

ORGANISATION
FOR ECONOMIC
CO-OPERATION
AND DEVELOPMENT



**THE
WORLD
BANK**



WTO OMC

SEIZING THE BENEFITS OF TRADE FOR EMPLOYMENT AND GROWTH

**OECD, ILO, WORLD BANK, WTO
FINAL REPORT**

**Prepared for submission to the
G-20 Summit meeting
Seoul (Korea), 11-12 November 2010**

SEIZING THE BENEFITS OF TRADE FOR EMPLOYMENT AND GROWTH

FOREWORD

Meeting at the Toronto Summit during June 26-27, 2010, the assembled leaders of the Group of Twenty tasked the OECD, the ILO, World Bank, and the WTO as follows:

Open markets play a pivotal role in supporting growth and job creation, and in achieving our goals under the G-20 Framework for Strong, Sustainable and Balanced Growth. We ask the OECD, the ILO, World Bank, and the WTO to report on the benefits of trade liberalisation for employment and growth at the Seoul Summit.

The present document is submitted in fulfilment of that mandate. It is the product of close collaboration between the four international organisations, and draws upon the latest research.

The message is clear: open markets can contribute to growth and better employment outcomes; this was true before the crisis and it remains true today. In the near term, given pressures on governments, the financial sector, and households to strengthen balance sheets, further trade opening can generate an additional stimulus that will create employment opportunities for the world as a whole. The benefits of trade generally outweigh the costs associated with the reallocation of labour and capital to more efficient uses. However, if support for open markets is to be sustained, those costs need to be recognised and policies put in place to assist workers and communities to adjust to a more competitive environment. It is for this reason that the report considers not only further liberalisation of trade in goods and services, but also highlights the importance of complementary action at the national and international levels to facilitate adjustment and ensure that the benefits of trade are widely shared.

TABLE OF CONTENTS

SEIZING THE BENEFITS OF TRADE FOR EMPLOYMENT AND GROWTH	2
FOREWORD.....	2
EXECUTIVE SUMMARY	5
Acronyms used in this Report	6
I. Introduction	7
II. How Open Markets Benefit Economies, Firms, Workers, and Consumers	7
Trade & Growth	8
Trade & Employment.....	9
III. Looking Backward: Trade and the Economic Consequences of the Crisis	10
How Far Did Trade Decline?	10
How Much Did Workers Lose?.....	11
IV. Looking Forward: From Short-Term Recovery to Sustainable, Inclusive Growth	13
Part 1: Strategies at the International Level	14
Resisting Protectionism	14
Further Liberalisation of Goods and Services	15
Part 2: Strategies at the National Level	19
Peer-to-Peer Approaches to Regulatory Liberalisation	20
Promoting Labour Market Adaptability.	21
Efficient re-employment services can make a real difference	23
Is There a Role for Targeted Trade-Adjustment Programmes?.....	23
Labour Market Policy Responses to Negative but Transitory Trade Shocks	24
The Need for Fiscal Space to Provide Social Protection	24
V. Conclusion	25
APPENDIX. THE RELATIONSHIP BETWEEN TRADE AND EMPLOYMENT: A REVIEW OF THE LATEST SCHOLARSHIP.....	27

Tables

Table 1. Simulated Percentage Changes in Employment and Real Incomes Following Goods Liberalisation	17
---	----

Figures

Figure 1. Quarterly Percentage Change in GDP, Trade, and Employment in the G-20 Countries.....	11
Figure 2. Share of Services in GDP, 1970-2008.....	18

Boxes

Box 1. Employment-Related Policy Responses in G-20 Countries12
Box 2. International Institutions Can Help National Governments to Promote Sustainable and Inclusive Growth21
Box 3. Fundamental Principles and Rights at Work.....22

EXECUTIVE SUMMARY

Countries that have embraced openness have been more successful in sustaining growth and moving up the development ladder than those that have not. The available evidence highlights that trade openness will contribute to growth and employment, provided that it is complemented by appropriate policies.

Trade facilitates technological progress and the global spread of innovation. These deeper economic forces are the primary source of longer-term gains in productivity that are necessary to achieve higher levels of per capita income.

