Employment conditions and health inequalities

Draft Final Report to the WHO Commission on Social Determinants of Health (CSDH)

Employment Conditions Knowledge Network (EMCONET)

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Acknowledgments:

- This Draft Final Report is the product of the work during about one year of the Employment Conditions Knowledge Network (EMCONET) by a large number of participants. We want to thank to all of those who have given their contribution to this collective and challenging effort.

- A completed List of participants and institutions will be included into a larger version of this Report ("Extended Report") to be prepared in the next following months.

- To all the workers that with their information, opinions and experiences have contributed to make this report possible.

Points of Clarification:

- Because of time constraints, only the members of the "Report Writing Group" and the EMCONET Core Group have seen last versions of this document.

- 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 comprehensible, an important part of its outcomes and findings have been structured in the form of messages and findings.

- This Report is still "under construction". Thus, important key issues such as policy recommendations have only superficially been included since they will be discussed in detail in the last meeting of EMCONET in May 2007. Likewise, important contributions and reviews from Civil Society Groups are still pending. Additionally, it is expected that data of a number of tables and figures included in this Report will be updated in the next few weeks/months.

- 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, only a selection of these case studies has been included in this Report. All case studies will be incorporated into the "Extended Report".

- The members of the writing group will be revising this Report in response to comments and contributions from other members of the EMCONET Core Group as well as from the Periphery Group including those from Civil Society Groups and external reviewers. Pending those revisions, this Report should not be cited publicly as a position taken by EMCONET.

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Political briefing

Five key messages for ministers and most senior advisors.

Audience: Ministers and their most senior advisors. This should contain no more than five key messages that have arisen as a consequence of the work, written in a style that is easily and quickly comprehensible.

The presentation of material in the political briefing should be along the following lines:
- That a, b and c are important to x, y and z for the following 1, 2, 3 reasons.
- The key interventions and processes involved in bringing about change are alpha, beta and gamma.
- The socio-economic, and political, benefits of doing them are A1, B1 and C1.
- The social (including public health), political, and economic costs of not doing them are X, Y and Z.
- This brief summary of causal factors, avenues for intervention and (cost)benefit of (non)intervention, will need to be specific to the context (e.g. policy environment, country context etc.) with which specific audiences deal; the one-page political briefing may benefit from allowing for this flexibility.

Officials briefing senior political appointees often have no more than a couple of minutes to get their message across. It is very important therefore that this section is:
- not academic or ponderous;
- has no references;
- states clearly that it is based on evidence which comes from trusted, legitimate, reliable and valid sources

Executive summary

Audience: Senior officials, advisors and civil servants who brief politicians. This should be 3-5 pages and written as a background paper.

The presentation of material in it:

- Enables readers with little or no previous knowledge of the topic in question to understand it;
- contains enough detail for readers to absorb the key points, to enable them to answer questions from political leaders;
- contains sufficient empirical information for readers to be able to craft answers to (often testing) questions from journalists and others.

It should not have references, but should refer to the legitimacy and trustworthiness of the underlying research.

Abstract

briefly stating the research question or hypothesis, rationale, data, methods, main findings, conclusions and implications.

Contents of this Report

This Report is structured in five main chapters and a chapter with references.

In *Chapter 1* we present the "contexts of the report". The first Section includes a contextualisation of employment conditions in relation with the social determinants of health and the area of health inequalities research. Section two of this Chapter presents some of the main concepts defined by EMCONET (drawn from the Glossary of terms included into the Extended Report). Section three includes the main aims of this study.

Chapter 2 explains the "process of knowledge generation" of this Report. It includes two sections: the methods and strategies used and the main sources of information.

Chapter 3 includes the main outcomes and findings of EMCONET. This chapter of results has been divided into five main sections. Section one presents the new "Theoretical Models" prepared by the KN. These models seek to integrate the main components and factors linking employment conditions and health inequalities, both at the macro and micro levels. Section two presents "An historical perspective on labour markets". This is a historical and political review that provides a useful social context for the rest of the chapter. Section three is the "Countries and labour markets: a geographical view", and it includes a new "country typology of employment relations", as well as a selection of the country case studies that were derived from the results of the typology. Section four contains a descriptive perspective of the key employment dimensions. Each dimension is presented with data describing its "global picture", its "conceptualization and measurement" and its "description and evolution" over time. In order to complement this description, Section five provides an analytical perspective of the afore-mentioned employment dimensions. This approach attempts to shed some light into the "pathways and mechanisms" that link the employment dimensions to inequalities in health. Main findings concerning policies are shown in Section six, which introduces political and historical perspectives, a typology of the employment-related policies to reduce health inequalities, some of the policies, interventions and experiences related to each employment dimension, and a brief description of four key policy Entry Points.

Chapter 4 presents a short discussion indicating potential problems of the knowledge generated.

Chapter 5 on conclusion summarises findings of the report and key directions for action.

Finally, in *Chapter 6* we include the references used in this Report.

1. Introduction

1.1. Contexts of this Report

The WHO Commission on Social Determinants of Health (SDH) has referred to SDH as "the social conditions in which people live and work, reflecting their different positions in hierarchies of power, prestige and resources" (WHO, 2007). A key mission of the Commission is to link knowledge to action completing two main tasks: first, to understand how social determinants operate and how they can be changed to improve health and reduce health inequities and, second, to change public policy—both national and global—to take into account the evidence on social determinants of health and interventions and policies that will address them (Marmot, 2005). This report aims at providing rigorous analysis on how employment relations affect differentially the health of populations and how this knowledge may help to identify and promote worldwide effective policies and institutional changes capable to reduce health inequalities. To study how different 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 presented almost indistinctively by most public health researchers when in fact they are different concepts. To fill this gap, we define here "employment conditions" and "working conditions" (definitions on key employment dimensions are in Section 1.2. of this Report while a Glossary of terms is in the Appendix of the Extended Report). *Employment conditions* are "those conditions or circumstances in which a person is engaged in a job or occupation. This often involves an agreement or 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. Specifically, an employee is any person hired by an employer to do a specific job. To understand the meaning of employment conditions, it can be helpful to relate this concept to the following question: what are the social relations in whom a person is inserted in order to incorporate him/herself and perform a job? To analyze employment conditions the following aspects are crucial: the relations between the worker and the person who provides the job, i.e. the employer, the amount of power that workers have and, more generally, the power relations between work and capital or, in current terminology, between employers and employees. Another crucial factor is the level of social protection entitled to a given occupation (high, low or none). In western countries employment conditions are often subject to the provisions of the law with the need to perform a job under a contract of hire. In these societies governments are often the largest single employers, but most of the work force is employed in small and medium businesses in the private sector. However, in poor countries most agreements are not explicitly subject to any contract, and the informal sector employment forms a high proportion of total employment.

Working conditions are related to the tasks or functions that workers perform in a given occupation. Working conditions refer to the material aspects of work, the physical and chemical environment, the ergonomic conditions, the psychosocial factors of work and the technology that is 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 place and in the same enterprise, sharing then the same working conditions, and nevertheless be under different employment and social relations. One person can be a permanent and direct employee of the firm, while the other is contracted by an external employer and can be a temporal worker for the job he is performing. The first worker has a permanent contract while the second worker can have a fix-term contract, an on-call contract, or no contract at all. The first worker is covered by the social security system for all aspects while the second is only partially covered. The first worker can be an active member in a trade union, while the second is not a member of any union and has no right to being represented collectively. Consequently, 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 society is a highly political issue. They can be accepted as inevitable results of individual differences in respect of genetics, individual behaviours or the economic market, or they can be seen as a social product of societies that need and can be tackled. 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 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 that sees the state's actions as shaped by the interests of powerful institutions and groups. It is a power resources approach that identifies the distribution of organizational power between labour organizations and political parties as key determinants of differences in the size and distributive impact of the welfare state across countries and over time (Korpi and Palme, 2003).

In spite of growing scientific evidence of the relations between several dimensions of employment conditions and health, almost no conceptual models have been proposed to explain these effects and, in general, there is a great lack of research on theoretical frameworks concerning the potential pathways and mechanisms by which employment conditions may affect health and health inequalities (see two Theoretical Models in Chapter 3.1.). Research on specific employment situations and health (including health inequalities) is already substantial. For example, for the five key employment dimensions studied by EMCONET (i.e., unemployment, precarious employment, informal employment, child labour, and slavery and bonded labour) a considerable number of references can be found in the public health and health

inequalities literature. The abundant literature on these subjects, however, rarely focuses directly on the important role played by employment conditions as a social determinant in shaping population's health and social inequalities. Social determinants of health might in general, and employment conditions in particular, have been neglected due to the main following reasons: first, the lack of public health research and potential for research dissemination in poor countries, the places where precisely the most worrisome employment conditions such as slavery or child labour are found. Although there are almost no bibliometric analyses on health inequalities research, it seems there is a current lack of studies on the poorest continents, countries, and regions, especially in Africa, South Asia and Latin America (Almeida-Filfo et al, 2003). A second reason is the limitation in existing data and social indicators in many countries, especially in low-income countries and underdeveloped world. For example, in many countries sex-disaggregated data are not available for key indicators (UUNN, 2006). A third factor is the lack of sociological training of many epidemiologists and public health researchers to understand the nature of employment conditions and their consequences for 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 difficulties to obtain research funds as compared to other mainstream biomedical or clinical approaches (Navarro, 2004). Finally, it is noteworthy the 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 escape from providing a western or developed countries' perspective of labour markets and employment conditions. However, the historical experiences of production, employment and work have been largely different in different parts of the world. For example, the labour reforms that were implemented in the 19th and 20th centuries in Europe, concerning minimum wages or hours of work, largely bypassed the former colonies in Asia, Africa and Latin America. Bearing this in mind, 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 to not fall on the "one size fits all" descriptions or recommendations (see especially Section 3).

1.2. Main employment dimensions

Definitions of key employment conditions used in this report are the product of an extensive revision 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 own objectives and perspectives of how the Employment Conditions Knowledge Network understands health determinants in general, and employment and working conditions in particular. The discussion with the members EMCONET and Civil Society groups has

indeed been a good opportunity to reach a consensus on a large list of related concepts as well as to include some new ones.

Employment concepts developed by EMCONET represent attempts to conceptualize employment conditions in ways that relate employment to other institutional structures that may be the subject of policy making, structures such as family, work organization, occupation, and social safety nets. Employment conditions may influence health by determining uncertainty and stress or income and social support, which have consequences for security and general well-being. Overall, concepts have been drawn from a range of disciplines, each discipline having its own set of intellectual problems and theoretical perspectives with which to address complex and ever-changing practical work-related hazards. In this Report we only include definitions of the key employment dimensions and the new concept of "fair employment", while other related concepts are found in a Glossary in the *Extended Report*.

Unemployment. The meaning of this term varies in each country. In the UK for example there have been many definitions, changed over time to suit the political purposes of 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 M, Ferrie J. Glossary: unemployment, job insecurity, and Health. J Epidem Community Health, 2001;55:776-781.

Informal employments and informal jobs. Non-regulated placement in the labour market which usually involves an informal arrangement between the employee and employers (informal employment) or self-employment (informal jobs), which do not imply a market exchange of labour force, but products or services. Informal employments 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 leaves, or access to health care, are dependent on the possession of a formal job contract. There are also employment warranties for formally employed workers, like work-time legal limits, compensations at firing, etc. not available for informal workers. Therefore, informal employment is a particular type of precarious jobs because it expresses a sub-standard form of placement into the labour force. It is clear that employees cannot be discriminated based only in the formal nature of their job contracts, which usually is a demonstration of mechanisms to avoid taxes 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 P & Jenkins R. The myth of the hidden economy. Philadelphia: Open University Press, 1989.

Santana VS & Loomis D. Informal jobs and nonfatal occupational injuries. Annals of Occupational Hygiene 2004;48(2):147-157.

Williams C & Windebank J. Informal employment in the advanced economies. London: Routledge Taylor and Francis Group, 1998.

Precarious employment. This term has been used to signal that new employment forms 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 which favour more stable work relations. Currently, precarious employment is becoming more common in developed economies and is widespread in developing economies.

Hadden W, Muntaner C, Benach J, Gimeno D, Benavides FG. A Glossary for the social epidemiology of work organization. Part 3. Terms from Labour Markets. J Epidem Community Health. 2007;61:6-8.

Slavery and bonded labour. Millions of men, women and children around the world are forced to lead lives 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', and/or 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 their employer or creditor. In these circumstances bonded labourers can be forced to work very long hours, seven days a week 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: [web page available: www.antislavery.org/homepage/antislavery/modern.htm

Forced labor in the 21st century by Anti-Slavery International and International Confederation of Free Trade Unions (ICFTU).[web available: http://www.antislavery.org/homepage/resources/forcedlabour.pdf#search=%22anti%20slavery%20icftu%20forced%20labour%20in%2021st%20century%22]

Child Labour. International organisations share a common understanding of child as any person under 18 years of age. However, there is no consensus about the definition of child labour. For instance according to UNICEF (2006), child labor express 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. Therefore, it represents work activities that are mentally, physically, socially or morally harmful and affect schooling. In 1999, the ILO Recommendation No. 190, and Convention No. 182 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 type of occupations for children, such as when involves toxic chemicals, carrying or lifting heavy loads, among others.

International Labor Organization - Sub-regional Office for Eastern Europe and Central Asia. [web page available: www.ilo.ru/ecl/def.htm]

United States Fund for UNICEF [web page available: www.unicefusa.org]

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 accords, or labour and employment contracts, and what can be the social processes of production affecting workers´ health (Benach et al, 2002). The concept of "fair employment" complements that of ILO "decent work" from various perspectives. Thus, it needs to be understood as a relation, as a concept, and as an outcome from political and public health points of view. First, fair employment involves a value and ethical judgement of what can be considered a just relation between employers and employees. For instance, much of the history of employment relations has been one of 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 while the latter resisting those demands through firings, lockouts or court injunctions. Second, the concept of what is fair employment requires that several features are properly covered: (1) freedom from extreme coercion, this excludes all forms of forced-labour such as bonded labour, slave labour or child labour; (2) job security in terms of contracts and safe employment conditions; (3) fair income, that is sufficient income to guarantee an adequate livelihood relative to the needs of society; (4) job protection and the availability of social benefits including provisions that allow a conciliation between working life and family life and retirement income; (5) respect and dignity at work, so that workers are not discriminated because of their gender, ethnicity, race or social class; (6) workplace participation, a dimension that requires that workers are allowed to have their own representatives and negotiate their employment and working conditions within a regulated framework; and (7) enrichment and lack of alienation, where work is not only a mean of sustenance; rather, jobs should be as much as possible an integral part of human existence capable to develop 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 need to be understood as a key source in the production of population health and health inequalities. 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 risk factor exposures to significant risk factors.

1.3. Aims

The aims of this report are fourfold:

1. To provide a comprehensive description on key employment dimensions. We aim at describing employment conditions in different countries, regions or areas. These employment conditions are described according to five employment "dimensions" and five employment "axes".

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 on health inequalities.

3. To generate knowledge on Policies and Interventions. To generate evidence on the 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 action. The last aim is 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 is first introduced in the political agenda.

2. The process of knowledge generation

2.1. Methods and strategies

How to describe multiple situations of employment and working conditions in a worldwide diversity of social and workplace contexts, for different types of regions, countries and for workers with very unequal jobs? How to analyse the differential impacts of those conditions on health inequalities? The aim of this section is to justify and explain the methods and strategies used in this report to strike a right balance that properly captures knowledge of a complex and dynamic reality avoiding a reductive narrow view framed by the standard main features characteristic 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 here attention. First, studies on employment and working conditions and health do not often focus on the analysis of its impact on health inequalities and the pathways and mechanisms leading to them. Second, only a limited number of studies have been conducted in less developed or underdeveloped countries. This point is important since these countries share important differences in comparison to high-income countries: (1) while non-standard forms of employment have increased in the last decades in wealthy countries, poor countries have always been characterised by a large variety of hidden or less known subsistence and informal forms of employment as well as by extreme employment and work manifestations like bonded labour, child labour and forced sex work; (2) while employment in agriculture has sharply declined in developed countries, in mid- 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, never have taken off in most poor countries. Thus, many poor countries are still fighting for welfare benefits from the State and need to ensure that some little gains are not taken away; 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, employment do not assure access to health services as part of employment benefits. Third, while it is important to examine “best practices” and “good examples” that 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.

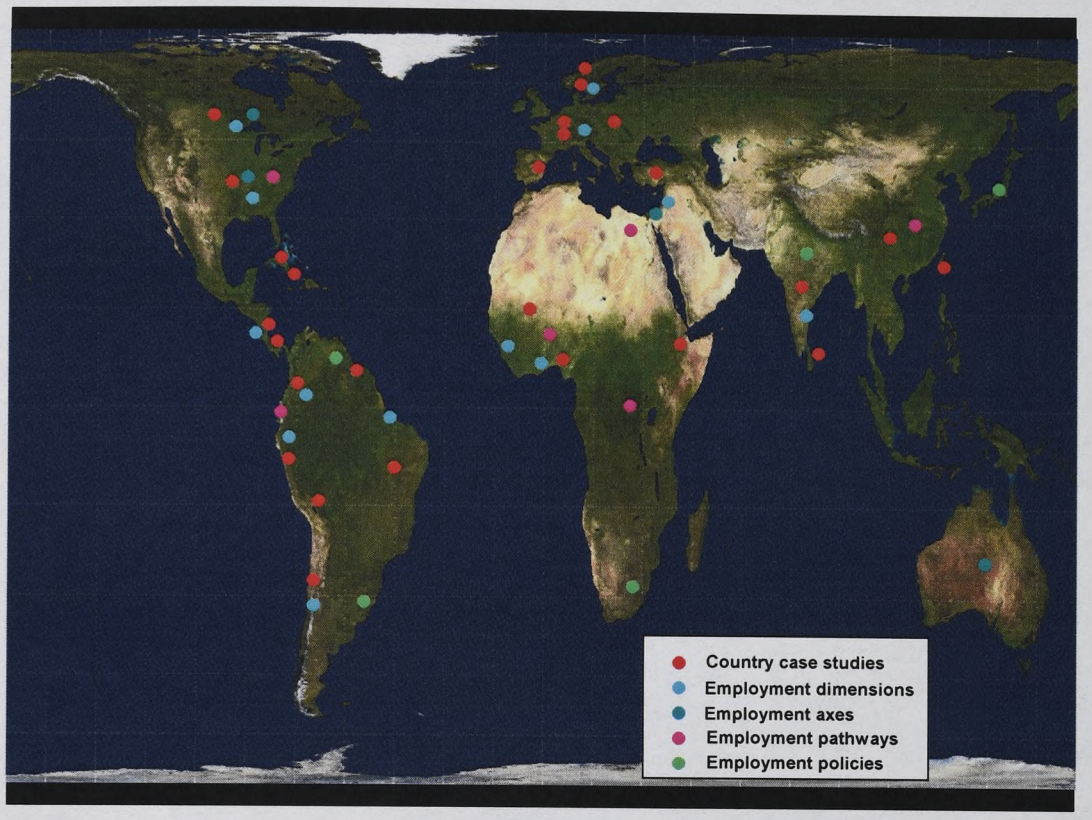
2.1.2. Developing an alternative approach

Given the complexity of the subject analysed, the lack of scientific information available and the limitations of the standard evidence-based approach, it seems clear that multiple sources of evidence, sources of information and strategies of searching are required. Undoubtedly, scientific evidence generated by academia has its own merit and confers essential rigor to the process of scientific knowledge generation. 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. Therefore, in addition to the scientific knowledge provided by social and public health sciences such as epidemiology, sociology and political sciences, valuable information can also arise from different social actors and institutions within a large range of worldwide civil society experiences available through the practice and experience developed by non-governmental organizations, social movements, or particular groups or communities inserted in specific geographical areas and political contexts. While sometimes very subjective in nature, this information also provides important pieces of hidden or at least not well known important knowledge.

In this Report we have developed a large body of knowledge using a variety of methods, using many sources of data (including quantitative analyses, qualitative data and narrative knowledge) and through several strategies of inquiry. This innovative approach provides the most comprehensive and high quality knowledge available to identify and give proper responses to a number of important research and policy "needs": (1) the need to incorporate an historical perspective to understand employment conditions recognising the dynamic nature of the political systems that influence people's employment and work; (2) the need to identify the political actors and the government decisions crucial to explain 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 dimensions 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 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 open a participatory process of knowledge generation capable to identify a variety of sources of information as well as to allow the participation of a large number of civil society groups.

Geographical location of main contents included in this Report and the Extended Report are summarised in Map 1.

Map. 1. Geographical location of the main contents developed in this report.



