



Executive Summary



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The price of exclusion: The economic consequences of excluding people with disabilities from the world of work

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There are approximately 650 million people with disabilities in the world, and at least 80 per cent of them live in developing countries. Because of stigma and discrimination a vast majority are excluded from accessing basic services such as health, education and work opportunities. The lack of access to vital services and programmes contributes to their marginalization and exclusion, with little or no option to escape from poverty. This exploratory study aims to highlight the cost to societies of excluding people with disabilities from the world of work.

The study breaks ground in developing and pilot-testing a new approach to quantifying the macroeconomic losses related to exclusion of people with disabilities from workplace.¹ Building on previous research, the study examines the factors or 'drivers' underlying these losses. They include:

- labour productivity losses due to the effects of a disabling environment, which make people with disabilities who are employed less productive than they would otherwise be and include, among others, a lack of education, access to training and negative attitudes;
- the gap between the potential and the actual productivity of people with disabilities, and;
- the difference between unemployment and inactivity rates of non-disabled people and people with disabilities.

Together, they help place a price tag on the exclusion of people with disabilities from the world of work.

The innovative approach was tested using data from ten low and middle-income developing countries in Asia (China, Thailand and Viet Nam) and in Africa (Ethiopia, Malawi, Namibia, South Africa, Tanzania, Zambia and Zimbabwe). The study concludes that economic losses related to disability are large and measurable, ranging from between 3 and 7 per cent of GDP. More significantly, it shows that by combining certain assumptions and adequate modelling it is possible to generate data on the cost of exclusion, even for countries where reliable primary data are generally scarce.

The findings of the study can help governments in allocating resources to programmes relating to the employability and employment of people with disabilities and in setting priorities to improve opportunities for work and a better life in times of crisis, today and in the years ahead. It can also serve to stimulate debate and further research on the inclusion of people with disabilities from an economic viewpoint.

The model used in the study

The model used in the study is based on the concepts of participation restriction and activity limitations as suggested by the World Health Organization (WHO)'s International Classification of Functioning, Disability and Health (ICF) framework,² some basic assumptions on the link between participation and labour productivity; widely available labour market data (labour market activity, employment-to-population ratio, unemployment rate); and data on average per capita productivity in the countries studied.

The 'price of exclusion' is calculated using a three-part formula:

- **Part one** reflects the reduced productivity of employed people due to factors such as lower education, a lack of transport and physical accessibility, among others. This part – also referred to as sources of economic losses due to 'Exclusion' – does not suggest that changes in the environment can lift the productivity of people with disabilities to population average, but rather it suggests that changes in the environment may narrow the gap between the actual and the potential productivity level of a person at a given disability level.
- **Part two** of the equation takes into account the higher unemployment rate among people with a disability compared to those reporting no disability. This part of the formula refers to sources of economic losses due to 'Productivity'.
- **Part three** takes into account the higher labour market inactivity rates among people with a disability compared to those reporting no disability.

Together these three elements sum up to the accumulated macroeconomic losses related to disability.

Core elements of the formula, which are referred to as '*betas*', provide estimates linking different disability levels (mild, moderate, severe and very severe) with actual and potential productivity levels. The values assigned at the four levels of disability are based on a set of assumptions and help simplify and replace complex differentiations made in an earlier study by Robert Metts in 2000. In this often-cited report, calculations of worldwide losses related to exclusion and disadvantage of people with disabilities in the labour market are based on country-level data for Canada, which are extrapolated to the rest of the world. Based on his methodology, Metts estimated that social exclusion from the workplace costs the global economy between 15 and 40 per cent of GDP. The limitations of this report are discussed in the ILO study.

Data limitations

Measuring the economic consequences of excluding people with disabilities from the world of work as suggested in the ILO study requires information on the number of disabled persons, the quality of their disability and reasons for their exclusion from the labour market.

While macroeconomic data and general labour market information are readily available for all selected countries, disability prevalence rates and labour market information of disabled persons, or 'primary information', is much more difficult to find. Where possible, the study uses primary information available from 2003 to 2007 for each country, with the exception of Ethiopia where such information was difficult to obtain and had to be estimated. Major difficulties emerged in using the same methodology to create disability-level groups and cross-referencing of disability and labour market data broken down by disability-level group due to some countries not providing the level of detail required.

Fewer difficulties were encountered in the case of four countries (Malawi, Namibia, Zambia and Zimbabwe) where a survey of living conditions of persons with disabilities was recently carried out by the Norwegian research institute SINTEF. At the request of the ILO, data from the SINTEF survey, which includes labour market information questions for both disabled and non-disabled persons, was recompiled for the purposes of this study. In the six remaining countries a linear estimation method had to be used to generate the necessary data.

