Occupational Safety and Health Acts, and unionised workplaces are much more likely to have a Health and Safety Committee and to have undergone a management safety audit in the previous year than non-unionised workplaces. Unions ensure that their safety representatives are better trained in health and safety than employers. Moreover, unions often realise the risks long before management does. For example, it was unions that highlighted the dangers of asbestos and campaigned for a ban many years before the government introduced one. Unions also unearthed the risks posed by many hazardous chemicals and unions were the first to raise major concerns over high levels of stress or violence in the workplace (TUC, 2004). The work of trade unions, through their empowered role for purposes of consultation and participation, often lead to higher levels of compliance, lower workplace injury rates and ill-health problems, and better health and safety performance (Walters 2006). Good employers recognise the benefits that unions can bring. Today there is strong need to support trade unions in their efforts to promote health for all workers, especially in the case of vulnerable workers and for those with the poorest employment and working conditions.

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Case Study A11. Health and the Social Relations of Work in Small Enterprises. Joan Eakin (University of Toronto)

In many countries (more so in developing nations), about one-third of the workforce is employed in enterprises with fewer than fifty workers (most have fewer than ten). Rates of injury are higher in small workplaces, and formal prevention activities are typically minimal and difficult to promote (Hasle and Limborg, 2006). Small workplaces have distinctive organizational features, including a relatively low social distance between employers and workers, minimal managerial infrastructure, informal and personalized relations of authority, and an internal moral economy of mutual expectations and obligations. Although many actually are family businesses, they are widely characterized as "like a family," meaning a place where workers are treated and "cared about" as persons more than as units of labour. Occupational health systems, however, are largely designed for large, unionized workplaces, and have limited or perverse effects on small organizations (Eakin, 1998; 2003). For example, efforts to engage employers in preventive responsibilities can be thwarted by the employers' understanding of their relationship with workers. "I don't babysit them [workers]" declares the proprietor of an auto repair shop. "... besides, you can't tell a welder what to do! I leave it [safety] up to them." When illness or injury does occur in small workplaces, it can spawn serious interpersonal strain and loss of trust which can precipitate, in workers, an increasing sensitivity to the conflicting interests of labour and capital ("He [employer] was like a father to me. But when you get hurt and cannot work you are like garbage, I see now, he only cares about the

business"; and in employers, a sense of betrayal and desperation (the loss of a key worker can put the entire enterprise in jeopardy). Such social dislocation can lead to resistance and retaliation, compounding the potential for conflict: an assembly worker with unheeded illness claims "pays back" her employer by not reporting production errors as she formerly did, while an employer offers an injured worker a hated meaningless "modified" job in the hope that she will quit and relieve him of his legal obligation to re-employ an injured worker. Clearly, one size does not fit all: any attempt to change health-damaging working conditions has to take into account the distinctive social relations of work in small workplaces.

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Case Study A12. Imprisonment and labor market inequality in the United States. Bruce Western (Princeton University).