2.1.3. Key strategies of a Synthetic Comprehensive Participatory Approach

Diversity of potential information available has made it 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 relatively short period of time (about 1 year). Main strategies used by this comprehensive multi-searched and multi-participants time-intensive approach include: (1) to clarify the main concepts and to 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 combined in a multi-methods scientific approach; (3) to make an explicitly comparative analysis that contextualize and classify the situation of different countries in 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 diversity of case studies that highlight or illustrate a variety of experiences and studies that often use participatory approaches with strong involvement 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 not a fixed or simple formula, it is important to select studies

based on a mixed assessment of 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. In order to facilitate the work of the authors as well as ensuring that the contents were consistent in their ways of presenting results and discussing the main themes, seven guidelines for the different "key contents" and "case studies" were developed (see Appendix in the Extended Report). These guidelines were discussed and circulated among authors and civil society groups as a starting point for thinking about their work to reach consensus on crucial issues such as basic frameworks, sources, etc. They intended to provide guidance for the selection, collection and description of relevant case studies that shed light into the topic of policies and interventions to reduce health inequalities derived from employment conditions.

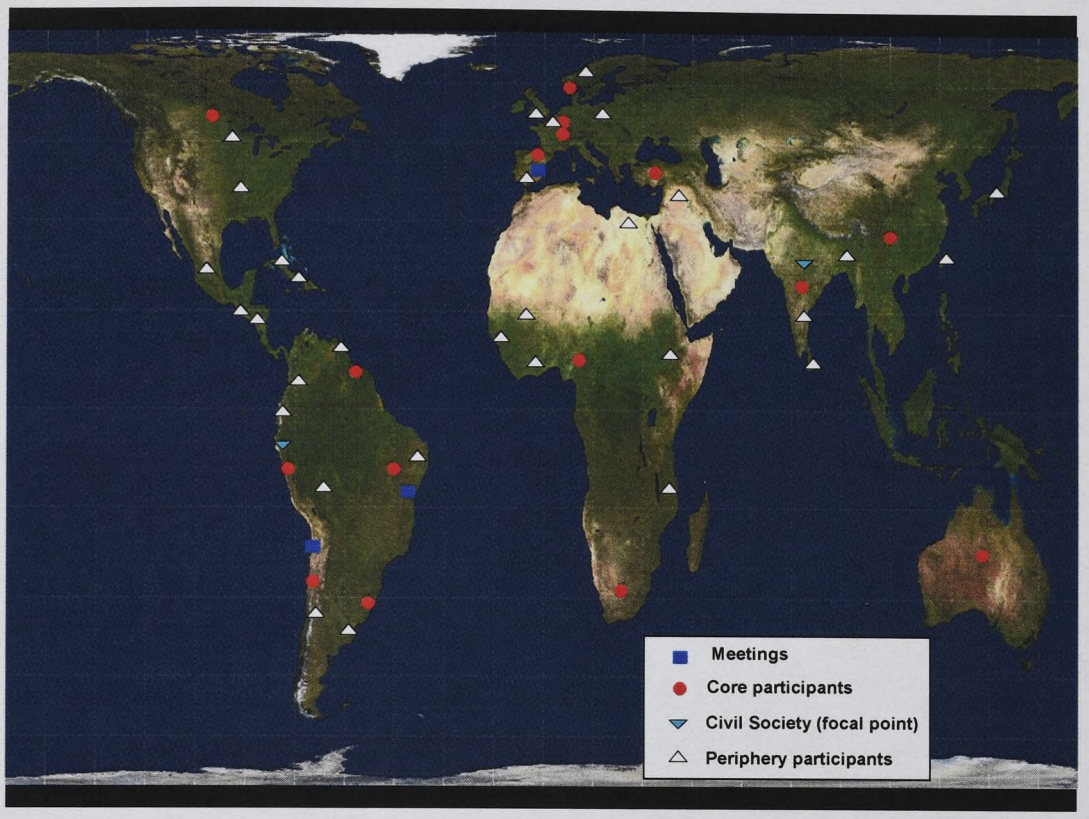
2.1.4. Participants involved and key activities carried out

To achieve a high level of social participation as well as to obtain a worldwide inventory of case studies, examples and experiences, a key goal of the network has been to ensure two strategies: 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 (e.g., People's Health Movement) have not also been encouraged to participate throughout all the process as a source of information but also as a key actor in providing input and a critical reviewer of the findings.

Main activities of these participatory processes have included formal and informal meetings as well as the release, 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 the last meeting will take place in May 2007 in Santiago (Chile); (2) Informal meetings and teleconferences with Civil Society; (3) Discussions on findings through the "Community Site" has been useful to post the most important documents of the network in order to get input and feedback; and (4) Application of findings, that is, some country work partners have worked together with EMCONET promoting workshops and other type of meetings to discuss and to 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 described in Map 2 (a detailed list of all participants is included in the Extended Report in Appendix).

Map. 2. Geographical location of meetings and participants.



2.2. Sources of information

This section has the objective of providing a comprehensive review of the sources of information available for the study of employment conditions as determinants of health inequalities. The search strategy used in the present study draws on multiple sources of evidence including scientific literature, grey literature and other complementary sources of information such as key informants, the experience of stakeholders and grassroots activists or other narrative sources of knowledge.

2.2.1. Systematic scientific literature review

The objective of this systematic review was to exhaustively identify scientific studies that have investigated employment dimensions in relation to health and health inequalities. Digital bibliographic databases were searched among a variety of sources of information and time periods including Medline (from 1966), PsycInfo (from 1987), Sociological Abstracts (from 1963), Social Sciences Abstracts (from 1984) EconLit (from 1969), American Business Inform (ABI, from 1923), Business Abstracts (from 1982), Public Administration Abstracts (from 2003), Political Science (from 1974), and Worldwide Political Science Abstracts (from 1975).

Because the language and search terms used in the databases differ significantly, search terms were customised for each of them. 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 revisions, always seeking a balance between

comprehensiveness and specificity. The bibliographical search was made independently for each of our five employment dimensions in several languages (i.e., English, French, Spanish, Italian and Portuguese). Once identified, and after reading their summaries, studies were selected according to the objectives of the revision (a complete list of references will be included in Appendix in the Extended Report). HERE BRIEF SUMMARY OF RESULTS.

2.2.2. Systematic grey literature review

A review of grey literature, documents, books, reports, etc., dealing with the theme of employment conditions and health inequalities was also conducted. Although a comprehensive identification of "grey literature" is quite a complex task, some of this literature is indexed on databases such as *GreyNet* (Grey Literature Network Service). Internet can also provide information on both completed and ongoing research, particularly that which has not been formally published. A systematic way of conducting Internet searches is by using meta-search engines such as *Dogpile*.

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, a *direct strategy* in which a search was done focusing on certain places or sites where one assumed that it was possible to find excellent/good information on each one 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 of representation of workers. Second, a *non-direct strategy* in which a listing of the more important searchers on the Internet according to their profile, topics, etc., was made. It was apparent that Google, Yahoo and Altavista and Prodigy/msn are the most visited and powerful searchers. As expected, no specific searcher was found for the themes analysed in this study. In addition, a selection of "metasearchers" that allow users to obtain the maximum number of resources available on-line was conducted. Five of the 11 metasearchers identified were selected as the most efficient and appropriate: IXQUICK, IPSELON, METACRAWLER SEARCH.COM and KARTOO. All of them usually display in the ten first places the results that were common to all the searchers with which they work. To test its efficiency, the same search words were compared with results obtained through normal searchers such as Google, Yahoo, Altavista and Prodigy/msn. HERE BRIEF SUMMARY OF RESULTS.

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.

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”. We have also tried to make a representative process, from the designers to the implementers of policies and the targeted population involved, reaching as many as stakeholders, independent researchers, policy makers, and experts as possible, inviting them to share their experiences, knowledge, and perspectives.

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 short length of this Report as well as time constraints, only few cases are reported in this document while all case studies will be included into the Extended Report.

3. Outcomes and findings

3.1. Theoretical models

To identify the key processes and links between employment conditions and health inequalities there is a need to go beyond empirical observations developing theory-based conceptual models. Main reasons to develop those models can be summarised as follows: first, they may help to think on the complex links associated with employment conditions and the health of workers and their families; second, models may help to guide further observations and research visualizing and testing potential social mechanisms linking employment conditions and health inequalities; and third, theoretical frameworks will also help to identify which are the main "entry-points" to implement policies and interventions to reduce health inequalities at the macro and micro levels. The Employment Conditions Knowledge Network has developed two theoretical frameworks 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 macro-level 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 and influences.

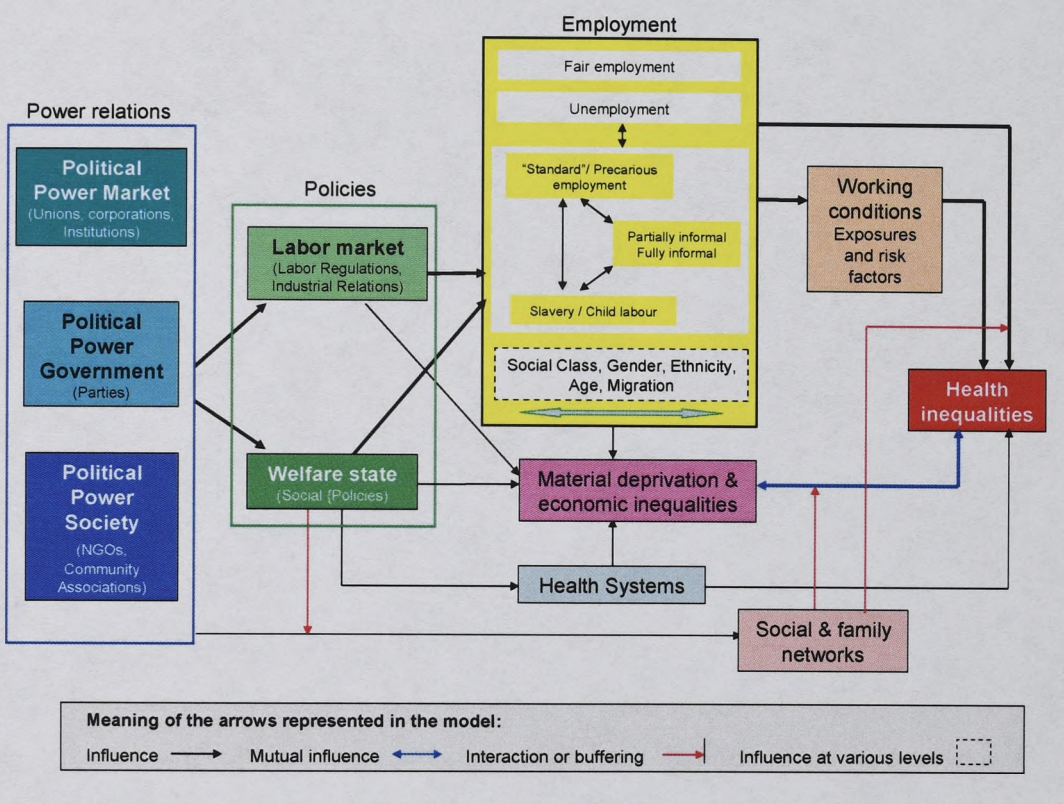
3.1.1. Macro structural model

Employment conditions exist in specific historical contexts, deeply influenced by a number of institutions and social relations that ultimately respond to a global division of production and the situation of each country into the world-system (Wallerstein, 1974). At the same time, this model needs to be thought within the context of the main ecological, historical, and political factors shaping each society such as ecological environment and resources, poverty level, economic structure and social stratification, productivity and technology, education and culture, among several others. Within countries, employment conditions are inserted in a socioeconomic context characterised by a certain level of economic development, educational attainment, poverty and inequality. There is, moreover, large variation in the institutional context of countries, differing in the redistributive role played by the state as well as in the functions and role of the labour market as the locator of resources among social classes, genders, ethnic groups and regions (Figure 1).

This model reflects the social determinants of health notion that employment relations need to be put into their large institutional context. Here we start with power relations, labour market and social policies (according to their level of social protection, active policies on employment, 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 groups over others. Power relations are therefore crucial to redistribute economic resources and thus to determine the level of equality

present in a given society. Inequality will be therefore the outcome of power relations and how these are reflected in the existing political and legislative systems. Main political actors, however, not only redistribute resources affecting social stratification, but also have an impact on the structure of opportunities available to different social groups including opportunities for wellbeing, exposure to hazards leading to disease, and access to health care. Social inequalities in health are therefore fundamentally the result of the specific ways in which societies, their underlying logic and driving forces are structured under what can be called a "political economy of health" (Navarro and Muntaner, 2005). An example of this are political parties, which implement different public policies when they are in office, these policies being associated with different outcomes in terms of social inequality and public health (Navarro and Shi, 2001; Navarro et al, 2006).

Figure 1. Macro-theoretical model of Employment Conditions and Health Inequalities.



A first level of this model 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 model, "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 like 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 much more severe declines in the unionization rate in the United States than in Canada account for two-thirds of the differential growth in wage inequality between the two countries.

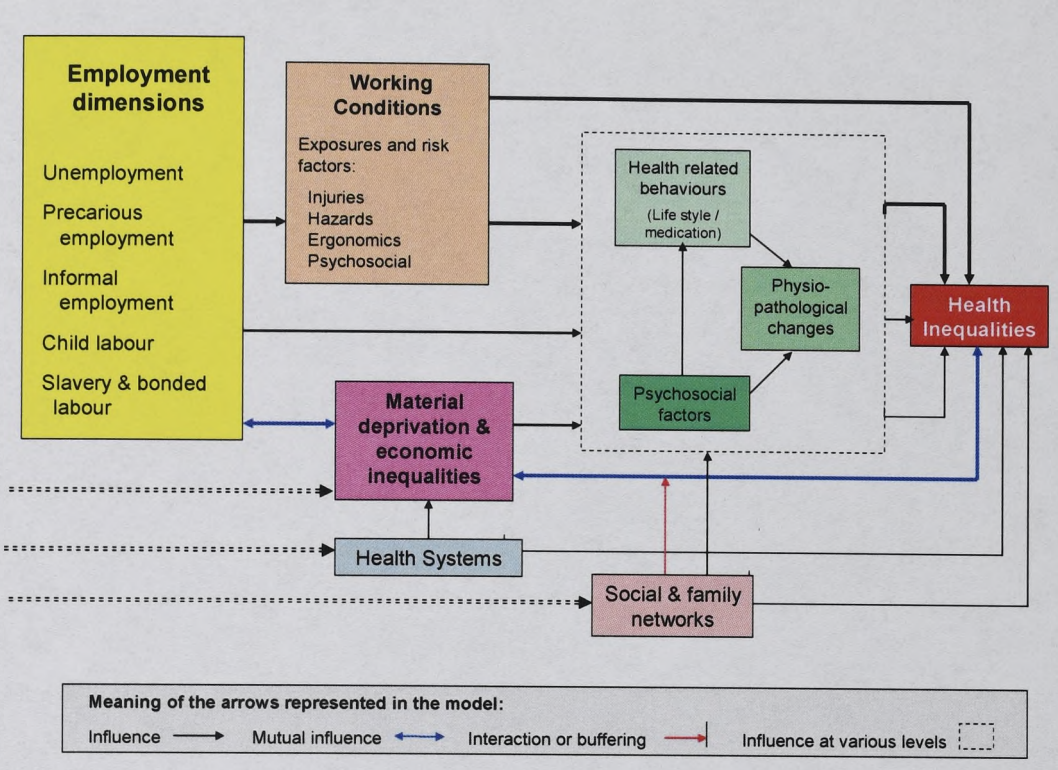
The level of development of the welfare state determines its "decommodification" effects, that is, the ability of workers to maintain a livelihood in society without reliance on the market (Esping-Andersen, 1990). In this sense, the social policies implemented by the state through their lack of involvement into the market protect the work force from the insecurities of the labour market. This reflects the fact that the welfare state and the labour market are two institutions deeply inter-connected and that, therefore, it is not possible to understand the labour market without considering the welfare state institutions that surround it (Esping-Andersen and Regini, 2000). 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 model that works for the entire world, this broad model 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 to 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 model

Figure 2 provides a micro conceptual framework from which we can assess the potential links between employment dimensions and health inequalities through working conditions and various forms of material exposures or resources, including material deprivation, economic inequalities, health systems, and social and family networks via a number of behavioural, psychosocial and physiological pathways. These risk factors can be classified in four main categories: physical, chemical, ergonomic and psychosocial factors that include factors such as the exposure to physical or chemical hazards, repetitive movements, work intensification, hard physical labour, shift-work, or lack of control among many others.

Figure 2. Micro-theoretical model 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, social class, gender, and ethnicity/race are key general relational mechanisms that explain why workers -and often their families- will differently be exposed to those risk factors. For example, there is a growing body of scientific evidence showing that manual workers are much more exposed to physical and chemical hazards as compared to owners or managers. Second, the key specific social mechanisms underlying class, gender and ethnicity/race 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, ethnicity/race 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 these key axes generating damaging working conditions inequalities can influence disease even when the profile of risk factors may change 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 of working boys in height and weight probably caused by the lack of adequate nutrition (Hawamdeh and Spencer, 2003).

As a consequence of these processes, and through a diversity of pathways, workers may be more or less exposed to different types of contingencies leading to psychosocial factors and unhealthy behaviours including life styles problems or medication such as drug and alcohol abuse,

violence or sedentary behaviour, that in the end will produce physio-pathological changes, disease and health inequalities. In addition to the key role played by these material factors and resources, proponents of psychosocial theories have emphasised the central importance played by one's position in a hierarchy - where one stands in relation to others. The two main psychosocial models that have explored 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, that claims that high efforts spent at work which are not met by adequate rewards (money, esteem, promotion prospects, job security) elicit recurrent stressful experience (Siegrist and Theorell, 2006). Nevertheless, although discussion between material or 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 model. 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 to mention that we explicitly have avoided the issue of genetic susceptibility in this framework for two main reasons: first, because we mainly focus 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 only play a minor role in explaining the major links and impact that employment has in creating health inequalities; 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 certainly arduous 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. 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, at least, group of countries, as a plethora of literature on "welfare state regimes" and "varieties of capitalism" has stressed. These divergences among capitalist economies have been explained stressing a variety of factors or driving forces, such as: (1) the bargaining power associated to social relations of production (Korpi, 1978), (2) the way in which industrialisation developed as the result of different forms of specialization that privileged some sectors over others (Hollingsworth, 1997), (3) the adoption of different ways of firm coordination with other socioeconomic actors to prosper (Hall and Soskice, 2001) or (4) the

differences in the degree of citizen's dependency upon market and/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 crisis of the 70s. In a context of 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, 2001). Employers sought to create a loyal and attached labour force, whereas unions' main concern was to protect wages and jobs (Sengenberger, 1981). 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 in conforming to 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*".

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 of the period of the Mid-Century Compromise. 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, defined as the "flexible firm" came into sight, dividing the labour force into a multi-skilled and functionally flexible protected core and a disposable periphery with fewer labour rights that resulted into 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 responsible factor 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. In this sense, part-time workers are thought to provide a closer relation between paid time and work time and the opportunity to cover unsociable hours and short shifts (Delsen, 1993; Maier, 1994; Smith et al, 1998), and self-employment is a pragmatic option for unemployed when changes in the labour market prompt mass unemployment (Staber and Bogenhold, 1993). Yet, there are doubts

about the positive effects of more "atypical" employment on employment 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 reductions in family income (Clain and Leppel, 1996; Delsen, 1998). In countries with low female participation it is likely that part-time jobs encourage women to enter the labour market and thus does little to reduce recorded levels of unemployment (Walwei, 1998). Furthermore the emergence of a new "sub-contracting" culture that stimulates the growth of self-employment (Cowling and Mitchell, 1997) 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 at the floor set by minimum wage regulations. Regulations to guarantee higher earnings may discourage employers to hire them, and by extension increase the rates of unemployment among the low skilled (Nickell, 1997).