National governments have an important role to play in maximizing the contribution that trade can make to ensuring sustainable, balanced, and inclusive growth. Properly designed economic, labour market, education and social policies can serve to enhance the opportunities available to those who stand to gain from trade opening to actually do so and to help those who are displaced to develop new skills and find new opportunities.

International institutions can play a supportive role by clarifying how trade, labour market, education and social policies interact and thereby contribute to coherent policy design and the realization of desired outcomes. Related technical and financial assistance can help countries to achieve a smooth adjustment process as well as to take full advantage of new opportunities from a more open world market.

The recent crisis demonstrated that open economies not only benefit from global growth opportunities, but also suffer from exposure to external shocks. Established social protection systems and “emergency” social safety nets help affected individuals to manage such shocks. Even as government expenditures are reduced in the aftermath of the crisis, these social protection systems remain vital to assist those most seriously affected to adjust and adapt.

Forward movement on trade and investment opening, combined with support for the most vulnerable, are key elements of a sustainable recovery path. The G-20 countries demonstrated their willingness to act collectively to prevent a wave of protectionism during the crisis, and thus to preserve progress already made towards more open global markets. That same willingness can now be directed towards achieving even greater openness, doing so in a way that expands employment in competitive firms and raises real wages while assisting those who must adjust. A concerted program of trade and investment liberalisation – starting with a renewed focus on concluding the Doha Development Agenda expeditiously – can provide a non-debt-creating source of stimulus for the world as a whole, while at the same time helping to achieve a more balanced global economy.

Acronyms used in this Report

ALMPs	Active Labour Market Programmes
CIS	Commonwealth of Independent States
EU	European Union
FTA	Free Trade Agreement
FDI	Foreign Direct Investment
G-20	Group of Twenty
ICT	Information and Communication Technologies
IDRC	International Development Research Centre
ILO	International Labour Organisation
LMIA	Labour Market Information and Analysis
NAFTA	North American Free Trade Agreement
NTM	Non-Tariff Measure
OECD	Organisation for Economic Cooperation and Development
PMR	Product Market Regulation
R&D	Research and Development
SME	Small and Medium-sized Enterprise
UNCTAD	United Nations Conference on Trade and Development
WTO	World Trade Organisation

I. Introduction

1. An open trading system is vital for prosperity and contributes to economic growth at both the global and national levels. Being connected to the world economy does not guarantee economic growth, but there are few, if any, examples of countries that managed to sustain high rates of growth while staying disconnected from international production and financial networks. Trade is contributing to the current economic recovery and will help determine the trajectory of growth in the future. As the emergency stimulus measures taken during the crisis are unwound, they can be replaced by the permanent stimulus of a more open world market.

2. An open market frees countries from the constraints of their local economies while also promoting greater efficiency, more consumer and producer choice, and faster technology transfer. Trade openness also implies that some firms and workers will need to adjust as resources shift from less to more efficient activities.

3. National institutions and policies largely determine the ways that globalisation and trade affect labour market performance. This report highlights the importance of a comprehensive policy approach to address adjustment problems and distributional concerns. Policies to maximize the gains from trade and ensure that workers and consumers reap the maximum benefits start with effective labour market institutions that temporarily protect workers, facilitate adjustment, and enhance mobility in the labour market. Other pro-growth, pro-employment measures to accompany more open trade include stable macroeconomic policies, investments in education and human capital, and initiatives to enhance supply capacity in developing countries.

4. This report summarises the current state of the debate and our understanding of the links between trade liberalisation, employment, and growth. The sections that follow review the main results from our research, including new analysis undertaken at the OECD. We consider how the recent economic crisis has affected trade and employment and highlight how policies could promote strong, sustainable, and balanced growth in the years ahead. The technical Appendix to this report reviews the main developments in recent scholarship on the relationship between trade and employment.