For fifty years, from 1925 to 1974, the U.S. rate of imprisonment hovered around 100 per 100,000 of the population. A stunning expansion of the penal population began in 1975 as the imprisonment rate grew over the next thirty years (see figure A12). By 2005, the imprisonment rate had increased fivefold. If inmates in local jails are added to the count of the penal population, the United States registers the highest incarceration rate in the world, far exceeding the penal populations of Western Europe, and beating its closest rivals, South Africa and Russia. Because the penal population is mostly drawn from young economically disadvantaged men, incarceration rates are now extremely high among those under age 40 with little schooling, and racial minorities. Around a fifth of young black men with just a high school education were in prison or jail by 2005. High rates of incarceration at a point in time add up to large cumulative risks of imprisonment over the life course. Among black men born in the late 1960s, around 1 in 5 have served time in prison for felony conviction, exceeding the number who will serve in the military or graduate from college with a four-year degree (Pettit & Western 2004). The concentration of high rates of incarceration among young, low-skilled, minority men had two kinds of effects on inequality in the U.S. labor market. First, prison and jail inmates are not included in the population surveys that are commonly used to measure unemployment and other indicators of economic well-being. Official statistics thus provide an optimistic picture of the economic status of groups with high incarceration rates. For example, the U.S. Current Population Survey indicated that 37 percent of black men in their twenties were out of work in 2004, but 50 percent were jobless if prison and jail inmates are included in the population. Studies show that, after adjusting for the growth in the penal population, young black men obtained no benefit from the economic expansion of the 1990s, even though standard labor force data showed increases in employment and wages. These ostensible improvements in economic status among young black men were artifacts of the growth in imprisonment. After release from incarceration, ex-prisoners face high risks of unemployment and low wages compared with similar workers who have not been to prison. Estimates from survey data suggest that incarceration reduces hourly wages by around 15 percent, as well as increasing unemployment, shortening job tenure, and dampening(?) the rate of wage growth. The negative effects of incarceration on the labor market appear mostly due to the stigma of a criminal conviction. Survey data show that employers are much more willing to hire high school dropouts or welfare recipients than criminal offenders. Audit studies have sent teams of fake job applicants to apply for real jobs in which one applicant presents evidence of a criminal record. Although the applicants have the same level of schooling, dress similarly, and act similarly in job interviews, employers are only half as likely to respond positively to those presenting a criminal record. Because incarceration has become so common among young, poorly-educated and minority men, and because serving time in prison reduces economic opportunity, the penal system has emerged as a new and important source of social and health inequality in the United States. For example, young men and women returning home from New York

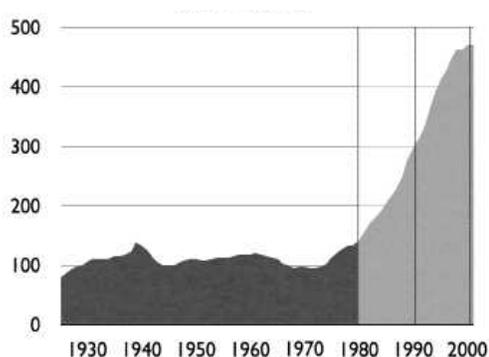
City jails faced challenging life circumstances. Fifteen months after release, only about a third of the participants held formal jobs and many of them were still using drugs, and reported mental health problems, and had high rates of emergency room care and hospitalization (Freudenberg et al. 2005).

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Figure A12. Prisoners in the United States between 1925 and 2001 (per 100,000 population)



Source: U.S. Census

Case Study A13. Subcontracting. Michael Quinlan (The University of New South Wales).

Production in the global economy is composed of an increasingly complex network of contractual arrangements or supply chains. Modern business practice, especially amongst large corporations, depends heavily on the outsourcing of production of goods and services to other firms or distant locations (including internationally). Outsourcing occurs through a variety of subcontracting arrangements, including the provision of labour-only services (agency work) and partial or complete supply of services and goods. Subcontracting can be multi-tiered, involving numerous steps between the producer of a good or service and the ultimate client. Subcontractors include other firms, small businesses, and self-employed workers. International studies have overwhelmingly found that subcontracting leads to a deterioration of occupational health and safety (Quinlan et al. 2001). Multi-tiered subcontracting has also contributed to a number of major industrial disasters such as the explosions at the Phillips 66 Pasadena petrochemical complex in the United States in 1989 and the AZF chemical factory in Toulouse, France, in 2001 (Loos & Le Deaut 2002). The OHS risks linked to subcontracting include financial/cost-cutting pressures on subcontractors, disorganisation/fracturing of OHS management, and inadequate regulatory controls (Johnstone et al 2001). The legal framework, government and industry response to these issues varies widely and has generally been fragmented and inadequate. Governments have recently begun to explore supply-chain regulation as a means of addressing the risk-shifting associated with complex subcontracting networks. The organisation at the pinnacle of the supply chain often exercises substantial control over the parties it engages to perform tasks. This control manifests itself in the financial dependency of subcontractors (for future work) and in the terms of contractual arrangements between the outsourcing firm and its suppliers to secure quantity, quality, timeliness, and price, and to allocate regulatory risks. Unlike social protection laws, this private regulatory control effectively spans international borders. Nonetheless, governmental regulation of these contractual arrangements, covering each step and focused responsibility at the top of the supply chain, could establish the conditions, including OHS, under which work is performed. In Australia, laws