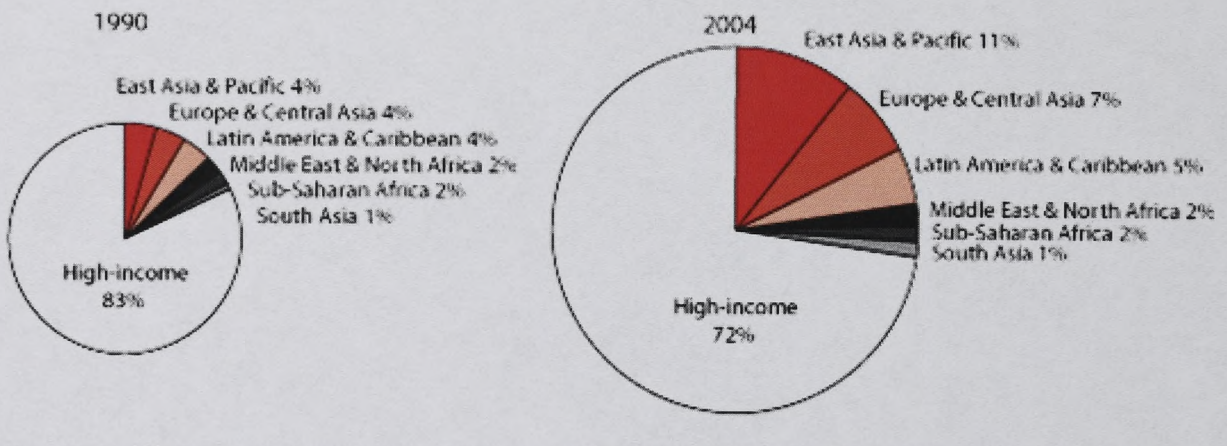
3.2.2. Developing / poor countries

While most Western economies achieved unprecedented prosperity the rest of the world, under the need to catch up in terms of economic development, was confronted with two rather antagonist development paradigms: modernisation and dependency. In functionalist theory, which highly 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 on earlier stages should emulate the socio-economic order of the Western world (Rostow, 1960). Yet, other authors interpreted that affluence in advanced economies was at the cost of poverty in the rest of the world. The 'periphery' of this world system (Wallerstein, 1976) 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 heavily rely on exporting on a single and 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.

A rapid look at the following figure might suggest that developing and poor economies are catching-up in the last decades as a result of internationalisation of trade and markets. Developing economies' share of world export has significantly increased in the last fifteen years. In 1990 high-income countries represented the 83% of global exports, whereas 15 years later that percentage was significantly lower (72%) (Figure 3). East Asia can be considered the winner in this new scenario, since this region strongly benefits from this recent change in the trends of trade and exports.

Figure 3. Developing economies' share of world merchandise exports

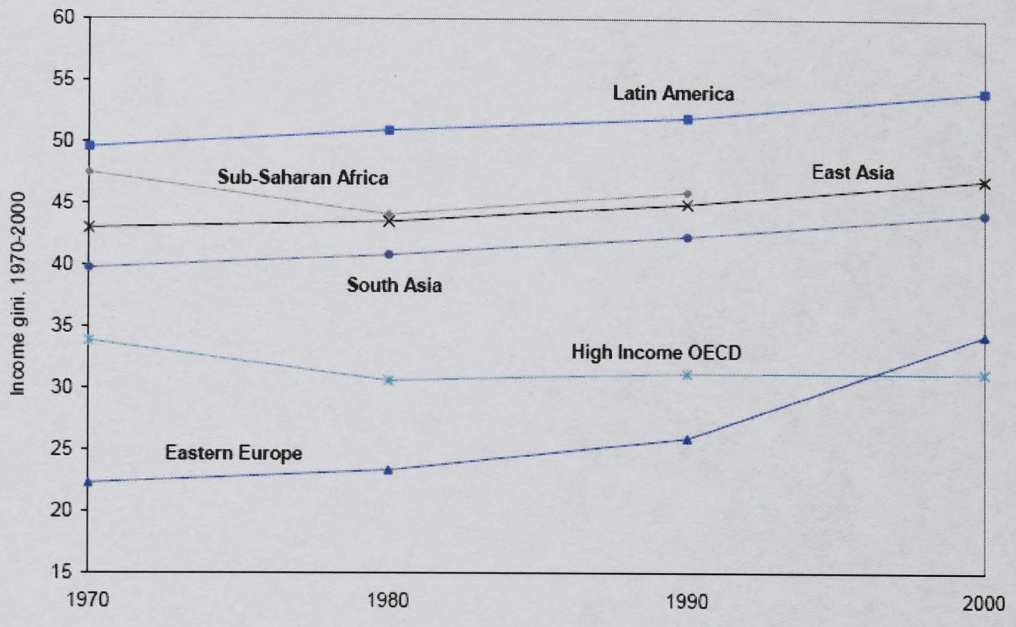


Developing economies' share of world merchandise exports increased by 11 percentage points from 1990 to 2004. East Asia and Pacific was the biggest gainer, capturing an additional 7 percentage points.

In spite of these positive trends there are major structural barriers to a significant improvement in terms of a decrease in poverty and the economic catching up of the poor and developing world with the developed economies. One of these barriers lies in the agricultural sector. Indeed, agriculture is still a crucial sector in many developing and poor countries. While its contribution to the GDP is lowering regarding other sectors (especially the services sector), it is still the main productive activity in terms of it share 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% of the GDP. These figures show how spread 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 US. The following is a telling example of this situation: 1% of the agricultural labour force (located in North America) produces 16% 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-valued added production in some regions.

A major source of concern are some observable trends for last decades showing the increase of income inequality in all the developing, poor and transition economies, as shown in figure 4.

Figure 4. Regional inequality (Gini index) in the period 1970-2000.



In addition to this, poor countries 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. 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% of children (5 to 14 years) are workers (Togo, Niger, Guinea-Bissau, Cameron, Central African Republic and Chad). Figures above 30% are rather frequent in other African and Asian economies and it remains high in some Latin-American countries. Moreover, working time in many countries draws near 47-50 hours per week. This is the case of 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) or Philippines (about 45 hours per week in 2005) (LABORSTA; ILO statistical Database for Labour Standards).

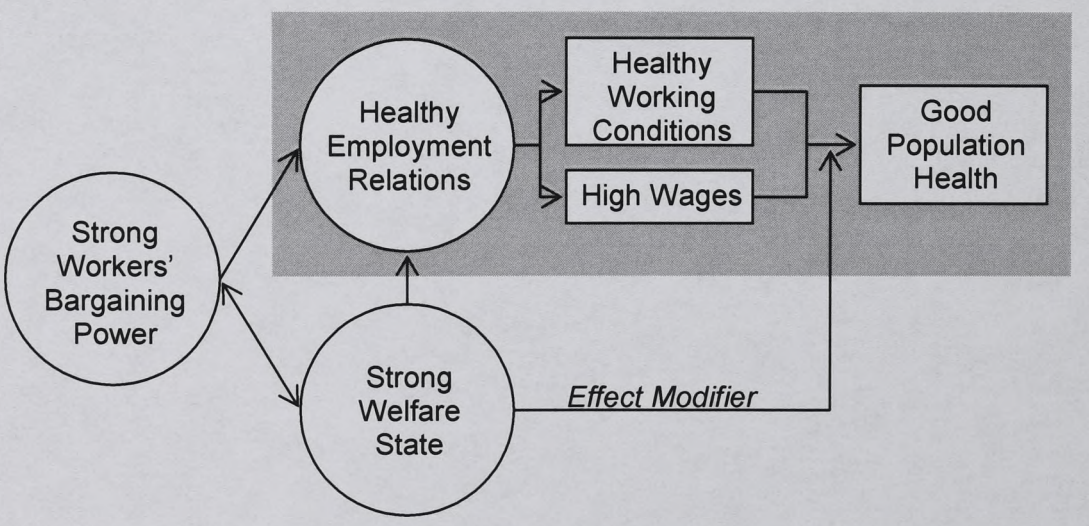
3.3. Labour markets and welfare states: a country perspective

This section has the purpose to develop a broad view of the world labour market and welfare state development. First, a typology of countries based on employment relations 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. And second, in accordance with the typology, selected country case studies are included to illustrate some of the key issues representing various clusters of countries.

3.3.1. Country Typology of Employment Relations

While the vast amount 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 (Chung and Muntaner, 2006). Several scholars (Muntaner and Lynch, 1999; Muntaner et al, 1999; Navarro and Shi, 2001; Muntaner et al 2002; Navarro, 2003; 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 labor market and, subsequently, its resulting welfare state as important determinants of population health status. In this model, employment relations are at the core of the welfare state or welfare regime of a given country (Korpi, 1985). 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 determinant of population health status across countries. In Figure 5 we develop a model of employment relations and population health at the national level that can be generalized at the global level.

Figure 5. The relationship between workers' bargaining power, welfare state, employment relations, and health outcomes.



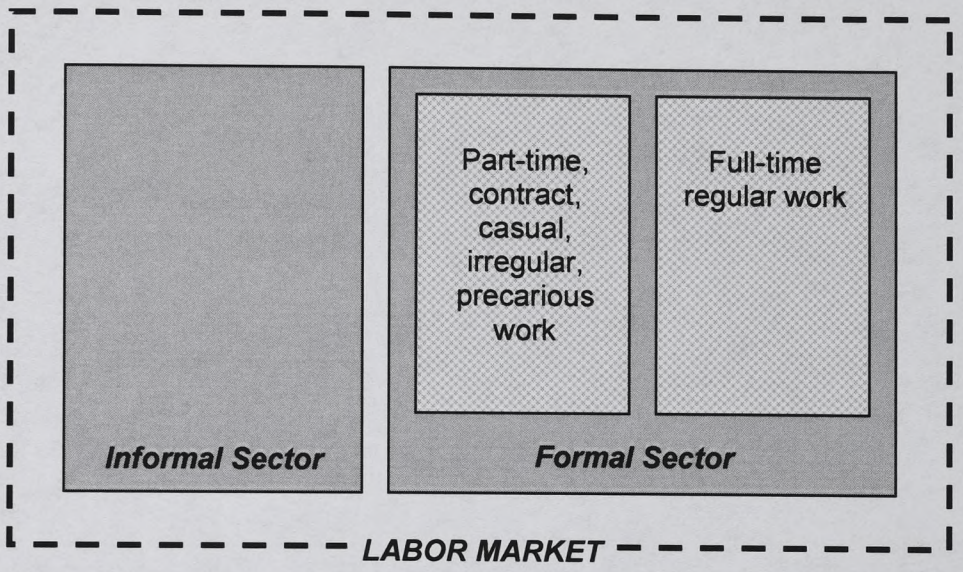
Employment relations have been considered a center-piece of West European welfare states in advanced industrialized countries (Esping Andersen, 1990). The core of the employment relationships in these countries lies in the "social pact " which centers on power relationships between organized labor (trade union and collective bargaining), government (especially Social Democratic Parties), and business associations. Power of labor, that are usually measured with union density and/or collective bargaining coverage, approximately correlates with the welfare state regime types (Chung, 2006) providing a 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 (Esping Andersen, 1990) allows workers to exit from the labor market at need, in turn allow them to not have to endure hazardous work environments (i.e., as it gives workers more bargaining power). Therefore, the key for understanding the employment relations and their impact on workers' health is to understand the "workers' bargaining power" which give them a leverage to advocate for a stronger welfare state and healthier working condition.

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 worker's 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 pressing 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 (informal), 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 6 contains a diagram of types of employment relations in an hypothetical global labor market.

Figure 6. Type of employments in labor market.



The labor market is made up of a formal sector and an informal sector. In the formal sector, there are full-time regular workers and irregular precarious workers, the latter being on the rise in last decades. These internal labor markets correspond with different rules and regulations, and therefore serve as rough breakpoints in employment relations. Based on the above consideration we hypothesize that employment relations and working conditions in the informal sector are more hazardous than in the formal sector. Two external factors serve as moderating (social security benefits) and mediating (income) factors as to employment relation's impact on population health. Thus, low wages and weak social security regimes mediate the negative impact of employment relations on health. Following this framework, we develop a global typology of employment relations in relation to population health outcomes. This typology covers the whole world as countries are divided into groups according to their position in the World-System (Babones, 2005; Arrighi and Drangel 1986), and three types of employment relations are generated by the position. The aim of this endeavor is to outline the macro-political economic factors such as employment relationship and their relationship with the population health status. Mechanism-driven approach such as this on the macro-determinant level will provide us with more scientific understanding of determinants of population health.

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 labor 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 and 2004), we conducted a series of cluster analysis of middle- and low-income countries to understand relationship between labor market conditions and

health outcomes. Because of the lack of data, we could not use key labor indicators in the formal sector - union density and collective bargaining coverage - for this analysis. Instead, we used indicators measuring the prominence of informal sector in the labor market, the workers' wage level, and the inequality in labor market. Among these, labor market inequality was measured as a factor score that was composed of four variables of child labor (%), working poor (%), employment-to-population ratio (EPR), and labor force participation (LFP) gap. Variables and sources are given in Table 1.

Table 1. Variables used in the typology of countries.

Variables	Year	Source
Informal economy in % of GNP	2000	The World Bank
(Union density & collective bargaining coverage) *Did not use this variable due to small N*	Various, 1990~ 1996	World Labor Report 1996 (ILO)
Inequality factor score • Child labor (%) • Working Poor (%) • EPR (employment-to-population ratio) • LFP (labor force participation) gap - female vs. male	1997 and 2003	Key Indicators of Labor Market (ILO)
Health outcomes	2002 or 2004	The World Health Report

Statistical Analyses. Construction of factor scores.

Using five variables listed under the heading of "inequality", we constructed a factor score. Factor analyses were conducted using a Principle component method, and the reliability of the score was measured though Cronbach's Alpha. Finally, factor scores were constructed through the regression method.

Cluster analyses. Using this factor score and variable, 'per cent of GNP generated through informal economy,' we conducted a series of hierarchical cluster analyses to generate the typology of countries. This was achieved using Ward's Method measuring squared Euclidean distance. Analyses were conducted using SPSS Ver. 12.0

In the original dataset we had data from 88 peripheral and 49 semi-peripheral countries, with a total of 137 developing countries. Because of missing data, especially from of the variable "informal economy in % of GNP, 1999-2000," analyses were conducted using 53 peripheral and 26 semi-peripheral countries, with a total of 79 countries.

Descriptive Analysis.

The descriptive statistics of explanatory variables are given in Table 2. The percentage of GNP generated through informal sector is not as different in these two groups of countries, i.e., semi-periphery vs. periphery. Among labor market inequality factors, peripheral countries showed much higher child labor and working poor compared to their counterpart. In both the peripheral and the semi-peripheral group, there were countries that reported 0% of child labor and working poor. The list of these countries is given in Table 3.

Construction of Factor Scores. Labor market inequality factor scores are constructed by position in the World-System, therefore a total of two factor scores were constructed. Cronbach's alpha values for measuring the reliability of factors, and loadings of each variable were calculated (data not shown).

Cluster of peripheral countries. Using the labor market inequality factor score, we conducted a cluster analysis, which resulted in 4 clusters of peripheral countries. Results are shown in Tables 4 to 6, and Figure 7.

Cluster of semiperipheral countries. Using the labor market inequality factor score, we conducted a cluster analysis, which resulted in 3 clusters of semiperipheral countries. Results are shown in Tables 7 to 9 and Figure 8.

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. Semiperipheral countries are characterised 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. Stating from large levels of informal work, they end with severe labor market insecurity where the rule of law or labor market protection s are sometimes impossible due to wars, political instability, authoritarian regimes and foreign interventions.

Table 2. 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	-13.30
Lfp gap (female-male) 2003	83	5	-26.42	15.42	-55.10	1.60	39	10	-26.76	11.85	-61.00	-11.60
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 3. List of countries that reported 0% in child labor and working poor

	Countries that reported 0% in:			
	Child labor 1997	Child labor 2003	Working poor 1997	Working poor 2003
Peripheral countries	Armenia Azerbaijan Belarus Bulgaria Georgia Guyana Kazakhstan Kyrgyz Republic Moldova Tajikistan Turkmenistan Ukraine Uzbekistan	Armenia Azerbaijan Belarus Bulgaria Georgia Guyana Kazakhstan Kyrgyz Republic Moldova Tajikistan Turkmenistan Ukraine Uzbekistan Romania West Bank and Gaza Jordan Algeria	Belarus Bosnia and Herzegovina Bulgaria Iran, Islamic Rep. Jordan Mauritania Morocco	Albania Algeria Belarus Bosnia and Herzegovina Iran, Islamic Rep. Jordan Kazakhstan Mauritania Morocco
Semi-peripheral countries	Barbados Chile Croatia Czech Republic Estonia Fiji Latvia Lebanon Lithuania Poland Russian Federation Slovak Republic South Africa Trinidad and Tobago Tunisia	Barbados Chile Croatia Czech Republic Estonia Fiji Hungary Jamaica Latvia Lebanon Lithuania Oman Poland Russian Federation Slovak Republic South Africa Trinidad and Tobago Tunisia Venezuela, RB	Barbados Croatia Czech Republic Estonia Hungary Malaysia Oman Poland Slovak Republic Uruguay	Barbados Croatia Czech Republic Estonia Hungary Jamaica Latvia Lithuania Malaysia Oman Poland Slovak Republic Tunisia Uruguay

Table 4. A Cluster of Peripheral Countries Based on Labor Market Inequality Factors

Informal More Successful		Informal Less Sucessful	Insecure	Insecure
• Indonesia	• Turkmenistan	• Jordan	• Ghana	• Angola
• Nicaragua	• Cote d'Ivoire	• Algeria	• Zambia	• Guinea-Bissau
• Romania	• Mongolia	• Morocco	• Benin	• Eritrea
• Ukraine	• Albania	• Egypt, Arab Rep.	• Sierra Leone	• Comoros
• Moldova	• Pakistan	• Iran, Islamic Rep.	• Papua New Guinea	• Ethiopia
• Cape Verde	• Bulgaria	• West Bank and Gaza	• Equatorial Guinea	• Congo, Dem. Rep.
• Georgia	• Tajikistan		• Kenya	• Cambodia
• Kazakhstan	• Guatemala		• Bhutan	• Congo, Rep.
• India	• Syrian Arab Rep.		• Togo	• Zimbabwe
• Armenia	• Swaziland		• Gambia, The	• Uganda
• Bosnia and Herzegovia	• Yemen, Rep.		• Nepal	• Burundi
	• Sudan		• Bolivia	• Rwanda
• Kyrgyz Republic	• Dominican Rep.		• Cameroon	• Mali
• Philippines	• Sri Lanka		• Haiti	• Tanzania
• Honduras	• Mauritania		• Solomon Islands	• Madagascar
• Belarus	• Guyana		• Lao PDR	• Central African Rep.
• Uzbekistan			• Vietnam	• Chad
• Azerbaijan			• Nigeria	• Burkina Faso
			• China	• Guinea
			• Senegal	• Niger
			• Bangladesh	• Malawi
				• Mozambique

More Equal ← → *More Unequal*

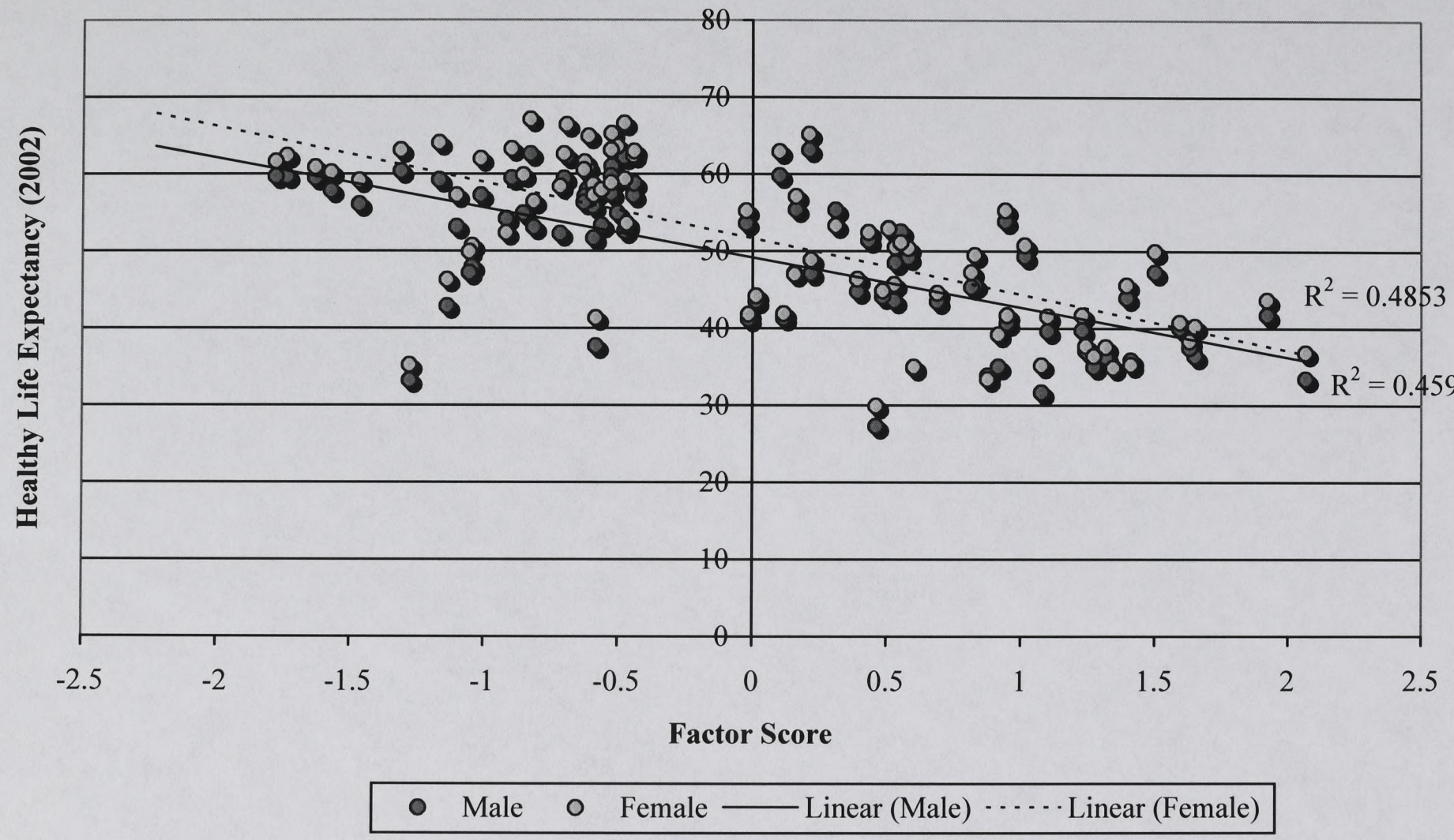
Table 5. A Cluster of Peripheral Countries Based on Labor Market Inequality Factors

Cluster	INFORMAL MORE SUCESSFUL	INFORMAL LESS SUCCESSFUL	INSECURE	INSECURE
Labor market inequality factor score	-1.736	-0.749	0.334	1.278
Child Labor (%) 1997	3.27	6.2	25.76	36.99
Child Labor (%) 2003	1.68	5.02	22.8	34.64
Working Poor (%) 1997	1.29	15.06	45.88	66.14
Working Poor (%) 2003	0.92	13.38	44.5	65.48
LFP (male-female) 1997	-51.87	-31.08	-26.42	-15.02
LFP (male-female) 2003	-49.48	-30.04	-26.01	-15.09
EPR 1997	43.82	60.62	70.73	81.33
EPR 2003	44.91	59.96	70.12	80.61

Table 6. 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 7. Association between labor market inequality factor score and HALE among Peripheral countries.