II. How Open Markets Benefit Economies, Firms, Workers, and Consumers

5. The economic literature is clear: trade liberalisation, when embedded in an appropriate overall policy framework, will foster growth and improve employment outcomes. The phenomenal growth performance of East Asian countries in recent decades, for example, took place at the same time that these countries were becoming more open. This process was driven by trade liberalisation (often accompanied by investment reforms), as well as pro-growth macroeconomic policies and forward-looking measures to promote human-capital formation, gender-neutral education, and investment in infrastructure.

6. The links between trade liberalisation and employment are complex, as jobs are both created and destroyed in the natural “churn” of economic progress. Economic and technological changes are sometimes characterised as a process of “creative destruction”, and trade is one avenue through which the consequences — both positive and negative — are spread across borders. Complementary policies are often needed to ensure that firms and workers can benefit from the new opportunities generated by the creative side of this process while adjusting to the disruptions caused by its destructive side. Some of the literature also suggests that choices in the pace and sequencing of trade opening affect the efficiency and the distributive effects of reorganisation.

Trade & Growth

7. Trade promotes production efficiency via specialisation, exploitation of economies of scale, and technology transfer, as well as enhanced competition. Openness helps economies to compete by not only offering new opportunities for sales (i.e. exports), but also making available to producers the widest range of inputs at the highest quality and lowest prices (i.e. imports). According to the World Bank, in the 1990s per capita real income grew more than three times faster for those developing countries that lowered trade barriers (5.0% per year) than for other developing countries (1.4% per year). And while openness to trade exposes countries to developments in other economies, including the risk of trade and financial contagion, it also allows for a faster recovery (Gamberoni et al., 2010): An economy that is more open is also more resilient because it is less constrained by the limits of domestic demand. Germany, one of the major world exporters, is a case in point. In the first quarter of 2009 the economy contracted by 3.4%, but by the second quarter of 2010 it was expanding by 2.2%.

8. Productivity growth is at the heart of economic progress. A recent OECD analysis (OECD, 2009) highlights the benefits of openness and lower trade costs for growth. At the sectoral level, more productive firms expand as trade drives more resources towards them; at the same time, relatively unproductive firms contract or exit from the market altogether. Studies of openness also show that increased competitive pressures induce organisational change and production upgrading, which in turn boost within-firm productivity. For example, a recent study of NAFTA's impact on Mexico found that on average a 10% reduction in tariffs led to productivity growth of 4% to 8% (Iacovone 2009). The effect was much stronger for the most technologically advanced firms, with a 1% fall in tariffs associated with productivity gains of 11% to 13%. Overall, the long-term evidence from a broad sample of OECD countries indicates that an increase of 10% in trade exposure (trade as a percentage of GDP) was associated with a 4% increase in output per working-age person (OECD, 2003). To the extent that wages are linked to productivity growth, greater openness also means a rising standard of living.

9. Imports play an important role in achieving better economic performance, in part because they serve as a channel for technology transfer. Openness to trade provides access to a greater variety of imported capital goods and intermediate inputs that embody new technology. It also increases the effective size of the markets for intermediate suppliers and final goods producers, raising the returns to innovation for those engaged in production networks. The ability to market innovations globally makes it possible to advance specialisation and to engage in research-intensive production. OECD analysis (OECD, 2009) shows that for 29 industries in 11 OECD economies a higher inflow of foreign intermediate goods is associated with higher productivity.

10. Goods still dominate trade, but increasing attention is focused on trade in services. Trade in services is hampered by barriers to FDI and regulations on licensing, qualification requirements, and "red tape" that can be particularly burdensome to foreign suppliers. The economy-wide costs of these barriers can be significant. The cost and quality of producer services inputs such as telecommunications, distribution, and financial intermediation are key determinants of the competitiveness of firms. A rapidly growing body of evidence has documented the linkages between the efficiency of service sectors, the productivity of "downstream" companies that use the services as inputs, the skill-intensity of production, the demand for educated workers, and the wages that they earn (Francois and Hoekman, 2010). The policy implication is clear. Regulatory reforms that reduce entry and operating costs for foreign services providers should stimulate investment and output, with positive employment effects. Some domestic firms may have to adjust, but others in the same sector will expand and generate new demand for labour.