In addition to the labour market and disability indicators, a monetary value is necessary to calculate the macroeconomic costs related to disability. For the purposes of this study, case study country data for 2006 GDP (World Bank World Development Indicators, WDI), expressed in US\$, have been used to measure economic losses related to disability. Figures from the 2006 ILO Key Indicators of the Labour Market (KILM) were also used to estimate the general labour force participation rate of disabled persons (specifically, employment participation rate, inactivity and unemployment).

Summary of the results of economic losses related to disability

The study provides an overview of the macroeconomic losses related to disability in the ten countries observed. For some of the countries, two calculations with different underlying data have been conducted – for example, findings for four African countries reflect calculations using both the SINTEF and the ILO/KILM data with immense differences between the two in measuring employment; in China and Thailand, the second calculation assumes that disability prevalence rates equal to those in Viet Nam. Among the key findings of the exploratory ILO study,

based on the main calculations, more specifically, the KILM data and applying the disability prevalence rates for Viet Nam to China and Thailand:

Macroeconomic losses

- Economic costs in Asia lie between 3 per cent of 2006 GDP in Viet Nam and 4.6 per cent of 2007 GDP in Thailand. This amounts to losses of US\$ 111.7 billion for China (about 4.2 per cent of GDP), US\$ 9.6 billion for Thailand and US\$ 1.8 billion for Viet Nam.
- In Africa, macroeconomic losses are between 3.1 per cent of GDP in Malawi, or US\$ 99 million, and 7 per cent of 2006 GDP in South Africa, or US\$ 17.8 billion.

Sources of economic losses

- With respect to sources of economic losses, both 'Productivity' and 'Exclusion' are of equal importance in China (approximately 50 per cent), whereas in Thailand 'Exclusion' (64 per cent) and in Viet Nam the 'Productivity' (65 per cent) effect dominates.
- In Africa, the findings regarding the sources of the losses – 'Productivity' versus 'Exclusion' – are mixed. In Namibia, Tanzania and Zimbabwe, the 'Exclusion' element dominates, i.e. there are large gaps between the unemployment and inactivity rates of people with disabilities and those without difficulties. In Zimbabwe, however, this finding must be seen as highly speculative, since the gap may also result from the immense difference in measuring employment between the ILO and SINTEF.
- When using the ILO/KILM figures, which suggest far lower unemployment rates than the SINTEF ones, 'Exclusion' is a dominating factor for macroeconomic losses (59.1 per cent in Malawi; 51.7 per cent in Zambia); when using the original SINTEF data, 'Exclusion' hardly plays a role and losses only occur via anticipated productivity gaps.

The large gaps between the SINTEF and the ILO/KILM data, as well as the large methodological differences in measuring disability, presented important challenges in determining the economic costs related to disability exclusion in this study. Yet both challenges can be described as generic since they are likely to emerge in almost every approach to measuring the costs of exclusion. More significant, however, are the problems related to the methodology used, which involve the estimation of gaps between actual and potential productivity and the reliance on disability-level groups. The former constitutes a problem because these gaps are hard to verify without detailed country level data, for instance on education and training for people with disabilities. Creating disability-level groups constitutes a problem because until now hardly any countries, especially in the developing world, provide information on the degree to which people with disabilities are disadvantaged due to impairment.

Conclusions and recommendations

Measuring the economic consequences of excluding people with disabilities from the workforce or the macroeconomic costs and benefits of supporting people with disabilities requires data on the number of people affected, as well as the type and level of their disability and the reasons for their exclusion from the labour market. Yet, difficulties with disability statistics often arise for a variety of reasons including different definitions of the term 'people with disabilities' and varying measurement techniques for calculating disability figures. An important contribution made by the new ILO study is that it has identified ways of generating country level data on the cost of exclusion through modelling techniques that fill the gaps in the primary data. However, the testing of this new methodology of calculating economic losses related to the exclusion of disabled persons from the world of work has also revealed important open questions which future work needs to address. Recommendations for future development of the study include:

- Further work to improve the understanding of the concept of actual and potential productivity. What is more, the productivity differentials ('betas') as used in this study require more testing to allow for better estimates of the productivity–potential gap at country level.
- More and better reliable, comparable primary data on disability.
- More analysis of available country level data.

- Further examination of figures presented in the study against country context. The statistics presented in this study should be further tested against their country context to make more sense of similarities and differences.
- More country studies in other regions that have not been included in this study (Europe, Latin America, and North America).
- A deeper examination of appropriate extrapolation approaches for global calculations related to the exclusion of people with disabilities from the world of work.

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¹ Working age population as used in the study generally refers to those individuals in the age group 15 to 64. An exception is the case of China and Viet Nam which refers to individuals in the age group 15 to 59 and the South Africa case which refers to people aged 15+.

² The ICF, adopted by the WHO in 2001, uses a definition of disability based on activity limitation and participation restrictions, rather than on individual attributes (WHO 2001).