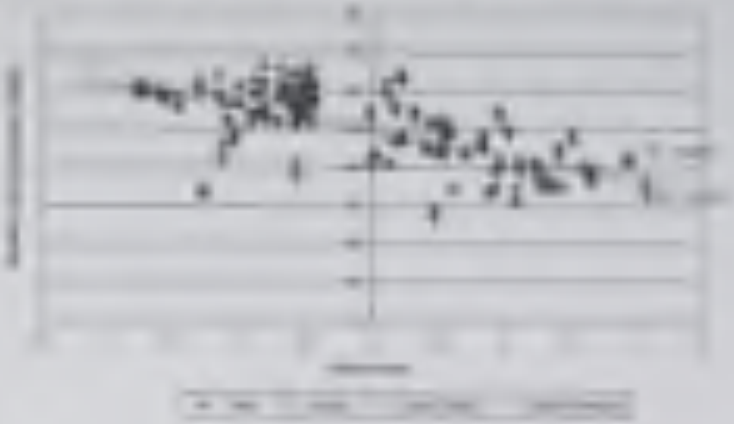


Table 7. A Cluster of Semi-Peripheral Countries Based on Labor Market Inequality Factors

Informal-Emerging Welfare States	Informal More Successful	Informal Less Successful
• Croatia	• Paraguay	• Marshall Islands
• Czech Republic	• Thailand	• Namibia
• Hungary	• Ecuador	• Botswana
• Macedonia, FYR	• Brazil	• Gabon
• Slovak Republic	• Costa Rica	• El Salvador
• Poland	• Fiji	
• Estonia	• Suriname	
• Jamaica	• Panama	
• Trinidad and Tobago	• Russian Federation	
• Barbados	• South Africa	
• Belize	• Mexico	
• Lithuania	• Venezuela, RB	
• Malaysia	• Peru	
• Latvia	• Colombia	
• Uruguay	• Turkey	
• Lebanon		
• Tunisia		
• Chile		
• Oman		

More Equal ⟷ ***More Unequal***

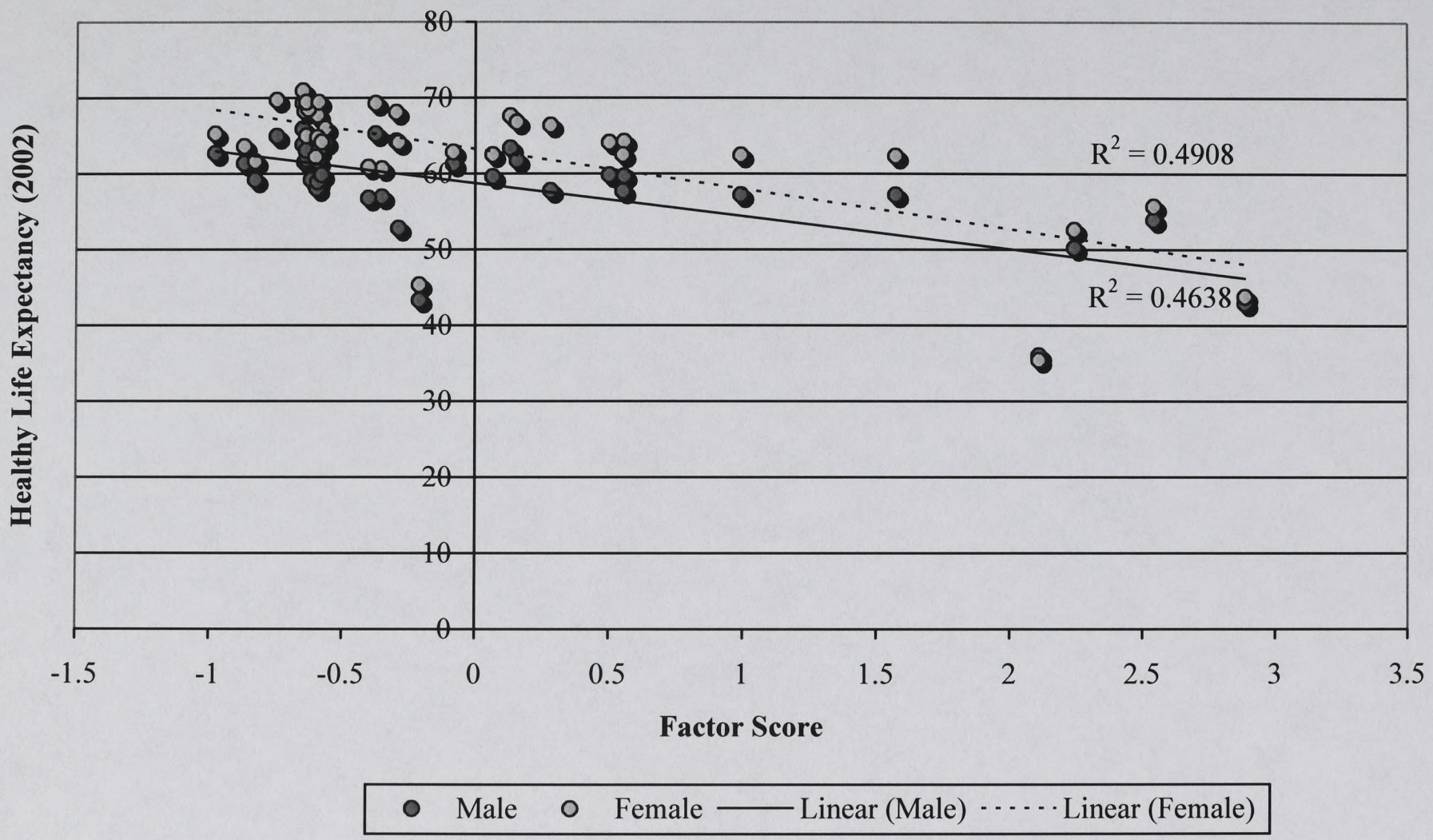
Table 8. A Cluster of Semi-Peripheral Countries Based on Labor Market Inequality Factors.

Cluster	INFORMAL-EMERGING WELFARE STATES	INFORMAL MORE SUCCESSFUL	INFORMAL LESS SUCCESSFUL
Labor market inequality factor score	-0.66	0.08	2.27
Child Labor (%) 1997	0.38	5.07	18.05
Child Labor (%) 2003	0.20	3.79	14.13
Working Poor (%) 1997	1.11	11.01	41.94
Working Poor (%) 2003	0.43	12.92	43.33
LFP (male-female) 1997	-28.07	-32.48	-25.02
LFP (male-female) 2003	-25.98	-28.58	-24.26
EPR 1997	59.45	62.39	56.76
EPR 2003	59.71	62.82	57.16

Table 9. 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 8. Association between labor market inequality factor score and HALE among Semi-peripheral countries.



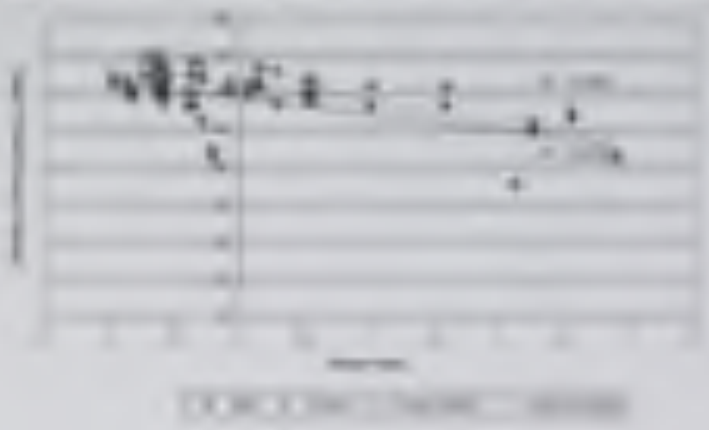


Table 10. Typology of countries classified by national economic level and labour market policies.

	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

3.3.2. Country case studies

3.3.2.1. Sweden

Sweden is an example of the Nordic Social democratic welfare regime, and 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 years were in employment (Labour Force Survey, Statistics Sweden). Unemployment was 6.2 % among men and 5.7 % among women. Among young people (16-24), the total figure is 14.3 %.

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) 90-95 % of all Swedish employees are covered by collective agreements. In 1990, overall unionisation was 81 % compared to 80 % in 2002, having peaked at 85 % 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 (Still, 2000). Through its

long history of cooperation between the parties in the labour market and its well-organized unions Sweden still provides good opportunities for unions to influence employment policy.

In Sweden labour market policy 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 i.e. 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 means that also people on long periods of sick leave are covered by the same strong employment protection. This has meant that the risk of becoming permanently excluded from the labour market is decreased compared to some other countries, and due to the universal social insurance this group is also protected from economic difficulties.

3.3.2.2. United States

Income inequality has been increasing in the United Stated, 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% from 1995-2005 (DeNavas-Walt, Proctor et al. 2006). An often quoted statistic in the US is that the top 1% of the population accounts for 40% of the wealth in the nation (Moss ,2000).

In 2005, about 25% of female workers were part-time compared to 11% of male workers.(US Department of Labor, 2006). These female part-time workers are represented among all different age groups, as compared to male part-time workers who are more commonly younger workers (US Department of Labor, 2006). In the third quarter of 2006, full-time Black male workers made 80% of what White men made, while Black female workers made 84% of what White women made (US Department of Labor, 2006). Hispanic salaries lagged behind those of Blacks, Whites, and Asians, respectively.

Worker displacement is a large contributor to the problem of unemployment in the US (US Department of Labor, 2006). From 2003-2005, there were 3.8 million workers age 20 yrs and older displaced from their jobs (US Department of Labor 2006). Of these, 49% lost their jobs due to company or work site closings, 29% because their job was abolished, and 22% because of insufficient work (US Department of Labor, 2006). About 40% of these displaced workers received advanced written notice of the displacement (US Department of Labor, 2006). The largest group of displaced workers in the US has been in the manufacturing field (28%). Half of workers employed for more than 3 years ("long-tenured") who were displaced from their jobs during this period were re-employed by 2006 with earnings at least as much as in their lost job, however 29% re-employed displaced workers had earning losses greater than

20% (US Department of Labor, 2006). 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 % of those employed in 2005; largely white males, over age 35, with only 10% preferring a more traditional work status), as well as on-call workers and temporary help agency workers (0.9% of those employed in 2005; largely female, young, Black, and Hispanic, with 56% preferring a more traditional work status) (US Department of Labor, 2005). All of these contingent and alternate arrangement workers were less likely to have health insurance or employment-based pension plans (US Department of Labor, 2005).

In a continuing downward trend over the past 3 decades in the US, only 13% of workers were unionized in 2005 (US Department of Labor, 2006). Blacks, men, and public sector workers were more likely to be union members (US Department of Labor, 2006). The jobs with the highest rates of unionization were Education, training, and library workers (39%) and Protective service workers (37%), Transportation and material moving workers (19%) followed by construction and extraction workers (18%). Sales (3%) and Farming, fishing, and forestry workers (4%) were the least unionized jobs. In 2005, union workers' median weekly income was $801 compared to $622 for non-union workers (US Department of Labor, 2006).

The federal minimum wage in the US 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).

In the US, 15% of the population has no health insurance coverage (some forty five million Americans) including a growing number of workers and their families (Arheart, Lee et al. 2006) particularly in blue collar occupations, so there is a debate in the US about the merits of creating a healthcare system with universal access (Rosenblatt, 2005).

3.3.2.3. Chile

Chile stands out in the region as a country that was rapidly incorporated into the global economy and because of the rapid economic growth it has experienced in the last two decades. 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.

The labour market participation rate has increased over the last 25 years. The increase is almost exclusively due to women joining the labour force. In 2006, male participation attained 71.5% and female only 38%, with no improvement in the type of work available for women. The wage gap with men

is 30%. Almost three quarters of employees are salaried workers, while self-employed workers represent 27%.

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% of salaried workers. They are also precarious in terms of income; in 2003, their average wage was 60% lower than that of workers with a formal contract of employment. Taking into account both criteria, 40% of employment is precarious on account of the lack of protection and 32% of salaried work is precarious on account of its instability.

The two aspects of flexibility to have been most developed have been subcontracting of work and/or of personnel (35% 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% higher than in European countries, 15% higher than in Japan and 14% higher than in the United States).

Trade union membership has declined in Chile (10% 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 power of the employers to organize the enterprise" and partly because of a trade-union culture of focusing on wage claims.

During the 1980s, social security was privatized. A long-standing public system based on solidarity and redistribution was replaced by one founded on individual capitalization. For coverage during old-age, the Pension Fund Administrators (AFP) were established, and for health the health maintenance organizations (ISAPRES). Most of the population (72%) is affiliated to the public health system (National Health Fund, FONASA). Whether people belong to the public or private system depends on their level of income.

3.3.2.4. Turkey

Export oriented industrialization model has been implemented instead of import substitution for industrialization as the development model 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 some other developing countries, it has involved free capital flows, trade liberalisation, privatisation and deregulation of labour market (Rosenblatt, 2005).

The general unemployment rate is 10.3%, higher in the non-agricultural sectors (13.6%). This figure increased sharply after the 2001 economic crisis, remaining higher than all the pre-crisis periods. Although economic growth has been about 7 percent for the last 3 years, unemployment has been steady

around 10%, referred to as "jobless-growth". Young unemployment (15-24 years old) rate is 19.3%. Of the unemployed, approximately 56% is long term (more than six months).

Agricultural employment has decreased considerably during the previous 10 years. Currently 29.5% of workers are employed in agriculture, whereas 19.4% are in manufacture, 5.3% in construction and 45.8% in services (Turkish Statistical Institute, 2007). The cut of state subsidies in the agricultural sector in the context of both national and international policies has caused dramatic declining in the employment in agricultural sector. Consequently, approximately 300 thousand agricultural labourers have become redundant each year. Since the demand for unskilled labour is low, this trend has lowered the Labour Force Participation Rate (LFPR) gradually. It has been estimated that 64% of the working population has migrated due to unemployment and/or economic difficulties within the last twenty years. Therefore, the rapid reduction in agricultural employment and the difficulties in generating new employment are among the most important problems challenging Turkey today.

Turkey's social protection system is based on membership in the social security institutions. Informal labour, as not being registered by any social security institutions, has been estimated to be 51.5% in 2005. The ratio of informal employment to formal employment is 34% in urban areas, arriving at 76% in rural areas. Some estimates have shown that formal workers earn twice as much as informal workers.

Regarding child labour, the percentage of economically active children is 10% between the age of 6 and 17. More than half of those children work in agriculture (58%), while 21% work in industry and 20% in trade and services. Approximately 52% of the working children work more than 40 hours per week.

There is only a limited employment protection regarding dismissals in companies with 30 employees or more, which means that at least 75% of the working population is not accounted for in this scheme. The current unemployment system provides benefits to merely 3% of unemployed workers (Yigit, 2005).

Labour unions have been weakened during the last 20 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 wide contradictory ranging from 10% to 50% (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%. It should be also noted that civil servants do not have the right for collective bargaining.

According to national statistics, relative poverty rate is 20.5% in Turkey in 2005. The working poor population is 37.2% among agricultural workers, 9.9% among industry, and 8.9% among workers in the services sector (Bulletin of Turkish Statistic Institution, 2006).

3.3.2.5. Nigeria

The economically active population in Nigeria is 67.9 percent (48.9% females and 87.5% males). Employment circumstances are heavily influenced by the relative importance of agriculture (70% of workers); female illiteracy (40%); and extensive child labour use in the informal economy.

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 have15 million child labourers (Dadlen et al, ???; Child Labor, ???) representing 23.9% of children between the ages of 10-14 years. Three main forms of child labour outside of the Nigerian homes are farm work, street vending and weaving. Children as young as 6 years trade in the streets, most being between 9-14 years. Studies (Global March against Child Labor, ??) 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.

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." (WAO-Afrique, 1999). 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 working conditions and high unemployment level 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 as never before. Bonded labour prevails as 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 15 million children work.

The economic and political tensions in the country 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 and hazards contribute to illnesses for many workers. Lack of or limited health insurance support also exacerbates adverse health consequences resulting from employment hazards. Workers lack protection from environmental dangers including those resulting from heavy machinery use that can mean loss of limbs or other serious injuries.

3.3.2.6. Ethiopia

Ethiopia's economy remains heavily dependent on agriculture, accounting for about 50 percent of the GDP, 90% of export earnings and 85% of employment (Oxford policy Management, 2004) in the country. 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 PDRF (the present government). PDRF 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% of the urban work force is unemployed (51.1% of men and 67.3% of women), which would constitute the highest urban unemployment rate in the world (Oxford policy Management, 2004). Among the urban employed, 45.61% are permanent employees, 8.07% contract workers, and 46.31% 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. Key employment dimensions: a descriptive view.

In this section, for each employment dimension, we describe its global picture, we introduce some significant elements regarding concepts and measurement, we show data on its situation and trends and, finally, we introduce some of the impacts on health outcomes.

3.4.1. 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. Geneve: 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 but would like a full-time permanent job ("involuntary part-time" workers). On the other hand, the measures of unemployment are sometimes "too high" or "too low". In some developed countries the availability of unemployment benefits can inflate statistics since they give an incentive to register as unemployed. Conversely, the absence of any tangible benefit for registering as unemployed discourages people from registering.

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

In most industrialised countries, some or all unemployed citizens are eligible for some kind of financial support (contributory unemployment benefit, non-contributory benefit, social assistance, social insurance) which makes it possible to survive as unemployed even though the eligibility for these benefits, and the amount, vary widely. However, in low-income countries without unemployment benefits it is not possible to survive as unemployed and there is an overlap between unemployment and the informal economy so that those who cannot find any job will earn their living in some way.

- Reference??

The number of unemployed people worldwide remained at an historical high in 2006 despite strong global economic growth. 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.

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.

- International Labour Organization (ILO). Global Employment Trends Brief 2007. Geneve: January 2007.

Available information shows a wide dispersion of unemployment rates throughout the world (see Map 3 and Figure 9). 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 per cent for males and 12.5 per cent for females - were higher than the former Member States - 7.0 per cent for males and 7.8 per cent for females - in 2003 (see Table 11).

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

The largest decrease occurred in the region of the Developed Economies and 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 region 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.