11. New analysis undertaken at the OECD incorporates an assumed 50% reduction in non-tariff barriers, as well as tariffs, in both goods and services sectors. Preliminary findings (reported in detail later in this paper) suggest significant increases in national income for all G-20 countries and their partners.

Trade & Employment

12. Trade theory often relies on the assumption of long-run full-employment, thus implying that while trade can affect wage rates and the sectoral distribution of employment it has no effect on the overall level of employment. Theory and reality may differ. While there is no consensus on this point, the empirical literature shows that in the long-run, openness can be good for employment. Felbermayr *et al.* (2009) find that a 10% increase in trade openness reduces unemployment by 1% for a mix of developed and developing countries. Another study by Dutt *et al.* (2009) similarly finds that trade liberalisation is associated with an immediate increase in the unemployment rate but the initial surge is more than outweighed in the longer run, such that unemployment declines by 3.5% three years after the liberalisation. There is also country-specific evidence suggesting that the potential employment creation following greater trade integration can be significant (Hoekman and Winters, 2007).

13. Trade liberalisation is likely to lead to a combination of employment and wage effects in the short run. Whether the impacts affect primarily wages or the rate of employment will differ across countries, and depends importantly on labour market institutions, the efficiency of capital markets, and social policies. Rising inequality between the skilled and the unskilled is a global phenomenon (Hoekman and Winters, 2007). An extensive body of empirical literature has focused on identifying the main drivers of changes in inequality. The literature appears to have converged to the view that international influences contributed to about 20% of rising wage inequality and that other forces – most prominently technological change – have been more important than trade causing changes in income distribution (WTO, 2008). While earlier literature focused on wage differences between high and low skilled workers, more recent studies explore wage difference between (all types of) workers in export firms and workers in non-exporting firms. For example, Verhoogen (2008) describes a “quality-upgrading mechanism” in which the more productive plants produce higher-quality goods than do the less productive plants, and they pay higher wages to maintain a higher-quality workforce. Only the most productive plants enter the export market. Those more productive plants increase the export share of sales, and increase wages for both white-collar and blue-collar workers. The quality-upgrading mechanism is especially significant for developing country exporters that produce higher-quality goods for export to consumers in industrialised countries.

14. Workers can benefit from the dynamic effects of trade, especially if they are employed in export-oriented sectors and firms. Trade induces a reallocation of productive resources, and of market shares, from the less to the more productive firms within a sector (Melitz, 2003). Empirical studies show that most of the reallocation of labour actually takes place within industries rather than between industries. This is largely due to the presence of heterogeneity across firms within each sector. Exporting firms appear to be more productive and larger, to employ relatively more skilled labour, and to pay higher wages (Bernard *et al.*, 2007). The difference in the wages paid by exporters and non-exporters is known as the exporter wage premium. There is a large body of literature that documents the presence of exporter wage premia, both in developed (e.g. Beaulieu *et al.*, 2004; Klein *et al.*, 2010; Riker, 2010) and in developing countries (e.g. Brambilla *et al.*, 2010; Green *et al.*, 2001; Owen and Yu, 2008).

15. In Western European countries, exporting firms tend to pay wages that are 10-20% higher than those paid by non-exporting firms (Mayer and Ottaviano, 2007). Similar results have been observed in a number of developing countries, including Colombia (Isgut, 2001); Estonia (Sinani, 2003); and Sub-Saharan African countries (Van Biesebroeck, 2005). But productivity increases may take place at the expense of employment levels. Evidence from Brazil suggests that firms in comparative-advantage industries raised productivity faster than firms in other industries in response to tougher competition and enhanced export opportunities (Menezes-Filho and Muendler, 2007). Their market share increased but did so at a slower rate than productivity, thus reducing employment.