integrating labour (pay, hours) and OHS standards and workers' compensation entitlements and entailing mechanisms (including mandatory codes) for transmitting legal responsibilities to the head of the supply chain have been introduced to protect home-based clothing workers (mainly immigrant) and truck drivers. A statutory licensing system covering labour supply agencies (gang masters) in agriculture, horticulture, and food processing has been introduced in the United Kingdom (James et al., forthcoming). There are also proposals to extend regulatory intervention in contractual mechanisms in the international sphere, including developing countries (Macklem 2002).

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Case Study A14. Self Employment. Michael Quinlan (The University of New South Wales)

The self-employed cover a wide diversity of workers, ranging from professionals with scarce expertise to vendors and workers performing highly repetitive physical tasks (in cleaning, construction, forestry and fishing). Some self-employed provide goods or services for a wide array of clients, but many operate in dependent subcontracting networks. The self-employed include highly vulnerable workers such as child street vendors (in developing countries such as Ghana) and undocumented foreign construction workers (in developed countries such as Italy). Historically, there has been a divide in developed countries between self-employed workers and employees with respect to social protection, the former being largely excluded from unions, collective agreements/minimum labour standards, and workers' compensation (though not OHS laws). Regulatory gaps have been exacerbated by the growth of elaborate supply chains and by corporations like Fedex converting their employees into independent contractors (*Workers' Comp Insider* 26 February 2007). In some countries governments have sought to combat these practices (e.g., by redefining employees), while unions have sought to enroll self-employed workers (Pernicka 2006). In developing countries, self-employed workers—including many workers in the informal sector—are often uncovered even by OHS laws. There is evidence that the economic vulnerability of self-employed workers—intense competition for work, long hours and low pay—can adversely affect OHS in industries such as road transport, construction, and agricultural harvesting. The combination of self-help associations and the provision of micro-credit has been promoted as a way of mitigating poverty and health problems amongst self-employed and other informal sector workers, especially rural women (or indeed moving them into gainful self-employment), in developing countries. However, research evaluating such programs has yielded ambiguous or mixed results (Ahmed et al. 2000, 2001; Hadi 2001; Hoque 2004; Sharif 2004; Delvetere & Huybrechts 2005; Barboza & Barreto 2006). Several studies question whether micro-credit is a means of empowering women or economically and socially otherwise vulnerable workers (Bhuiya et al. 2003; Parmar 2003) while others suggest that collective organisation by these workers is the more powerful effect improving economic, emotional, and physical work-life conditions (Hill 2001; Thorp et al. 2005). Contingencies in the capacity of groups to organise or to exert political pressure or countervailing influence at the bottom of a supply chain, and underlying assumptions of micro-credit programs with respect to economic behaviour suggest self-help and micro-credit are, at best, partial remedies to the vulnerability of workers in developing countries. At worst, they represent an approach compatible with the dominant neoliberal policy paradigm whereby workers increasingly assume the burden of economic risks, and that legitimates the failure of governments to address the health consequences of economic and social subordination in the labour market (Rankin 2001).

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Case Study A15. What must U.S. companies do regarding child labor? Charles Kernaghan and Barbara Briggs (The National Labor Committee for Worker and Human Rights).