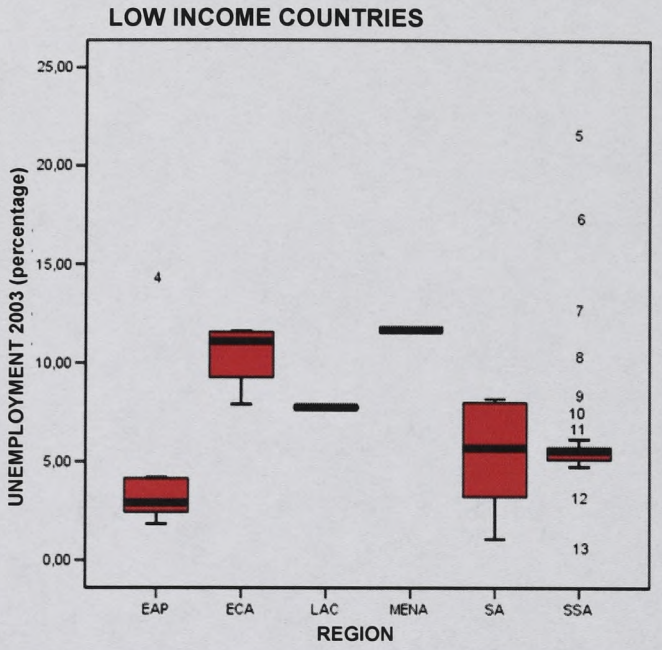
- International Labour Organization (ILO). Global Employment Trends Brief 2007. Geneve: January 2007.

Table 11. 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

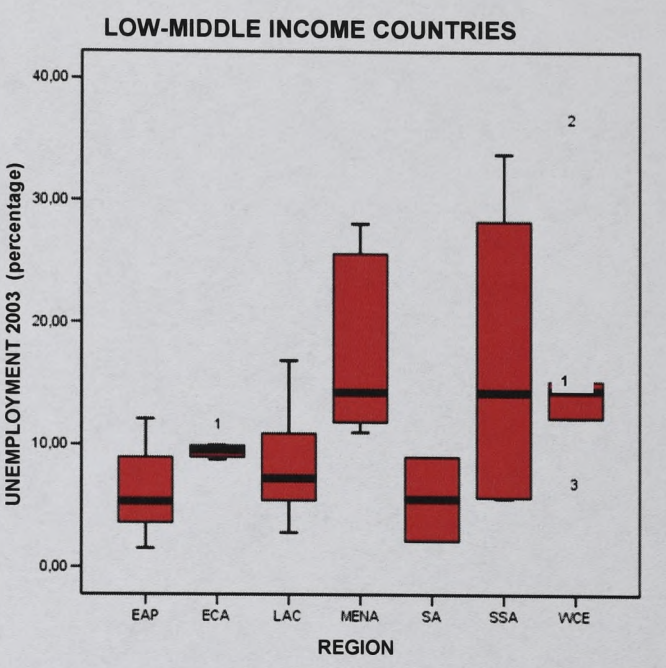
Source: "Global Employment Trends *Brief, January 2007*. ILO and "Global Employment Trends Model, 2006", ILO

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



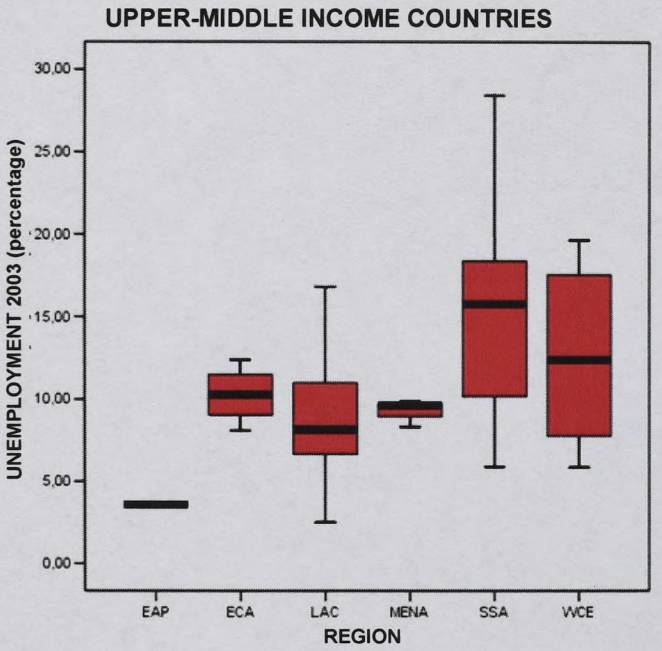
Regions: EAP (East Asia & Pacific), ECA (Eastern Europe and Central Asia), LAC (Latin America & Caribbean), MENA (Middle East & North Africa), NA (North America), SA (South Asia), SSA (Sub-Saharan Africa), WCE (Western and Central Europe).

Outliers: 1=Georgia, 2= Macedonia, the forme, 3= Romania, 4=Mongolia, 5=Kenya, 6=Nigeria, 7=Zambia, 8=Sudan, 9=Ghana, 10=Cameron, 11=Mali, 12=Uganda, 13=Rwanda.



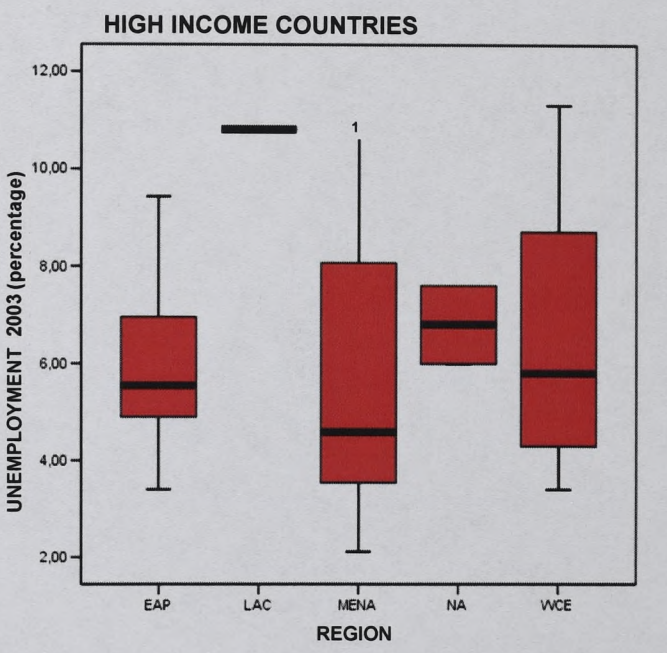
Regions: EAP (East Asia & Pacific), ECA (Eastern Europe and Central Asia), LAC (Latin America & Caribbean), MENA (Middle East & North Africa), NA (North America), SA (South Asia), SSA (Sub-Saharan Africa), WCE (Western and Central Europe).

Outliers:



Regions: EAP (East Asia & Pacific), ECA (Eastern Europe and Central Asia), LAC (Latin America & Caribbean), MENA (Middle East & North Africa), NA (North America), SA (South Asia), SSA (Sub-Saharan Africa), WCE (Western and Central Europe).

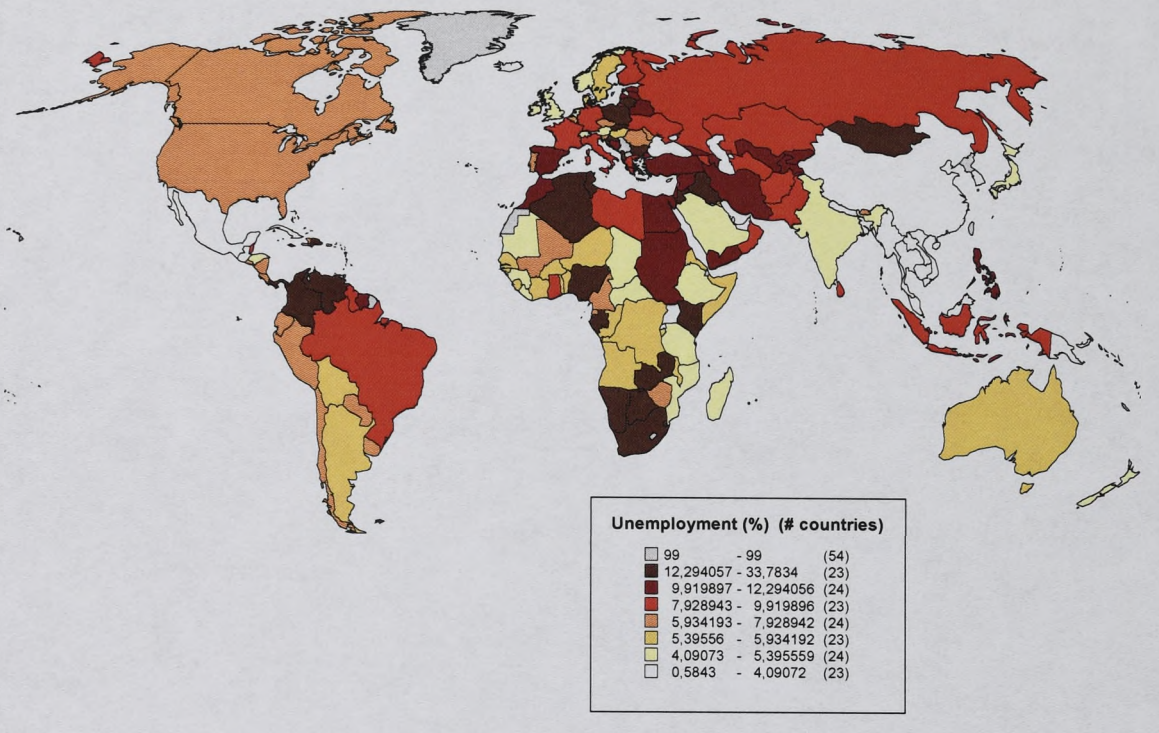
Outlier:



Regions: EAP (East Asia & Pacific), ECA (Eastern Europe and Central Asia), LAC (Latin America & Caribbean), MENA (Middle East & North Africa), NA (North America), SA (South Asia), SSA (Sub-Saharan Africa), WCE (Western and Central Europe).

Outlier:

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



Being unemployed exclude people from social participation and the health benefits that it brings. Scientific 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. An important study from Canada (with among other clinical investigation of 1,000 unemployed and 1,000 employed adults) 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.

3.4.2. Precarious employment

Capital-labour accords and employment contracts have 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 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.

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.

- Quinlan M, Mayhew C, Bohle P. The global expansion of precarious employment, work disorganization, and consequences for occupational health: a review of recent research. Int J Health Serv, 2001;31,335-414.

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".

This widely used relational term is shaped by different forms of employment (e.g., temporary employment), but also by the employment relation (e.g., wage work), labour market insecurity as well as by its technical context (e.g., occupation) and overlapping social relations (e.g. interaction with social relations such as gender and race). 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 generally 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. A study on salaried workers in Spain] PhD Dissertation. Pompeu Fabra University, 2006.

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.

In the year 1997, around 534 million persons were classified as "working poor" in developing countries (i.e., low- and middle-income countries). Around 95 per cent of these working poor live in low-income countries.

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

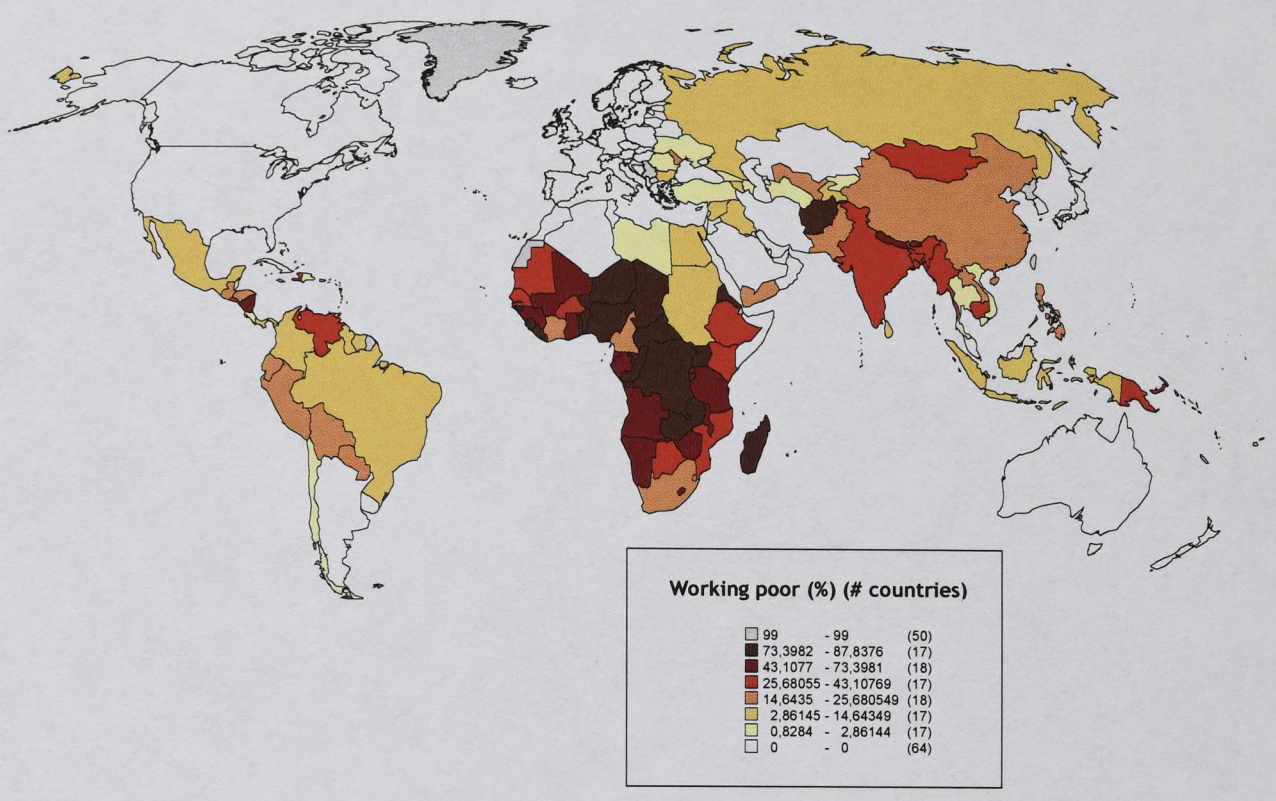
Between 1986 and 1997, working poor populations increased in low income countries while they declined in middle-income countries. Thus, over this decade, the share of middle income countries among the working poor declined from 12% to 5%, while that of low-income countries increased from 88% to 95%. At a country level, declines and increases in the working poor population were found in both low- and middle-income countries. While in middle- income countries there was a preponderance of countries showing declines, in low income countries both declining and increasing working poor countries are significant in number. These findings suggest a polarisation process within low-income countries between those that are reducing the working poor and those that are not.

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

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 10 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. Geneve: January 2007.

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



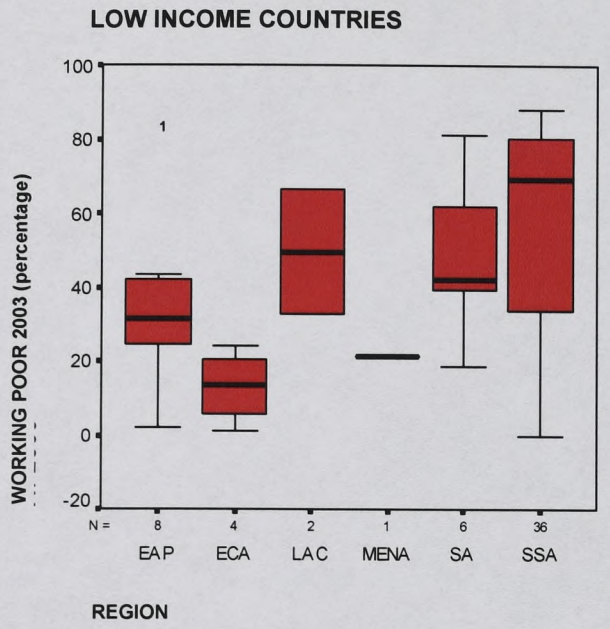
The poorest and most vulnerable members of society can be compelled to work, or induced into debt which they or even their descendents find impossible to repay despite very long hours of hard work.

- Poverty, inequality and violence: The economic, social and cultural root causes of violence, including torture, A human rights perspective A study prepared by the World Organization Against Torture for the International Conference Poverty, Inequality and Violence: is there a human rights response? Geneva, 4 - 6 October 2005

Today's working life offers opportunities to some, but low-paid work, unemployment and poverty to a great many.

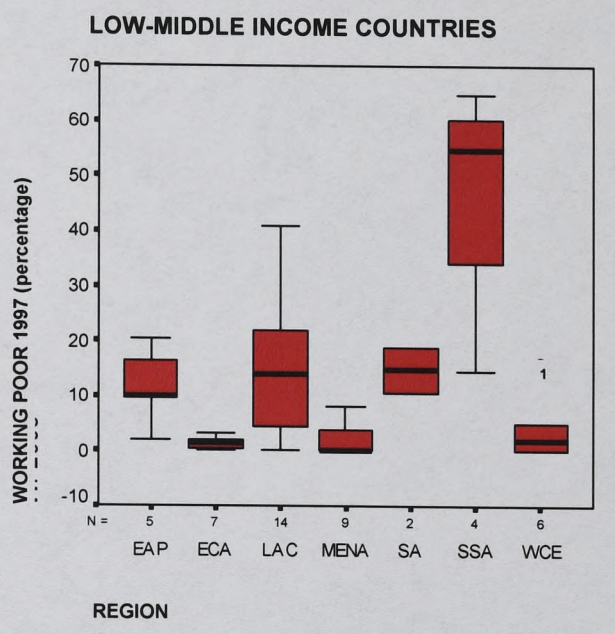
- Working out of poverty international labour. Conference 91st session. International Labour Office. Geneva. 2003.

Figure 10. Percentage of working poor by region and level of wealth in 2003 (ILO).



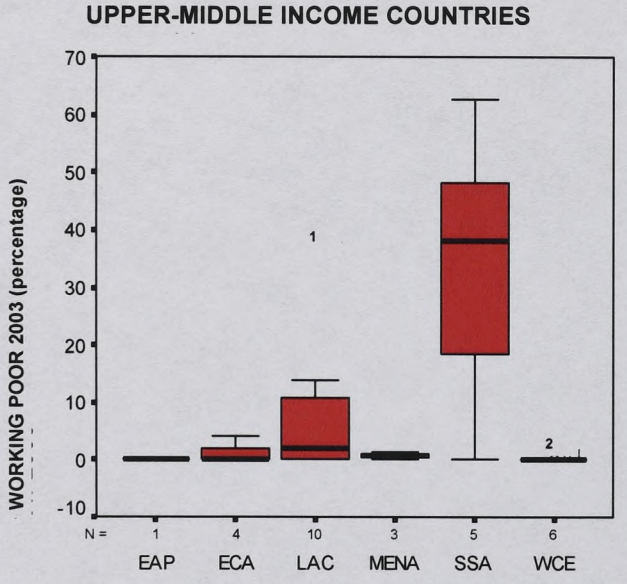
Regions: EAP (East Asia & Pacific), ECA (Eastern Europe and Central Asia), LAC (Latin America & Caribbean), MENA (Middle East & North Africa), NA (North America), SA (South Asia), SSA (Sub-Saharan Africa), WCE (Western and Central Europe).

Outlier: 1=Timor-Leste.



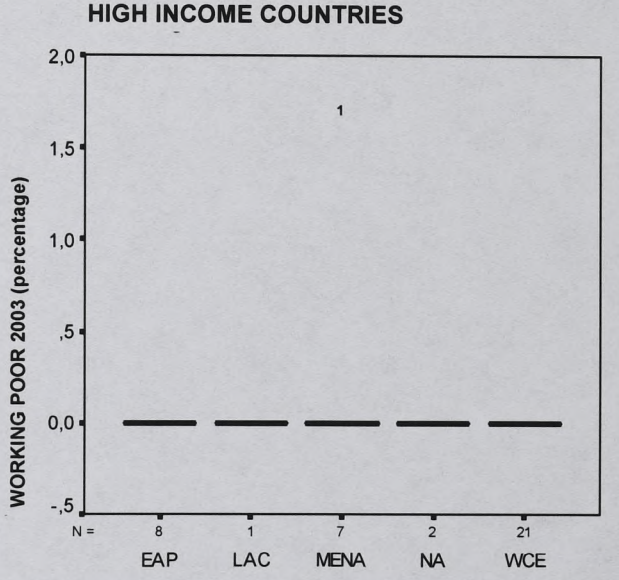
Regions: EAP (East Asia & Pacific), ECA (Eastern Europe and Central Asia), LAC (Latin America & Caribbean), MENA (Middle East & North Africa), NA (North America), SA (South Asia), SSA (Sub-Saharan Africa), WCE (Western and Central Europe).

Outlier: 1=Serbia and Montenegro.



Regions: EAP (East Asia & Pacific), ECA (Eastern Europe and Central Asia), LAC (Latin America & Caribbean), MENA (Middle East & North Africa), NA (North America), SA (South Asia), SSA (Sub-Saharan Africa), WCE (Western and Central Europe).