16. In short, trade liberalisation across the G-20 membership can potentially lead to important gains in growth and employment for both skilled and unskilled workers. As reported later in this paper, preliminary OECD analysis of a 50% liberalisation scenario in goods and services reveals consistent positive labour market effects across the G-20. But much depends on complementary measures to ensure that those who in principle should benefit from better market access and greater competition actually do so. In practice, poor households and regions in developing countries often do not benefit from trade opening because they are effectively not connected to markets, lack of access to key inputs such as credit, or because they confront excessively high transport and other transactions costs. Moreover, some firms and workers will suffer displacement as the economy evolves. That is why trade liberalisation must be seen as a necessary but not sufficient policy to achieve sustainable economic growth.

III. Looking Backward: Trade and the Economic Consequences of the Crisis

17. While trade is essential to growth and development, the recent financial crisis demonstrates that it can also be a channel through which shocks are transmitted. In assessing the impact of shocks on trade and jobs one needs to distinguish between crises that derive from domestic developments (such as a national banking crisis) and external shocks. The two phenomena tend to differ not just in degree but in kind. According to a recent ILO-World Bank analysis (Gamberoni *et al.*, 2010), the average domestic debt and banking crisis has more than twice the impact on domestic employment than a typical global economic downturn (defined as periods with a significant decline in world GDP).

18. Trade was the most sensitive economic indicator for G-20 countries in the recent crisis (Figure 1). The most severe effects came in the first quarter of 2009, when trade fell by 19.3%. That compares to a 6.3% fall in the collective GDP of the G-20 countries that same quarter, and a 1.5% decline in employment. But while employment suffered the smallest dip, it has also experienced the slowest recovery. In contrast, both trade and GDP have grown in each period since the second quarter of 2009, but employment had only two quarters of anaemic growth and one of decline.

19. The apparent disconnect between the emerging economic recovery and the restoration of pre-crisis levels of employment suggests that two processes may be at work. One is that some firms may have adopted new, labour-saving methods or technologies during the crisis that reduce the need for taking on new workers in the recovery. Another is that the private sector seemingly still lacks confidence in the durability of the recovery. At a time when many firms are experiencing record levels of profit, and thus have the wherewithal to rehire employees or create new jobs, concerns that the recovery is uncertain and that financial and other regulatory changes are still underway may be creating hesitation. The fear of resurgent protectionism, especially as trade is restored and import competition rises, could be a contributing factor. To the extent that these worries inhibit new investment and thus constrain the recovery of jobs, countries could help to break one impasse by dealing with another. Completing the Doha Development Agenda would be an important confidence-building measure, giving a positive signal to the private sector that governments continue to oppose protection while also providing new opportunities for profitable, job-producing trade.

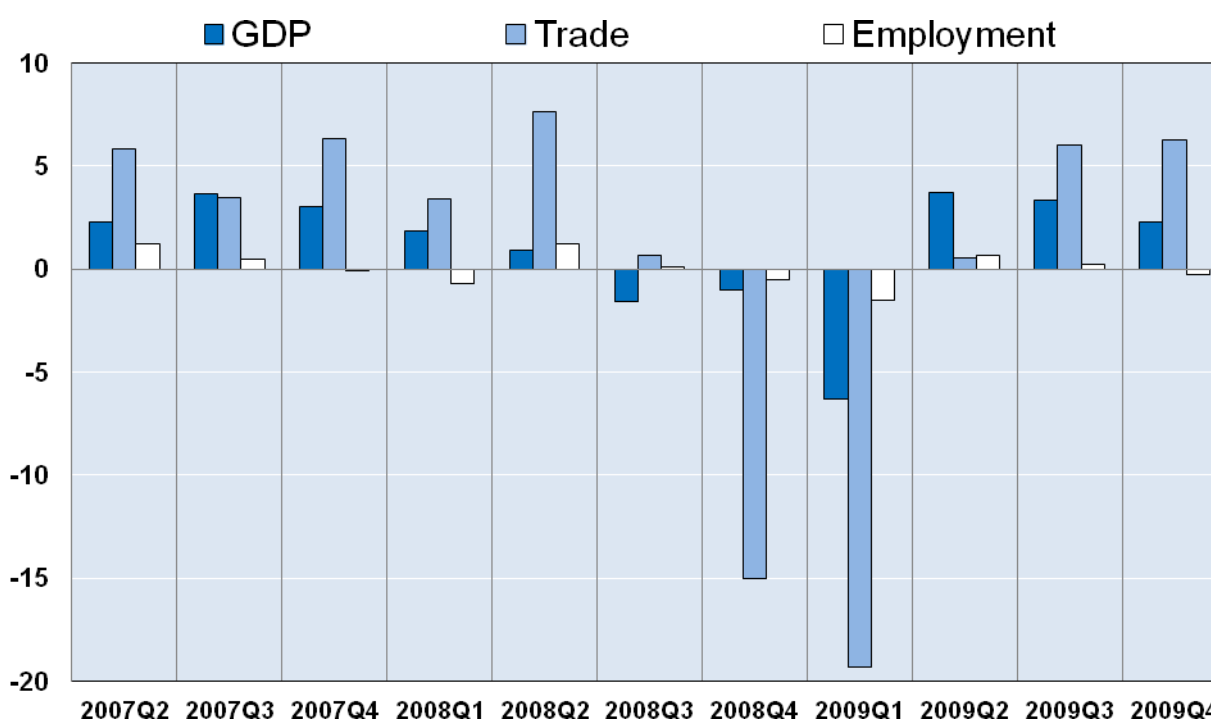
How Far Did Trade Decline?