Everyone likes a bargain. But if we knew that bargain was based on young girls forced to work fourteen hours a day, often seven days a week, for very low wages, would we accept that? Especially since lifting these women workers out of misery would be so simple—and it would cost just pennies. What must be done by U.S. companies such as Wal-Mart, Hanes, Puma or J.C. Penney? The National Labor Committee recommends four main actions to be taken: (1) Send every under-age child worker to school. Children belong in school, not locked in sweatshops. U.S. companies such as those mentioned must take responsibility to see that every under-age child worker is sent to school. Companies must provide monthly stipends sufficient to replace the highest wages earned by the children—this is critical so that their families do not suffer further—as well as to meet basic educational expenses such as uniforms, textbooks, and other basic school supplies. (2) Don't cut and run—stay and fix the problem. Pulling production from the factory is the worst thing the companies can do. It does nothing other than further harm the workers, who have already been exploited, as hundreds of workers—including children—are thrown out on the street with nothing. It is the current "hear nothing, see nothing, do nothing" relationship that multinationals adopt with their suppliers all across the developing world that is fueling the race to the bottom in the global sweatshop economy. (3) Transparency: disclose the names and addresses of factories. One very simple, concrete, and easily doable step that these companies should take to restore consumer confidence is to release to the citizens just the names and addresses of the factories they use around the world to make the goods we purchase. This single act of transparency would go a long way toward reassuring the people that these companies are not trying to hide abusive factories. If these companies have nothing to hide, then why not publicly release their factories' names and locations? (4) Ending child labor by hiring adults and paying them a fair wage. Wherever you find the exploitation of child labor you also find high unemployment rates among adults. These corporations could immediately put an end to child labor in any of their supplier plants by urging their contractors to instead hire the parents and older brothers and sisters of the children, and paying

them a wage sufficient for them and their families to at least climb out of abject misery, if not out of poverty. If these corporations fail to act on such a modest request, they should be held to account before the citizens of the world.

Reference:

The National Labor Committee. Child Labor is back. October 2006.

Case Study A16. Economic structures enabling slavery in the United States. National Economic & Social Rights Initiative (NESRI)

The increasing concentration of wealth in the United States continues to have deleterious effects on human well-being. In the agricultural sector this translates into increased purchasing power in the hands of fewer and larger food purchasers. Currently, the agricultural industry is firmly in the control of large, consolidated buyers and retailers. Buyers use their vast market power to obtain volume discounts, exerting a strong downward pressure on their suppliers' prices. This market power has vastly increased in recent years. In a March 2004 report on the conditions of migrant farmworkers in the United States, Oxfam America identified a significant shift in an important economic indicator, known as the marketing spread (the disparity between the price a consumer pays for a product and the price received by the grower) as concrete evidence of the growing economic power of major corporate buyers over prices at the farm level. Whereas in 1990 growers received 41% of the retail price of tomatoes, by 2000 they were receiving barely 25%. Furthermore farm gate prices, that is, the prices paid to producers, have continuously dropped over the past 20 years, amounting to a 21% decrease for tomatoes. Because they are squeezed by the buyers of their produce and want to continue to maintain a reasonable profit margin, Oxfam America reports that "growers pass on the costs and risks imposed on them to those on the lowest rung of the supply chain: the farmworkers they employ." Many farmers view their labour expenses as the only area where they are able to make significant cuts. While growers cannot demand cheaper tractors from John Deere, cheaper chemicals from Monsanto, or a break on the interest rate from the bank, they can hold wages stagnant, or even cut them, and still obtain desperately poor workers to pick their crops. As a result, this reality has created an economic incentive for growers to, at best, exploit and, at worst, enslave workers. Growers normally contract out the dirty work to farm labor contractors who then have used forced labour and slavery as a way of cutting costs. Consequently, prosecutions alone will not prevent slavery. Large corporate purchasers' sphere of influence easily encompasses the human rights conditions faced by farmworkers. They are in the best position to help eradicate slavery by a simple change of policy or priority. Indeed, even small increases in price, if passed on to the workers, would significantly improve their economic and social rights situation. Moreover, they are also well positioned to impose human rights codes of conduct on suppliers. Large purchasers are beginning to recognize their responsibility and influence within the agricultural sector. On March 8, 2005, Yum!Brands Inc. negotiated an agreement with the Coalition of Immokalee Workers whereby they agreed to pay an additional penny per pound for tomatoes and pass it on to the workers. Yum!Brands Inc. also agreed to refuse to contract with growers using forced labor or slavery. In public statements, the corporations stated they felt compelled to enter into the agreement because "human rights are universal". The corporation also expressed "hope [that] others will follow our company's lead". Large and powerful corporations are already following their lead to meet the human rights responsibilities that flow from their economic position and power over the daily lives of farmworkers. Indeed, McDonald's signed a similar agreement on April 9, 2007, which includes a pledge to provide industry-wide leadership on these issues.