Outlier: 1=Venezuela, 2=Turkey



Regions: EAP (East Asia & Pacific), ECA (Eastern Europe and Central Asia), LAC (Latin America & Caribbean), MENA (Middle East & North Africa), NA (North America), SA (South Asia), SSA (Sub-Saharan Africa), WCE (Western and Central Europe).

Outlier: 1=Brunei Darussalam

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.

OECD countries show a number of interesting findings. Temporary jobs share a significant portion of employment although differences among countries are quite important. One of every three jobs is temporary in the Spanish labour market, but fewer than one in twenty in Luxembourg, and the Slovak Republic. Temporary employment has grown in many countries although large variations suggest there is no global trend towards a high level of temporary employment.

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

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 11). Figures increased in countries such as France, Italy, the Netherlands, and, in particular, in the cases of Portugal and Spain. However, other western European countries did not show a clear trend and even in the case of Greece and Luxembourg there was a downward trajectory. Eastern European countries also show large variation with the highest increases observed in Poland and Slovenia (data not shown).

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

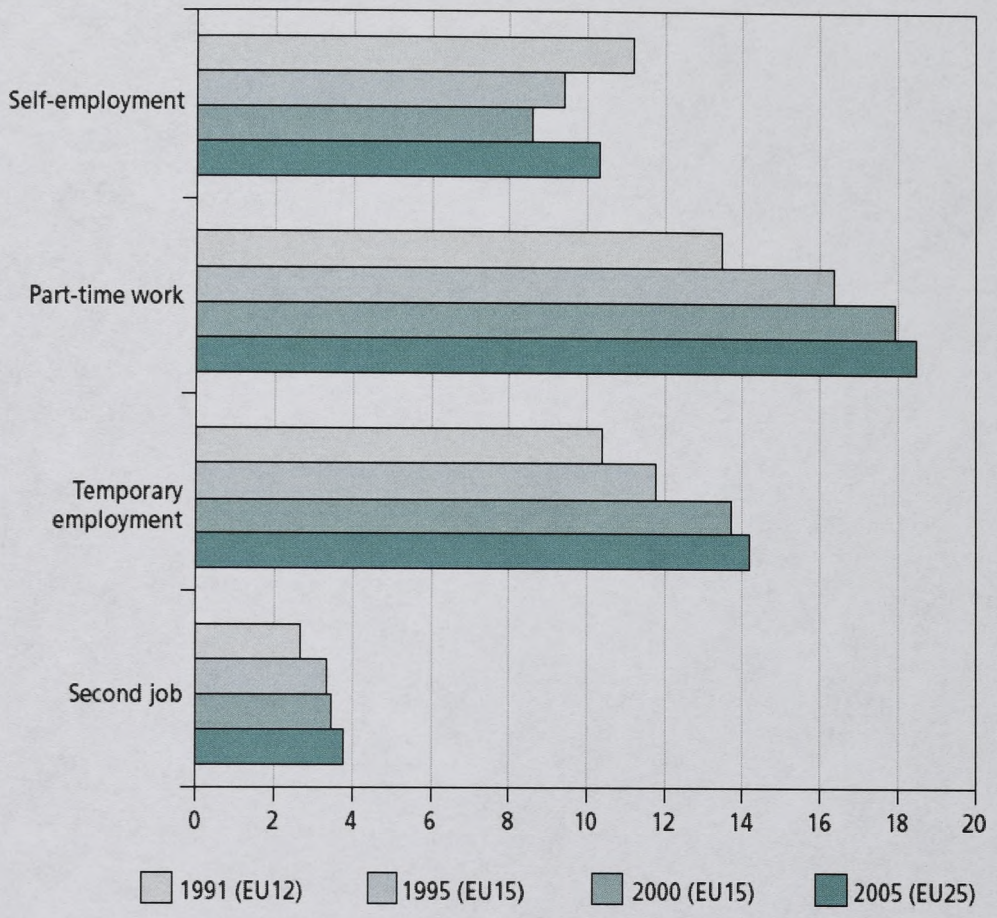
There is a high level of labour market discrimination against migrant workers in industrialized countries. ILO studies showed that more than 1 in every 3 qualified immigrant applicants were unfairly excluded in job selection procedures.

- Facts on Labour Migration. Fact sheets. International Labour Organization.

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



There are a number of reasons why public health researchers should be concerned about the growth of precarious employment. In the last decades a very consistent public health finding has been the strong association between individual unemployment and the risk of adverse physical and mental health outcomes, health-related risky behaviours, reduced quality of life and negative effects at the family and social levels. Although the nature of these individual relationships still is open to debate, it can be asserted with a high degree of confidence that joblessness has a causal impact upon many health outcomes. Similarly, initial scientific evidence suggests that new types of work arrangements can be as dangerous as traditional unemployment for workers' health.

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

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, 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.

3.4.3. 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 per cent in Latin America to 45-85 per cent in Asia, to nearly 80 per cent 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.

- Charmes J. Informal sector, poverty and gender: a review of empirical evidence. Washington D.C.: The World Bank, 1998.
- Carr M, Chen MA. Globalization and the informal economy: how global trade and investment impact on the working poor. WIEGO, 2001.

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.

- 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
- Carr M, Chen MA. Globalization and the informal economy: how global trade and investment impact on the working poor. WIEGO, 2001.

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 existed. After the 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. 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.

Informal economy was formerly named informal sector, and although improperly, is still a commonly used to refer to this type of economic production.

Indeed, there are several words used to designate informal economy, such as secondary or second economy, survival economy, underground sector, black market, small-size firms, among others. These distinct definitions and concepts limit standardized measurement, comparisons, and the understanding of causes and outcomes. In addition, informal economy production has close ties with daily life; it is intertwined with cultural habits or social and family life which makes it even more difficult to drawn clear definitions and delineation of homogeneous groups as required for research.

- Thomas J. What is the informal economy anyway? SAIS Review XXI, 2001;1(Winter-Spring):1-12.
- Neef R. Aspects of the Informal Economy in a Transforming Country: The Case of Romania.International Journal of Urban and Regional Research 2002;26(2):299-322.
- 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.
- Lund F. Learning from experience: a gendered approach to social protection of workers in the informal economy. Geneva: International Labour Organization, 2000.
- Hussain-Huq S. Fighting poverty: the economic adjustment of female migrants in Dhaka. Environment and Urbanization 1995;7(2):51-66.

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. Last access in 02/02/2007.

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

Estimates of its extent of 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 Table 12).

- The informal economy: women on the front line. International Confederation of Free Trade Unions. 2004, Nº 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 work, 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.

Other relevant issues intertwined with informal economy are migration, minority ethnic groups or those targeted by racial discrimination, child labour, adolescent and aging workers, and slavery, which will be presented and discussed in other chapters. In Tables 14 and 15 the proportions of informal jobs in the labour market, in urban settings, of countries according to year range and average country income are shown for male and female. It can be seen that the majority of countries that has more than one estimate the time variation was positive, a trend more common among men than women. However these data need to be considered with caution since they are not standardized and refers to different age ranges and type of populations.

Table 12. Informal employment in non-agricultural employment by sex and region stratified by economic level (1994-2000) (Percentage).

Region/Country[1]	Informal Employment[2]		
	Women (%)	Men (%)	Total (%)
Low income	89	71	78
Sub-Saharan Africa	90	68	77
Benin	97	87	93
Chad	95	60	74
Guinea	87	66	72
Kenya	83	59	72
Asia			
India	86	83	83
Middle income	53	52	53
North Africa	43	49	48
Tunisia	39	53	50
Algeria	41	43	43
Morocco	47	44	45
Egypt	46	57	55
Sub-Saharan Africa	58	44	51
South Africa	58	44	51
Latin America	57	48	50
Bolivia	74	55	63
Brazil	67	55	60
Chile	44	31	36
Colombia	44	34	38
Costa Rica	44	48	42
Dominican Rep	50	47	48
El Salvador	69	46	57
Guatemala	69	47	56
Honduras	65	74	58
Mexico	55	54	55
Venezuela	47	47	47
Asia	59	60	60
Indonesia	77	78	78
Philippines	73	71	72
Thailand	54	49	51
Syria	35	43	42

- Based on data from ILO, 2002. No data for high income countries were available.

[1] Income country groups - based on World Bank classification <web.worldbank.org/WBSITE/EXTERNAL/DATASTATISTICS/0,,contentMDK:20421402~pagePK:64133150~piPK:64133175~theSitePK:239419,00.html

[2] Informal employment: estimated by the difference between the total non-agricultural workforce and the number of formal employees, which are those who work in corporations, quasi corporations or on legally registered firms. Military and civil servants are not included;

Table 13. Proportion of Informal workers in the labor force according to country, year range[1] and income (World Bank classification) among male.

Country	1984-1990	1991-1995	1996-2001	Variation
Low income				
África				
Bangladesh[s]		10.0		--
Benin[a, u]		52.5	50.0	-2.5
Ethiopia[a, €]			38.9	--
Gambia [b, $]		66.1		--
Mali[b &]	67.1			--
Tanzania[h, &]	53.8	59.7	--	+5.9
Asia				
Índia [b,c, q]			53.7	--
Nepal[b]			60.0	--
Pakistan [b,f]		65.9	64.1	-1.8
Lower middle income				
Asia				
Philippines [g]		15.8		--
Thailand [$]		46.1	46.9	+0.8
Indonésia			36.5	--
Europe				
Ukraine			4.5	--
Geórgia			20.7	--
Latin América				
Bolívia[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				
Africa				
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

[1]Correspond to the most recent year with data available; [a]Excludes paid domestic workers; [b] Excludes agriculture or rural areas; [c]Excludes electricity, gas and water sectors; [d]Agriculture only; [e] Cities with more than 10,000 inhabitants; [f]Urban areas of Punjab and North West Frontier Province; [g] Capital region; [h]Tanzania Mainland; excludes livestock and fishing activities; [i]Greater Buenos Aires; excludes mining sectors. The last estimate is for Greater Buenos Aires plus 28 urban agglomerates; [j]Cities with more than 2,000 inhabitants; [l]Ten metropolitan areas of Colombia; [m]Excludes Galapagos, mining, quarrying, electricity, gas and water sectors; [n]Eight main cities; [o] Data from 1884-1990 corresponds to Greater Asunción, and in the remained year range; [p]Metropolitan Lima, excludes mining and quarrying sectors, except for the last year group; [q]Excludes electricity, gas and water and communication sectors; [r]Cities with more than 5,000 inhabitants; [s]Manufacturing, trade, hotels and restaurants and selected services sectors; [t] Excludes mining, trade, and hotels and restaurants sectors; [u]Limited 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 14. Proportion of Informal workers in the labor force according to country, year range[1] and income (World Bank classification) among female.

Country	1984-1990	1991-1995	1996-2001	Variation
Low income				
África				
Bangladesh[s]		16.0		--
Benin[a, u]		41.4	41.0	-0.4
Cote D`Ivoire (Abidjan)[*]			73.4	--
Ethiopia[a, €]			64.8	--
Gambia[b, $]		82.7		--
Mali[b &]	78.4			--
Tanzania[h,&]	80.3	85.3		+5.3
Uganda[q, §]		80.5		--
Asia				
Índia[b,c, q]			40.6	--
Myanmar[t,**]			56.9	--
Nepal[b]			75.7	--
Pakistan[b,f]		80.6	60.7	-19.9
Kyrgyztan[b]			25.3	
Lower middle income				
Ásia				
Philippines[g]		19.4		--
Thailand[$]		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				
Bolívia[j,€]			62.5	--
Brazil[a,b,€]	49.0	53.4	51.5	+2.5
Colombia[a, b, l,$]	41.6	54.9	61.6	+20.0
Ecuador[a, b, m,&]	50.0	57.4	61.8	+11.8
Honduras[a, b]	57.4	55.2	57.7	-0.3
Nicaragua[n]			58.7	--
Paraguay[b, o,€]	68.5	56.6	56.8	-11.7
Panama[a, b]		23.1	24.4	+1.3
Peru[a, b, p,*]	49.3	53.1	64.9	+15.6
Upper middle income				
África			89.5	--
South Africa[*]			28.4	--
Europe				
Lithuania[d,*]			26.5	--
Poland[*]		11.0	5.9	-5.1
Russian Federation[a,*]			8.8	--
Turkey[a, b,*]			9.4	--
Latin America				
Argentina[b, l,€]		47.3	43.8	-3.5
Chile[a, b,*]	31.2		28.5	-2.7
Costa Rica[a, b,$]	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

[1]Correspond to the most recent year with data available; [a]Excludes paid domestic workers; [b] Excludes agriculture or rural areas; [c]Excludes electricity, gas and water sectors; [d]Agriculture only; [e] Cities with more than 10,000 inhabitants; [f]Urban areas of Punjab and North West Frontier Province; [g] Capital region; [h]Tanzania Mainland; excludes livestock and fishing activities; [i]Greater Buenos Aires; excludes mining sectors. The last estimate is for Greater Buenos Aires plus 28 urban agglomerates; [j]Cities with more than 2,000 inhabitants; [l]Ten metropolitan areas of Colombia; [m]Excludes Galapagos, mining, quarrying, electricity, gas and water sectors; [n]Eight main cities; [o] Data from 1884-1990 corresponds to Greater Asunción, and in the remained year range;

[p]Metropolitan Lima, excludes mining and quarrying sectors, except for the last year group; [q]Excludes electricity, gas and water and communication sectors; [r]Cities with more than 5,000 inhabitants; [s]Manufacturing, trade, hotels and restaurants and selected services sectors; [t] Excludes mining, trade, and hotels and restaurants sectors; [u]Limited 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.

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.

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. Qualitative studies showed that lack of permanent jobs, social protection, such as for retirement benefits and welfare, were reported by informal workers as major life problems. 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, Heeerick 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 trabalhadores da construção civil (www.cienciaesaudecoletiva.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.

3.4.4. 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.

Recently the awareness about the problem has increased worldwide. International organizations such as UNICEF have helped to introduce a much wider discussion about the topic worldwide, especially through the design and implementation of international conventions regarding the rights of children.

- Basu K. Child Labour: Cause, Consequence, and Cure, with Remarks on International Labour Standards. Journal of Economic Literature, XXXVII, 1999:1083-1119.

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 International Labour Organization (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.

ILO's 1973 minimum age convention (N. 138) recognizes 15 years as the general minimum age, although it notes that countries whose "economy and educational facilities are insufficiently developed..." may establish 14 years of age as the minimum age. According to the ILO, by the year 2006 this convention had been ratified by 79% of ILO member countries, and these countries together represent 63% of the world's children.

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[1] and 218 million are child labourers; of these, approximately 126 million are engaged in hazardous work (see Table 15).

"Economically active" is a broad concept that encompasses most productive activities undertaken by children, whether for the market or nor, paid or unpaid, for a few hours or full time, on a casual or regular basis, legal or illegal; it excludes chores undertaken in the child's own households and schooling. To be counted as economically active, a child must have worked for at least one hour on any day during a seven day reference period. "Economically active children" is a statistical rather than a legal notion." (ILO, 2006).

Table 15. 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.

[1]

The proportion of children in the labour market in the group of low-income countries 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.

Table 16 shows data gathered about child labour for several countries where statistics were available, organized according to the country level of economic development, following the World Bank classification as for April 2007. Several criteria of child labour were used which make comparisons difficult, and data from industrialized countries are limited.

- UNICEF, 2006. Country Child Labor Data. Available at: http://www.childinfo.org/areas/childlabour/countrydata.php Accessed on April 27, 2007.

In industrialized countries, about 2.5 million children under the age of 15 were at work in 2000

- Facts on Child Labour. Fact sheets. International Labour Organization. 2006.

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

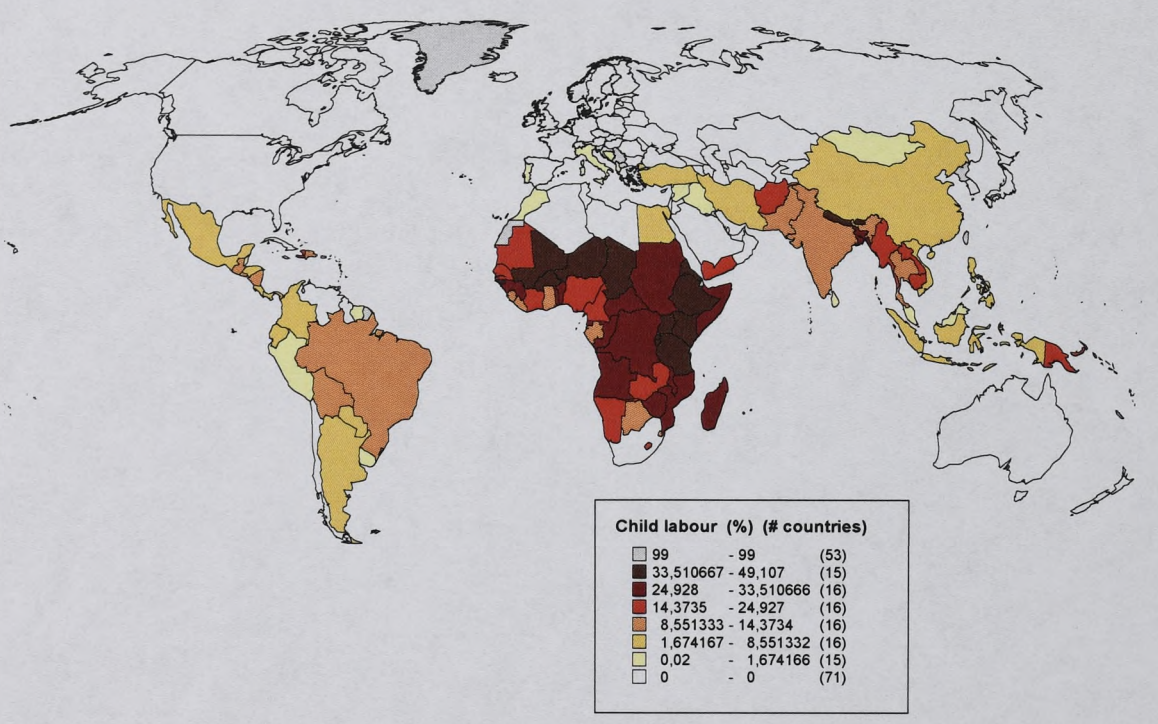


Table 16. Child labour (5-14 years) by sex in low-income countries according to World Bank Classification (1999-2004).*

Countries and territories	Total (%)	Male (%)	Female (%)
Niger (Went 1 % up each one)	67	70	65
Togo	63	64	62
Burkina Faso[1]	57	-	-
Sierra Leone	59	59	59
Ghana[1]	57	57	58
Chad	53	55	52
Central African Republic	57	56	59
Guinea-Bissau	55	55	55
Ethiopia[1]	43	47	37
Nigeria[1]	39	-	-
Côte d'Ivoire	37	35	38
Afghanistan[1]	31	28	34
Uganda	37	37	36
Senegal	37	39	36
Somalia	36	31	41
Tanzania, United Republic of	36	37	34
Nepal	31	30	33
Rwanda	35	36	35
Madagascar	32	36	29
Mali	35	36	34
Mongolia	35	35	36
Democratic Republic of the Congo[1]	32	29	34
Comoros	30	30	31
Benin[1]	26	23	29
Kenya	27	28	27
Burundi	25	26	24
Lao People's Democratic Republic	25	24	26
Viet Nam	24	24	24
Gambia	22	23	22
Tajikistan	10	9	11
Malawi[1] (Went up around 20%)	37	39	35
Uzbekistan	19	22	17
India	14	12	16
Sao Tome and Principe	15	16	14
Sudan	14	15	13
Zambia	11	10	11
Mauritania	4	5	3
Bangladesh	7	10	4

* * Definition: Percentage of children 5-14 years of age involved in child labour. A child is considered to be involved in child labour under the following classification: (a) children 5-11 years of age who did at least one hour of economic activity or at least 28 hours of domestic work during the week preceding the survey, and (b) children 12-14 years of age who did at least 14 hours of economic activity or at least 28 hours domestic work during the week preceding the survey. Data differ from the standard definition or refer to only part of a country but are included in the calculation of global averages.

- No data available

1 Data differ from the standard definition or refer to only part of a country but are included in the calculation of global averages.

Child labour is a widespread problem that affects millions of children worldwide, particularly minority and underprivileged groups and those living in the developing and least developed

countries. Child labour is a phenomenon closely related to poverty and has impacts on children's health, schooling, and future earnings. Child labour not always is seen as a social or health-related problem because of its embedment with culture, beliefs and traditions, especially in poor countries. Moreover, these aspects enhance the chances of perpetuation of the problem within families and society, which generates a perverse cycle of the phenomenon.