20. Trade dropped by 12% in 2009 and led to pressure on employment and wages in many countries, including those with financial systems that had been relatively sheltered from the global turmoil. The fall in trade differed across world regions and economic sectors. The good news is that the trade shock was temporary, and it is not unreasonable to expect that production in the most affected sectors will bounce back to previous levels. There is, however, evidence that the crisis may have triggered changes in the geographical origin, destination, and composition of trade. A number of recent studies argue that exports to

emerging economies are likely to have increased permanently (e.g. Kaplinsky and Farooki, 2010; Milberg and Winkler, 2010; Gereffi and Frederick, 2010).

21. The trade shock affected productive sectors differently. While the effect on services trade was minor (Borchert and Mattoo, 2009), manufacturing trade dropped sharply. Overall, exports of industrial goods fell by around 30% in the first and second quarters of 2009 and by around 20% in the third quarter. Within manufacturing, trade in automotive products experienced a steep decline of over 40% in the first half of 2009. Exports of iron and steel dropped by over 50% in the second and third quarters of 2009.

Figure 1. Quarterly Percentage Change in GDP, Trade, and Employment in the G-20 Countries



Note: Employment data exclude India, Indonesia, and Saudi Arabia. GDP is seasonally adjusted; trade and employment data are not.
Source: OECD National Accounts and IMF IFS.

22. There is growing evidence that the worst of the economic crisis is behind us, and that trade has bounced back significantly since the first quarter of 2009. The WTO forecasts that trade growth will reach 13.5% in 2010. This annual rate of growth is among the highest over the past two decades, and it almost brings trade volumes back to their 2008 levels.

How Much Did Workers Lose?

23. The global crisis hit workers hard, but could have been much worse if G-20 governments had not taken prompt and vigorous measures (see Box 1). According to the ILO, over 210 million people worldwide are estimated to be unemployed at the moment, an increase of more than 30 million since 2007. Half of the rise in unemployment occurred in the high-income countries (where the unemployment rate went up by 3 percentage points since 2007), and the remainder among emerging market economies. According to the ILO’s Global Employment Trends (January, 2010) unemployment increased by 2.9% in developed economies, and by 2% in Central and Southern Europe and CIS countries. Unemployment increased in all other regions in the world due to a slowdown in employment growth and growing labour

forces. Among the high-income countries, some of the largest increases in the unemployment rate were in Spain, Ireland, and the United States. In contrast, the unemployment rate barely budged in some countries (e.g. Germany and Norway), and employment growth remained positive in all other world regions (notably Africa and the Middle East). The causes for these cross-country differences include the varying degrees to which aggregate demand declined, the co-occurrence of the aggregate demand decline with acute stresses in other sectors (e.g. financial and housing), the institutional nature of the labour market (e.g. the prevalence of informal employment and the strictness of employment protection rules), and the extent to which countries used active labour market policies to preserve existing jobs or to speed re-employment.