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National Economic & Social Rights Initiative. Modern Slavery in U.S. Agriculture: Legal Failure and Corporate complicity. Corporate Accountability Issue Brief. September 2005.

Case Study A17. Psychosocial working conditions and political responses. J Head, T Chandola (UCL).

The Health and Safety Commission (responsible for Health and Safety at Work in Britain) identified work stress as one of its main priorities under the Occupational Health Strategy for Britain 2000:

Revitalising Health and Safety which set out to achieve, by the year 2010: a 30 per cent reduction in the incidence of working days lost through work-related illness and injury; a 20 per cent reduction in the incidence of people suffering from work related ill-health; and a 10 per cent reduction in the rate of work-related fatal and major injuries. In 2004 the U.K. Health and Safety Executive (the authority responsible for developing and implementing policies in support of the Health and Safety Commission) introduced management standards for work-related stress. These standards cover six work stressors: demands, control, support, relationships, role, and change. A risk assessment tool was released at the same time as the management standards, which consists of thirty-five items on working conditions covering the six work stressors. This risk assessment tool is freely available on the Health and Safety Executive website (www.hse.gov.uk/stress) together with supporting analytical software. The HSE management standards adopted a population-based approach to tackling workplace stress aimed at moving organizational levels to more desirable levels rather than identifying individual employees with high levels of stress (Mackay et al, 2004). Rather than setting reference values for acceptable levels of psychosocial working conditions that all employers should meet, the standards set aspirational targets that organizations can work towards: "Your ultimate aim is to be in the top 20% of organisations in tackling work-related stress as currently assessed by HSE (in 2004). If an organisation is currently not achieving the benchmark figure, then an interim figure is also given as a stepping stone towards improvement. That is, HSE supports continuous improvement in stress management." HSE website guidance for employers. The management standards are not in themselves a new law but following the management standards approach can help employers meet their legal duty under the Management of Health and Safety at Work Regulations 1999 to assess the risk of stress-related ill health activities arising from work. As part of a three year implementation programme, in 2006/7 the Health and Safety Executive have been actively rolling out management standards to 1000 work places by providing support for both conducting risk assessments and for making changes based on results of risk assessments. Recognising that work stress is a significant contributor to sickness absence, the UK government has recently introduced a strategy for the health and well-being of people of working age 'Work, health and well-being- Caring for our Future' which includes a recommendation to apply the HSE management standards approach across the public sector as part of a drive to reduce levels of sickness absence. In addition, UK organizations including the HSE and the TUC (representing trade unions), have drawn up a European Social Partner agreement on work-related stress (<http://www.dti.gov.uk/files/file25664.pdf>). How is the management standards approach being evaluated? So far, evaluations in work places adopting the management standards approach have mostly been qualitative and good practice case studies are being made available on the HSE website (www.hse.gov.uk/stress). A national monitoring survey was conducted in Spring 2004, six months before the introduction of the management standards, to provide a baseline for future monitoring of trends in psychosocial working conditions. The intention is that this survey should be repeated annually and, at the time of writing, reports from the 2004 and 2005 surveys have been published.

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