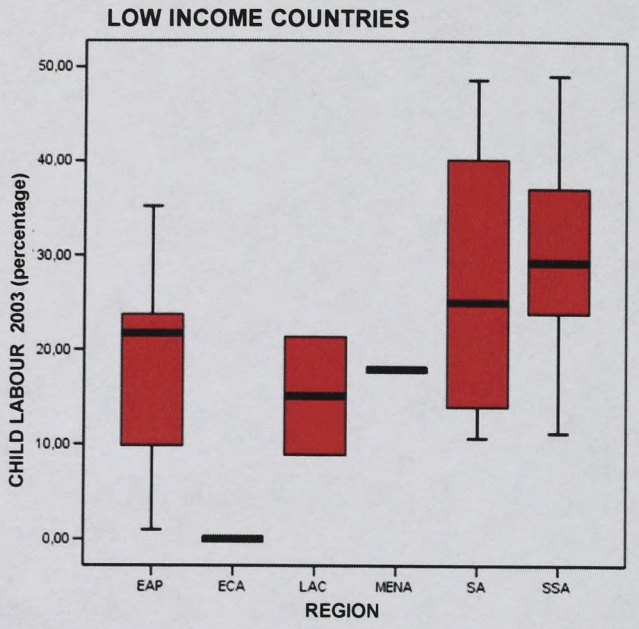
A growing number of studies have demonstrated that health problems are one of the main negative effects of child labour. Most of the available literature on this topic focuses more on the working condition of children and on the concurrent effects of child labour on health. These effects vary in nature 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 adolescencia 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 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. 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 CL appear late at the adulthood, such as those related to self-perceived health and reduced height, and alcohol and drug abuse.

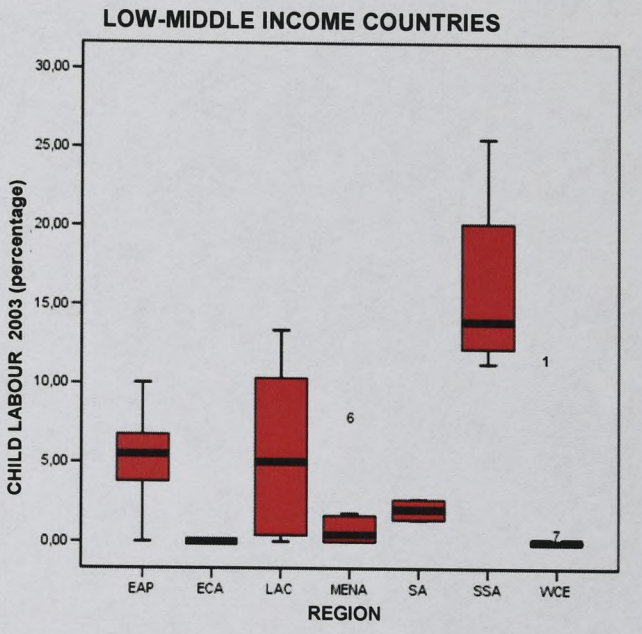
- Dantas, Rosa Amélia Andrade. História de trabalho na infância e adolescencia e a saúde do trabalhador adulto. PHD. Federal University of Bahia. 2005.
- Forster LM, Tannhauser M, Barros HM. Drug use among street children in southern Brazil. Drug Alcohol Depend, 1996;43(1-2):57-62.
- International Labour Office (Geneva Office), 2006. 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).
- 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.

Figure 12. Percentage of child labour by region and level of wealth in 2003 (ILO).

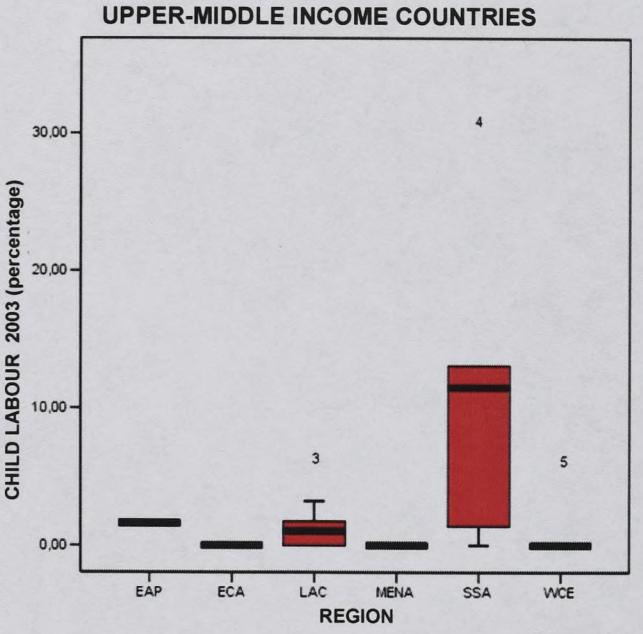


Regions: EAP (East Asia & Pacific), ECA (Eastern Europe and Central Asia), LAC (Latin America & Caribbean), MENA (Middle East & North Africa), NA (North America), SA (South Asia), SSA (Sub-Saharan Africa), WCE (Western and Central Europe).

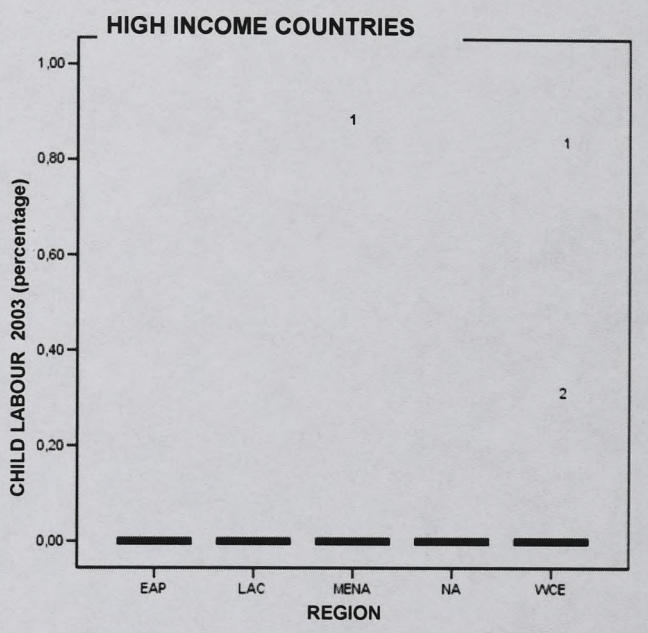
Outliers: 1=Portugal, 2=Italy, 3=México, 4=Equatorial Guinea, 5=Turquey, 6=Egyp, Arab Rep., 7=Albania,



Regions: EAP (East Asia & Pacific), ECA (Eastern Europe and Central Asia), LAC (Latin America & Caribbean), MENA (Middle East & North Africa), NA (North America), SA (South Asia), SSA (Sub-Saharan Africa), WCE (Western and Central Europe).



Regions: EAP (East Asia & Pacific), ECA (Eastern Europe and Central Asia), LAC (Latin America & Caribbean), MENA (Middle East & North Africa), NA (North America), SA (South Asia), SSA (Sub-Saharan Africa), WCE (Western and Central Europe).



Regions: EAP (East Asia & Pacific), ECA (Eastern Europe and Central Asia), LAC (Latin America & Caribbean), MENA (Middle East & North Africa), NA (North America), SA (South Asia), SSA (Sub-Saharan Africa), WCE (Western and Central Europe).

3.4.5. 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 constrains, 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.
- Bhattacherjee 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 and most vulnerable 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, such 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.

- 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.

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.

- 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.

Forced labour can be grouped into four large categories: state-imposed forced labour, privately-imposed forced labour for commercial sexual exploitation and privately-imposed forced labour for economic exploitation, and mixed.

State imposed forced labour includes forced labour exacted by the military or rebel groups, compulsory contribution in public works and forced prison labour. Forced prison labour includes forced labour camps and work imposed in modern semiprivatized or fully privatized prisons as well. Privately-imposed forced labour for commercial sexual exploitation includes women, men and children who have involuntarily entered prostitution or other forms of commercial sexual activities, or who have entered prostitution voluntarily but who cannot leave. Privately-imposed forced labour for economic exploitation comprises all forced labour imposed by private agents other than for commercial sexual exploitation, such as bonded labour, forced domestic work, or forced labour in agriculture and remote rural areas.

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 economics (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.

About 64% of total forced labour is classified as economic exploitation, followed by state imposed forced labour (20%), commercial sexual exploitation (11%) and a mixed type category (5%) (see Table 17). Most of the state-imposed forced labour is in Asia and the Pacific (87%) and it is concentrated in a small number of countries in the region such as Myanmar. In Sub-Saharan Africa, 80% of forced labour is for economic exploitation and includes cases of slavery-like practices, work imposed by traditional or religious authorities and child trafficking.

State-imposed forced labour constitutes 11% and includes the practice of using prisoners for private activities and forced labour for commercial sexual exploitation (8%). Around 63% of the total forced labour in Asia and Pacific and 75% of that in Latin America and the Caribbean are privately-imposed for economic exploitation, largely in the form of debt bondage in agricultural and domestic work.

- Cornell University. Forced labor statistics - declaration on fundamental principles and rights at work, this paper is posted at DigitalCommons@ILR. http://digitalcommons.ilr.cornell.edu/forcedlabor/20 as accessed, December 2006.
- ILO. A global alliance against forced labour - report of the Director General, International labour conference 93rd session 2005, ILO, 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 17. Total and regional distribution of forced labour (absolute number and rates per million).

	Categories of forced labour				
Region	State-imposed	Commercial Sexual Exploitation	Economic Exploitation	Mixed	TOTAL
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 18 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 18. 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.

Understanding the links between slavery and forced labour and health is very complex and challenging due to their clandestine nature of practice and denial of authorities regarding its existence. The 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 condition, and social support also determine access, affordability and availability of health care, compensation and rehabilitation. Although forced labour is different from “poor working condition” or “hazardous working environment”, very often they are engaged in these employment conditions and employers push them into more vulnerable situations. 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. Moreover, even after abolition of slavery practice, its legacy still persists and

influences health outcomes. Other forms of adverse outcomes include: substance abuse, abnormal sexual behaviour, geriatric problems or just general illness.

- Fassa AG. Healh 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.
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3.5. Employment dimensions, working conditions and health inequalities: an analytical approach.

3.5.1. Pathways and mechanisms

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 (Hammarström et al manuscript). 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. priori 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 & 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 & 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 &

Theorell 1990). The model of latent function, developed by Marie Jahoda (1982), is based on what needs, besides the economic ones, 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

The 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.

The main mechanisms by which unemployment damages health for these groups include: increased poverty from loss of earnings; social exclusion and the resulting isolation from social support; and changes in health-related behaviours, such as smoking, drinking and the lack of exercise brought on by stress or boredom. There can also be life-course effects, as a spell of unemployment increases the risk of unemployment in the future and damages long-term career prospects (Montgomery et al., 1996).

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- Montgomery SM et al. Health and social precursors of unemployment in young men in Great Britain. Journal of Epidemiology and Community Health, 1996;50:415-422.

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. 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 et al, 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 lead to reports of 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; Kivimaki 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 some 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 among black men in the US (Muntaner et al, 1998).

Moreover, while 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".

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 are qualitative descriptive case studies (Huq-Hussain, 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). 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 relations 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 the informal economy. Results from several community-based cross-sectional studies have shown that women having 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 diagnosis (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 & Badawi, 1995), or self-perceived health (Dolinski and Caputo), 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, 2004) 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).

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 & 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.

Child Labour

A growing number of studies have demonstrated 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, recychild 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. This approach is interesting because it recognizes that there is a relationship between the intensity of health supply deterioration and its initial size, thus supporting the life course approach to social determinants of health. 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 correlation 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 predictor 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).

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 of 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.

Patients were diagnosed as depression, with agitation and suicidal attempt, adjustment reaction, atypical or mixed dissociative disorder, conversion symptoms, peptic ulcer. Patients experienced Post-Traumatic Stress Disorder (PTSD), panic, nightmares, uncontrollable intrusive thoughts, suicidal thoughts, anhedonia, emotional numbness and avoidance, hyperalertness, feeling of guilt, agitation and episodes of violence.
Kinzie, J.D. Fredrickson, R.H.

Southern USA has past history of slavery and its current legacy in administration and policy. Agriculture mechanization furthers their joblessness and followed by migration (mostly men) among blacks resulting in segregation, alienation. Government initiatives on 'War on Drugs' in late 80s and early 90s; essentially affected the blacks due to incarceration and had terrible impact on their economy, social fabric and sex ratio (more females) and sexual relationship (lower power of women on use of condoms, insisting males on single sexual partner). Rural poverty and late treatment seeking particularly among blacks are extremely high. Rates of STDs (including gonorrhoea, syphilis, HIV/AIDS) in south-eastern USA are higher than other regions for several decades. Black clienteles avoided STD clinic predominantly run by whites as they felt it discriminating and also wage earner, essentially blacks could not attend daytime clinic.
Thomas JC

All survivors had been subjected to multiple violent acts ranging from stripping to severe form of rapes. 93.5% of the respondents reported suffering from one or multiple reproductive dysfunctions. 13.3% became pregnant and 56.7% of pregnant women had miscarriage. All respondents admitted their suffering from one or more psychological disturbances mostly posttraumatic stress disorder. Rejection from family and community due to stigma. All respondents did not seek assistance from a health professional immediately after the assault. 15.7% of survivors looked for health assistance from a health professional later and health care

mostly sought after six months to one year of the incidence of sexual violence (mostly due to poverty, inaccessibility, stigma and ongoing war).
Omanyondo MCO

Morbidity and mortality of prostituted children differ from that of adult prostitutes due to the legal status of prostitution in some countries, the greater negotiating power of adults to persuade men to use condoms and adult sex workers having more access to health care. Adolescent girls have 1%, 30% and 50% risk of acquiring HIV, genital herpes simplex and gonorrhea virus infection respectively during one act of unprotected sex with an infected partner. Prostituted children infected with an STD with genital ulcers have 4 times increased risk of HIV infection. Lack of clinical services for children with STDs increases their risk of acquiring HIV since remain untreated or go for self-medication. Prostituted children with HIV have a very high risk of developing tuberculosis. Inaccessibility of contraceptive leads to high pregnancy due to young age and abortion. Serious long-term psychological harm, including anxiety, depression, behavioral disorders, high risk of suicide and post-traumatic stress disorder, substance abuse and physical injuries due to rape and other violence.
Willis, B.M., Levy, B.S

Pre-departure: As forced labourers were mostly from impoverished areas, diseases such as TB, hepatitis B and C, and STDs are more prevalent in the populations where access to adequate health care is limited or nonexistent. Many forced labor victims circumvent formal medical screenings for migrants; arrive in the USA without proper immunizations and carrying communicable diseases. Journey: Due to long and complicated cross-border journeys, these migrants exposed to diseases, injury or death by drowning, freezing, or suffocating, or by being crushed or exposed to toxic materials and repeated violent sexual assaults before initiating sexual servitude. Period of servitude: They are kept in extremely poor environmental and sanitary condition with lack of food and are not allowed to get health service. Due to fear of reprisals from captors, deportation, unfamiliar language and currency, victims often decide not to seek health care even when they are not kept fully captive. Eventually the infectious diseases can be passed to fellow labourers. Women who become pregnant while in captivity lack access to appropriate prenatal care or are forced to have unsafe abortions and suffer from undiagnosed gynecological complications. Forced labor victims working in industries are at risk of developing repetitive strain injuries, chronic back pain, and visual and respiratory problems and subsequent disabilities require long-term treatment and rehabilitation. Substance abuse is common as a coping mechanism. Eventually these cause them to lose of their sense of control and become increasingly dependent on perpetrators not only for survival and basic bodily needs but also for information and even for emotional sustenance. Post-release: Forced labor victims may suffer from mental health effects including post-traumatic stress disorder. Even after release they suffer from the same problem if not given proper attention in terms of secure environment, economic security and proper psychotherapy. There are reports of permanent psychological disorder.
Bales K, Fletcher L, Stover E.

There are the possibilities of other form of adverse outcomes which can be anticipated. For example consequences of substance abuse, abnormal sexual behavior, geriatric problems or just general illness are all possible outcomes, which can be easily treated if the employer or state takes more proactive measure to provide basic services. Victims of sex trafficking are more vulnerable to HIV/AIDS due to injuries due to physical violence, unprotected and abnormal sexual acts. (Child trafficking 2004) The value or demand of individual forced labour is essentially depended on physical strength and charm (for sex slave) and becoming old or physically handicap (due to injury or disease), he/she becomes excluded from the society. Although there is no available information on health outcomes of this particular phase of the lives of forced labourers, it can be easily visualized from the study of destitute, who live in pavements or the little fortunate living in homes for destitutes. The traditional form of social

exclusion (around 5-10% of global population) is significantly due to enslavement, outcaste, stigmatization and it has been found to affect their accessibility, availability of health care and rehabilitation. (Meerman 2005, Piron 2005) Regional disparity in health care delivery is particularly observed in the socio-economically backward areas and is the common source of forced labour. In India health inequalities are mostly found among tribal and ethnically backward community, who are more vulnerable to become victims of forced labour. (Roy 2004) Health care reform has reduced the accessibility and availability of health care in several developing countries. Comparative study of morbidity and health care utilization of pre and post reform (1986-87 and 1995-96) India points the worsening of class-based inequalities in access to health services including further deregulation of drug production and prices, and deterioration in public hospitals combined with growing subsidies to privatization. (Sen 2002) This worsening health inequality is assumed to affect more among forced labour, who are already socially excluded.

3.5.2. Scientific findings

Full-time permanent employment

Health hazards at work are still 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.

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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: Yusef 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.

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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 furthermore affect 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, Kivimaki M, Koskenvuo M. Health inequalities in the workforce: the labour market core-periphery structure. *Int J Epidemiol* 2003;32(6):1015-21.

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Leeflang RL, Klein-Hesselink DJ, Spruit IP. Health effects of unemployment--I. Long-term unemployed men in a rural and an urban setting. Soc Sci Med. 1992;34(4):341-50; Leeflang RL, Klein-Hesselink DJ, Spruit IP. Health effects of unemployment--II. Men and women. Soc Sci Med. 1992;34(4):351-63.

Roos E, Lahelma E, Saastamoinen P, Elstad JI. The association of employment status and family status with health among women and men in four Nordic countries. Scand J Public Health. 2005;33(4):250-60.

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

Graetz B. Health consequences of employment and unemployment: longitudinal evidence for young men and women. Soc Sci Med. 1993;36(6):715-24.

Martikainen PT, Valkonen T. The effects of differential unemployment rate increases of occupation groups on changes in mortality. Am J Public Health. 1998;88(12):1859-61.

Martikainen P, Maki N, Jantti M. The Effects of Unemployment on Mortality following Workplace Downsizing and Workplace Closure: A Register-based Follow-up Study of Finnish Men and Women during Economic Boom and Recession. Am J Epidemiol. 2007;165(9):1070-5.

Roos E, Lahelma E, Saastamoinen P, Elstad JI. The association of employment status and family status with health among women and men in four Nordic countries. Scand J Public Health. 2005;33(4):250-60.

Roos E, Burstrom B, Saastamoinen P, Lahelma E. A comparative study of the patterning of women's health by family status and employment status in Finland and Sweden. Soc Sci Med. 2005;60(11):2443-51.

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.

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Quinlan M, Mayhew C, Bohle P. The global expansion of precarious employment, work disorganization, and consequences for occupational health: a review of recent research. Int J Health Serv, 2001;31,335-414.

Virtanen M, Kivimäki M, Joensuu M, et al. Temporary employment and health: a review. Int J Epidemiol, 2005;34,610-622.

Amable M, Benach J, Muntaner C, Benavides FG, Menéndez M, Aubet MJ. Flexible employment, work precariousness and health: a Critical Review (submitted).

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.

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 se-femployed 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.

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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 (PRadjusted = 2.43; 95% CI: 1.49-3.96) and part-time (PRadjusted = 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.

Other scientific references:

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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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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;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.

Other scientific references:

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3.5.3. 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. Many research questions remain unanswered. 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 labor 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 labor 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 can not be thought as a financial or a technical value-free process, rather it is one influenced by the political ideology, beliefs, and values of key actors, such as government officials, national 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 a common ground of 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 (Milgate et al, 2002). Differences in the distribution of political and economic power have indeed a profound influence on the work environment and health. In capitalist economies, health and safety of working people is largely determined by economic conditions. While employers can have the long-term interest of reducing to a minimum occupational diseases and injuries and its economic costs, 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 firm needs serving to reinforce the domination of labour by capital. In fact, several

studies have documented how experts employed by companies have held information, lied, distorted findings, or use poor methodologies serving the interests of their employers (Berman, 1978; Tataryn, 1979). Governments usually 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 an historical context. Key influences affecting changes to employment dimensions over the past 30 years has been the growing influence of powerful corporations and abandonment of Keynesian economic policy and social compacts in favour of neo-liberalism that places 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 counter-balancing role of collective interests are minimised. Neo-liberalism has promoted individual assumption of risk (eg 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 the 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 national and international level), often driven by powerful corporations, has also accelerated changes to labour market conditions in both developed and developing countries.