Box 1. Employment-Related Policy Responses in G-20 Countries

The policy response of G-20 countries to the global crisis was rapid and large. From the latter half of 2008, monetary policy measures to stabilize weakened economies were quickly followed by fiscal measures to sustain employment, generate new activities, and protect workers and households. The ILO estimates that without the discretionary fiscal measures and automatic stabilisers in G-20 countries global unemployment would have risen by 55 million as a result of the financial crisis, instead of 34 million (ILO, 2010a).

In addition to macroeconomic interventions, G-20 governments also implemented targeted measures to support jobs and workers. For the most part, countries used “tried and tested” policies that have a track record and for which they have an established institutional capacity. Commonly used measures can be grouped into three categories:

- **Stimulating labour demand.** These measures have taken a number of forms, including public spending on infrastructure projects, retaining workers through reduced working hours, measures to support small and medium-sized enterprises (SMEs), and subsidies intended to encourage more rapid hiring in the early stages of the recovery.
- **Extending social protection.** Social protection has helped many families cope with the recession, especially where systems were already in place and could be quickly expanded. Targeting public employment programmes to depressed areas can be effective where schemes are well designed.
- **Promoting employment services and job skills.** Reinforced public employment services and strengthened co-operation with private employment agencies can play a major role in promoting a quick re-integration of job seekers into employment as the economy recovers, and are vital to help disadvantaged workers keep a foothold in the world of work. Enterprises and governments have used the downturn as an opportunity to promote the acquisition of new skills, providing employees, job seekers, and new entrants with additional training. In all these areas, wide use has been made of social dialogue among business and labour and with government.

Countries continue to adapt employment measures, although the policy emphasis is changing as labour market conditions evolve. A number of labour-demand measures are likely to be phased out in 2010 or 2011, with some countries shifting their focus from job-retention measures (e.g. short-time work) to hiring subsidies and other measures to promote a job-rich recovery. As labour market conditions normalise, attention should progressively shift toward developing the framework for achieving sustainable gains in the quantity and quality of jobs.

24. The World Bank found in a review of 45 middle-income countries’ experience that the crisis had a greater effect on the quality of employment than on the quantity of jobs (Khanna, Newhouse and Paci, 2010). Earnings growth on average slowed far more than employment growth. In several countries, workers saw their hours reduced but their hourly wages changed little. For a given decline in GDP growth, however, countries with smaller manufacturing sectors and larger export sectors were better able to protect earnings. Extraordinary hours-worked declined in several countries, which is consistent with recent findings of an ILO survey of 54 countries suggesting that reductions in hours worked was a common response to the downturn in such diverse countries as Argentina, China, Colombia, Indonesia, Jordan, Mexico, the Philippines, and Vietnam (ILO, 2009). Hours reductions were also important in a number of high-income countries such as Germany and Japan (OECD, 2010). The ILO survey also revealed that on

average labour force participation rates remained almost unchanged (from 54.0% to 54.3%). Unemployment rates also hardly changed (from 9.9% to 10.3%). In other words, while very mild added-worker effects may have increased participation,¹ a smaller share of the labour force was actually employed. Small changes in aggregate employment masked significant shifts out of manufacturing and into the agricultural and service sectors. The fall in industrial employment is not surprising, given the fact that manufacturing exports suffered most during the crisis. Moreover, entry barriers are lower for family businesses in retail trade and agriculture, facilitating employment shifts into these sectors. Even within the service and industrial sectors, however, the more productive industrial and service sectors suffered the most.