In developed 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 19). The impact has been complicated by increased female workforce participation and an ageing population in these countries.

In developing countries, the dominance of neoliberalism has translated into a new model of economic development orientated to productivity and supply products to global markets (including 'race to bottom' working conditions to attract overseas capital and the use of corporate 'friendly' low regulatory special export zones) irrespective of the effects of these employment levels, rural dislocation and social sustainability. Balanced budget and cuts to the public sector have had significant implications for education and health expenditure and inequality with flow on effects to health. 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 to perpetuate work arrangement that often bear a close parallel to the exploitation of vulnerable workers (like women, children and foreign-born workers) in developed countries over 100 years ago (Quinlan et al 2001). 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. It cannot be presumed that developing 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 developed 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 (in conjunction with depressions in the 1890s, 1930s and the rise of fascism/world war two) has undergone a significant decline and the movement remains weak and declining if not suppressed in most developing countries (Betcherman et. al., 2001).

Table 19 provides a necessarily generalised comparative historical summary to illustrate some of the shifts in labour market conditions, union presence, social protection apparatuses and other areas of state activity just described. 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).

Table 19. Work and the protection of worker's health in Developed and Developing Countries 1880-2007.

Year	Developed countries in 1880	Developed countries in 1970	Developed countries in 2007	Developing Countries in 2007
Employment security & contingent work	No regulated job security & substantial contingent work	Secure jobs norm (except women)/small contingent workforce	Decline in job security & growing contingent workforce	No regulated job security & large/growing informal sector
Minimum labour standard laws (wages & 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 & collective bargaining	Union density low (<10%) & limited collective bargaining	Union density 25->50% & extensive collective bargaining	Substantial decline in union density & collective bargaining	Union density low, declining & limited collective regulation of work
Extent of vulnerable groups of workers	Extensive exploited vulnerable groups (women, immigrants, home-workers, young & homeless, old)	Still vulnerable groups (women, immigrants & home-workers) but more circumscribed	Expansion of vulnerable groups (women, home-workers, immigrants, homeless, old & young -child labour re-emerge)	Highly exploited vulnerable groups (children, women, immigrants, homeless, indentured/forced labour)
Extent of occupational health & safety law	Limited OHS law (factories, mines) & poorly enforced	Expansionary revision of OHS laws initiated	Expanded OHS law but under indirect threat	Little OHS law & hardly enforced (& 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 & 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 & unemployment benefits	No age pension, social security, unemployment benefits	Age pension/social security, unemployment benefits	Age, disability & unemployment benefits - cutback	No age pension, social security, unemployment benefits
State activity in utilities, education & transport	Limited state involvement in education & transport	Wide government involvement in education, transport, utilities	Privatisation, competitive tendering & social capital erosion	Limited state activity except ex socialist countries & all subject to privatisation, competitive tendering & social capital erosion

As Table 19 indicates, comparison between developed countries in 1880 and developing countries in 2007 reveal some striking parallels in terms of labour market conditions, the power of labour, health infrastructure and social protection (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. A typology of employment-related policies to reduce health inequalities

This section presents a framework for identifying and classifying the sets of 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 a set 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 (see Figures 13 and 14) these entry points in relation to the conceptual framework used by the network.

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 every society, even under dictatorial regimes, power is fragmented among social groups, power being understood as the capacity to exert one's influence over other's 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. The interplay among all these actors gives rise to political decisions affecting the institutionalisation of social rights and obligations, for example under the functioning of labour market and welfare state institutions.

Policy entry-point B refers specifically to modifications of employment conditions that reduce exposures to health-damaging factors.

Policy entry-point C relates to different types of actions to reduce the vulnerabilities of workers through working conditions and/or their different pathways of health related behaviours, physio-pathological changes and psychological factors.

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

Figure 13. Policy Entry-points in the Macro-theoretical model

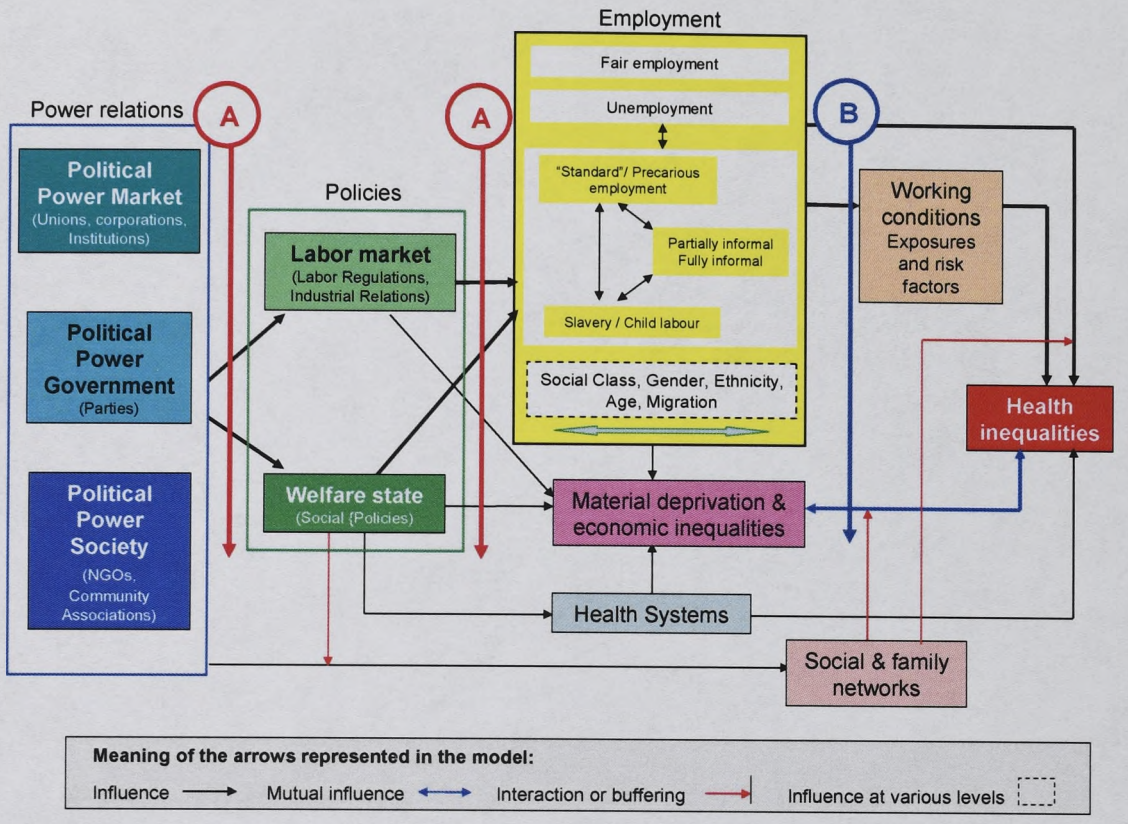
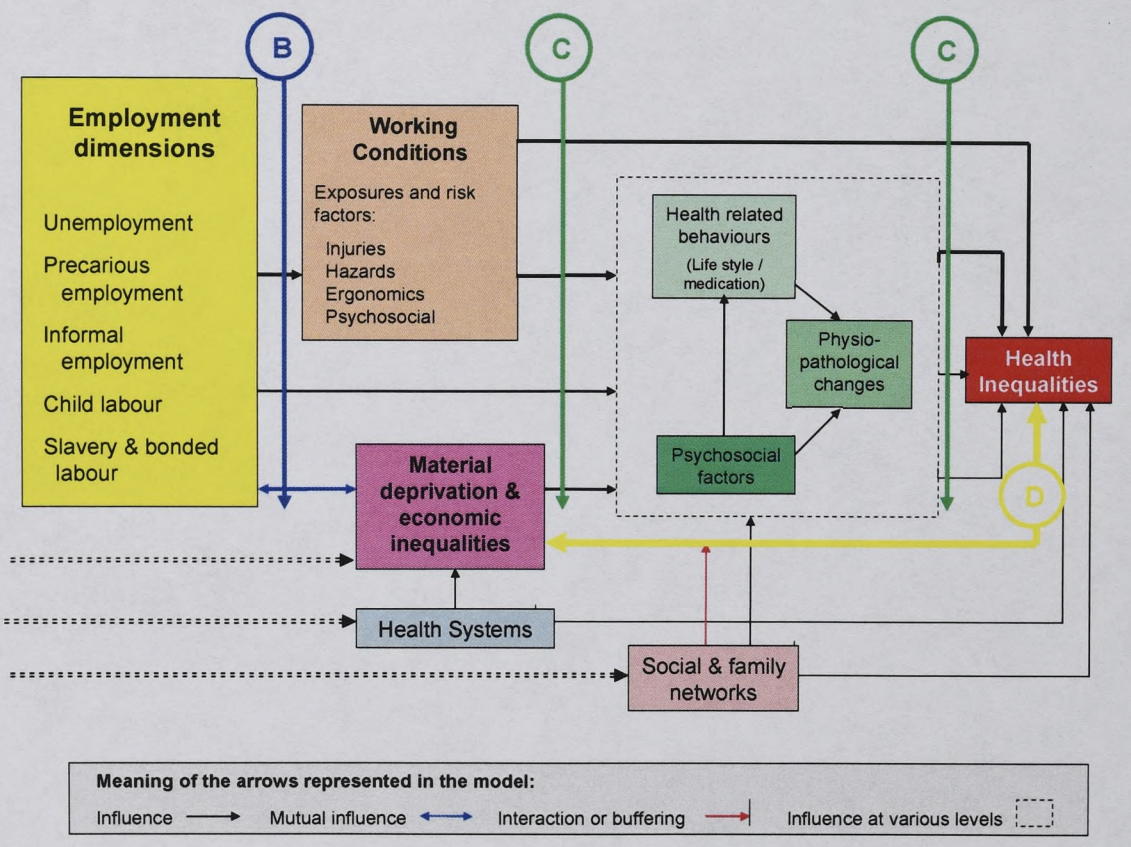


Figure 14. Policy Entry-points in the Micro-theoretical model



The framework for the typology of policies that we present here includes these entry points as one classificatory criteria; 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: the 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 20 we present a table with the different options for policy interventions according to the defined entry points and employment conditions. Table 21 presents the same typology with some examples of policies.

Table 20. Types of policies by employment dimension and entry point.*

Entry Point	Full-time permanent employment	Unemployment	Precarious employment	Informal employment	Child labour	Slavery & Bonded labour
A	X	O	O	O	O	O
B	X	O	O	O	O	O
C	O		O	X	X	
D	O	X	X		X	X

* The "x" signals possibilities for intervention. The sign "O" means priority areas for action, i.e. those entry points that should be considered more important in each dimension according to the nature of the problem and the potential impact of the interventions.

Table 21. Typology of key policies 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 & Bonded labour
A	Universal access to public education	Full employment public policies	Legislation Minimum wage (poverty)	Legislation Land reforms	Legislation	Legislation ....
B	-----	Active labour market policies (flexicurity)	-----	Microcredits	Conditional cash transfer programs	Law enforcement agents ....
C	Workplace policies to reduce health inequalities	-----	-----	-----	-----	-----
D	-----	Social protection policies (unemployment benefits)	-----	-----	-----	Training social and health care providers .....

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

One implication of the foregoing discussion on unemployment and precarious employment is that in order to improve overall health outcomes national and international policies should target maximising employment and the pursuit of decent or quality work (in terms of pay, hours, security, task-loads) not simply the former. There has been a quality of work policy debate within Europe that reached European Union level in 2001, with evidence presented that such an approach (EFILWC, 2001) could be used as a practical guide to policy. The European Foundation for the Improvement of Living and Working Condition's proposed OHS and other quality indicator based on its five yearly workforce survey (and highlighting the value of workforce surveys in charting workplace change and planning health promotion interventions. See Lamontagne et al 2006). However, the initiative failed to gain momentum in the face of opposition from those committed to market driven employment flexibility and has apparently been subsumed in the consensual push to maximise employment that has effected, in turn, labour market governance (Leonard, 2005). At a wider and more basic level, the International Labour Organisation (ILO) has developed a decent work agenda that tries to combine flexibility, sustainability, security and ethical treatment of workers (Standing, 2003).

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 and other impacts are to

be addressed. One logical response would be to look to international labour standards that could ensure global trade and business practices do not result in a 'race to the bottom' as countries strive to retain their competitiveness. However, while the ILO has sought a chair at the table and has secured some dialogue, 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 homework and abuses of labour standards. A major limitation for the ILO is that, unlike the WTO, it is a tripartite body meaning that the development of new standards is an often lengthy process and, perhaps more pointedly, again unlike rulings of the WTO, these standards and recommendations are not binding and have no force independent of the countries that choose (or choose not) to ratify them (Macklem, 2002). Further, the steps taken to actually implement standards once ratified vary enormously.

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 and Australia). In Norway a broad alliance of unions and community groups formed For velferdsstaten (For the Welfare State) to campaign against market liberalism, 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 codes in relation to labour and OHS 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 sub contractor multiple steps removed from the original contract), sometimes with the active connivance of local government or their officials (Jenkins, 2001; 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 & Udovich, 2001; Sobczak, 2003; Pattberg, 2006).

Alternative methods of extending the reach of laws governing labour standards have been suggested to overcome both the limitations with 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). A progressive racketing up of labour standards by corporations operating globally in the formal and informal economy has also been proposed (Sabel et al, 2000). Some existing models of supply chain regulation at national level, already incorporate disclosure requirements and directly mandate labour standards (see subcontracting box) could arguable be extended internationally. It is worth noting the latter were secured following political mobilisations of workers and community groups, although the political regime in some countries is more receptive to such activity than others.

3.6.4.2. Full-time permanent employment

PENDING

3.6.4.3. Unemployment

According to article 23 in the Universal Declaration of Human Rights "everyone has the right to work, to free choice of employment, to just and favourable conditions of work and to protection against unemployment." The devastating health consequences of unemployment have during the last decades been well-established in research. As documented elsewhere in the report 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 a 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 (Broom et al 2006) on the adverse health consequences of extensive precarious employment brings into question whether there is a net health benefit to the community. 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, 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 developed countries.

3.6.4.4. Precarious employment

Other parts of this report 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 wellbeing 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 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). For example, extended subcontracting networks and labour leasing arrangements create complex and difficult to enforce webs of legal responsibilities under OHS law at national level (see box) and these problems compound immensely with international supply chains (Macklem, 2002). Government inspectorates have also encountered logistical difficulties due to use of the corporate veil (the capacity of organisations/individuals to manipulate legal and financial obligations by creating a number of related but legally distinct corporate entities), manipulated ambiguities in critical categories of legal status (employer, agent, employee or self-employed), changes in OHS due to downsizing, and locating/inspecting small business subcontractors, mobile or transient workplaces (like vehicles, telework and short terms call centres), areas with high small business turnover, and home-based work (Morin, 2005). 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 OHS and minimum labour standard laws, codes and guidance material; adding contractual obligations (eg OHS provisions in government tender standards); strategic enforcement campaigns; industry specific packages (eg tripartite agreements dealing with small builders and subcontractors in construction); and the establishment of (often union backed) roving safety representatives (eg 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 unconducive to enforcement, inhibits implementation of basic standards let alone recognition of the difficulties associated with precarity (Balzano, 2004; Baumecker and de Faria, 2006).

The growth of precarious employment has also weakened workers' compensation/injury insurance regimes causing a drop in formal coverage (due to increased self-employment) and a decline in effective coverage (as ambiguities in employment status and ignorance, economic/job insecurity and

job churning amongst temporary workers impact on claims behaviour). Consequence of this in developed countries include less comprehensive injury/disease statistics (precarious employment also undermines alternative occupational health data sets) as well as shifting treatment and income support cost burdens to the public health (hospitals and universal health insurance where this exists) and social security systems as well as families (Quinlan, 2004). Paralleling OHS law there are also increased administrative problems determining eligible claimants, combating premium manipulation and securing a return to work for injured workers. Similar effects can be identified in developing countries but from a situation where the bulk of the workforce is already denied access to workers' compensation and there is, with notable exceptions, no universal health or social security safety net. In a number of countries governments have sought to address a number of these problems, with a more fundamental option being to abandon the workers' compensation model in favour of public health model of universal injury/illness insurance, irrespective of cause (Ladou, 2006). This approach is antithetical to neoliberal policies making it unlikely in countries like the USA although the macro costs of non-coverage are also substantial. It would also be seen as beyond the resources of developing countries (except perhaps at the most minimal level of support). However, broadly based social health insurance would have the advantage of incorporating the informal economy if a funding base could be devised and this, indeed, is currently a focus of attention (Santana and Wagner).

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 & Quinlan, 2005; Woolfson & 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 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 OHS (see for example, Smith 2006).

Lean management and precarious employment is also associated with a number of externalities, including evidence linking reduced staffing levels to higher infection rates and poorer patient care in hospitals and spill-over effects of contingent work arrangements on public safety and security in road transport (Stegenga et al., 2002). Analogous concerns have been raised in relation to environmental standards, such as the offshoring of hazardous tasks like ship breaking (see Anderson, 2001) and battery recycling; and food standards (for example in relation controlling hazardous spraying practices or

exposure to infectious diseases in harvesting). Competitive work arrangements, pressure on precarious workers, restructuring and under-staffing has 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 impact on non-work activities (eg 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; Artzcoz et al, 2005; US GAO 2006; Wegman & 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.

3.6.4.5. Informal employment

As noted in another section of this report (Santana & Wagner), the third employment dimension - the informal economy - and work within it, are unregulated and so exempt even from the limited effect of regulatory protection that applies to precarious employment. As such the informal sector can be seen as a step beyond precarious employment in terms of a gradient of vulnerability. Although an informal or black economy exists within developed countries (and may be growing) it is a characteristic feature of developing countries like China, where it has grown rapidly to account for over 25% of the workforce, especially women (Cooke, 2006). In some African countries like 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 & 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 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 & 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 at 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.

3.6.4.6. Child labour

With regard to the fourth employment dimension, 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 (seven 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 like farming/agriculture - something that has caused governments to reconsider their child labour laws (US General Accounting Office, 2000; Kruse & Mahony, 2000; Mourell & 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).

3.6.4.7. Slavery and bonded labour

The fifth and final employment dimension is slavery. As noted elsewhere in this report, 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 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 need 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 semi-free and free labour (other categories included prison labour and indentured workers) and the growth of individualistic and contractualist employment regimes in both developed and developing countries provide the means to reintroduce greater subordination in the employment relationship (Hay and Craven, 2004).

3.6.5. Policy Entry Points

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 hazard, 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, according to our theoretical framework. In this framework the greatest emphasis is on structural policies and interventions. Structural interventions refer to public health intervention 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, child and bonded labour has both reflected and reinforced a disempowering of workers (those directly involved and 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. Weakening 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. Workers' rights centres (including those catering for 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

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. The interplay among all these actors gives rise to political decisions affecting the institutionalisation of social rights and obligations, for example under the functioning of labour market and welfare state institutions. One such intervention would be those related to the labour market or social welfare policies.

- 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 three 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 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, for example in the workplace, and 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 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 global framework for intervention (including in the informal sector, see Kantor et al, 2006) lacks any form of meaningful enforcement 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 OHS problems identified in particular industries (such as construction, road transport and 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, OHS 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 offer a fragmented and inadequately enforced remedy, Lum, 2003). As yet little policy consideration has been given to policy interventions in relation to practices that lead to deteriorating OHS such as downsizing or taxation policies that encourage expansion of informal work/self-employment. Revised labour standards need to be dovetailed with a more proactive approach to work 'quality' in developed countries and basic poverty abatement (including the provision of food and low-cost health etc services) in developing countries. 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)
- 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)
- Access to compensation for temporary injury, as well as parental leaves for both parents (ILO, 2004).

3.6.5.3. Working conditions and health behaviours (actions to reduce the vulnerabilities of workers through working conditions and health related behaviours).

The third entry point (which we shall designate as entry point "C") relates to different types of actions to reduce the vulnerabilities and exposure of workers through intervention over 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 not smoking, 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 and 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 unionisations, 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 conditions 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).

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 to 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, 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.

4. Discussion

Summarising the key findings/argument; demonstrating how concluding statement are drawn from evidence presented; how data link to question; describing extent of certainty around conclusions drawn and indicating potential problems/biases; and discussing implications for policy making and options for action.

5. Conclusions. [2 pages]

It is important that the conclusion is not be used to introduce new arguments and ideas and confines itself to providing evidence statements which answer the questions set out at the beginning of the report.

6. References