25. The shocks have had different impacts on age groups within the population. Youths tend to be disproportionately affected by economic crises (Islam *et al.*, 2000) and the recent crisis has not been an exception (OECD, 2010; ILO, 2010c). In the European Union, employment fell by 5.1% for those aged 15-24 between the first quarter of 2008 and the third quarter of 2009. In the United States the equivalent decline was 15.4% (Bell and Blanchflower, 2009). Youth employment fell by over 8% among OECD countries, while total employment dropped by over 2% in 2009 (OECD, 2010). Sustained youth unemployment tends to have durable, negative effects on productivity. Indeed, there is evidence that those who suffer youth unemployment tend to have lower incomes and poorer labour market experiences in later decades (e.g. Gregg and Tominey, 2005). For those aged over 50, EU employment increased by 4%, while in the United States there was a 2.5% increase in employment of those aged over 55 even while the labour market as a whole lost millions of jobs. This is a notable departure from previous recessions and may reflect, amongst other causes, labour-supply responses to losses in retirement savings as a result of the financial crisis or the reduction in early-retirement options.

26. The crisis also may have affected women and men differently. On average, it appears that women may be more likely than men to experience lower wages, while men are more likely than women to lose their jobs. In high-income countries, job losses for men were proportionately greater than those for women due to the concentration of men in the sectors in which employment and hours were cut back most sharply, especially manufacturing and construction (OECD, 2010). Evidence from previous crises suggests that women bear a disproportionately heavy burden as a consequence of lower earnings, in part driven by an influx of low-paid female “marginal workers” into the labor market. The aforementioned “added-worker effect” tends to be the strongest in the informal sectors, which pay considerably lower wages but absorb women more readily. A recent study from the United States, however, reports that structural changes in the labour market following deepening international specialisation have benefited women, whose real hourly wages have increased between 2000 and 2009 in all broad employment categories and by more than those for men (Acemoglu and Autor, 2010).

IV. Looking Forward: From Short-Term Recovery to Sustainable, Inclusive Growth

27. Section II underscores the need to appreciate the complex relationship between trade and employment in designing effective strategies to ensure a strong, balanced, and inclusive growth path for the global economy in the recovery and beyond. In this section, we turn to the question of how G-20 countries can provide leadership in this area. Additional trade liberalisation, coupled with appropriate measures to facilitate adjustment and compensate losers, can serve the interests of workers and countries at all levels of income and help to move beyond the crisis.

¹ The “added-worker effect” refers to the temporary increase in the labour supply that occurs when married women seek to replace the lost earnings of unemployed spouses. This practice was prevalent in past crises in Asia and Latin America debt crisis of the early 1980s and late 1990s (Sabarwal *et al.*, 2009).

Part 1: Strategies at the International Level

28. Countries cannot go it alone in a globalised world. While it is possible and even advisable for a government to undertake liberalisation on an autonomous basis, those reforms are likely to be more permanent, balanced, and deep when they are locked in by international agreements. The WTO plays a vital role in this process, but is not the only international institution that can help countries to promote more open trade and adjustment. The G-20 itself showed leadership in the crisis, pledging to refrain from protectionist action, and can now turn to a more active role in achieving new liberalisation. The Doha Development Agenda has been underway for close to a decade, and — as shown in research discussed below — holds out the prospects for major gains for all countries. Other international organisations can also assist countries in the inevitable adjustments that will come from a more open global market.

Resisting Protectionism

29. Despite the adoption of some trade policy measures that violated the spirit of the G-20 “standstill” agreement of November, 2008, governments did not resort to protectionism on a significant scale during the crisis. There has been no resurgence of 1930s-style protectionism, with countries erecting major new tariff and non-tariff measures to block imports.² Kee *et al.* (2010) conclude that explicitly protectionist measures accounted for no more than 2% of the drop in world trade in 2009. That is of the same order of magnitude as the estimate by the OECD, WTO and UNCTAD (2010) that less than 1% of G-20 trade has been affected by import-restricting measures adopted during the crisis.

30. This does not mean that we should be complacent. The major reason trade contracted in 2008-2009 was due to demand dynamics rather than the actions of governments. The primary focus of policy intervention during the crisis was to support the financial sector and specific industries that were particularly hard hit through subsidies and other forms of support that were outside the scope of trade policy. While the scale of trade-restricting measures taken has been relatively modest, evidence shows that among the different types of measures that were introduced to contain the crisis, direct trade-restricting measures generate the worst outcomes for trade and growth both for the country implementing the measure and for its trading partners (OECD, 2010a). The stimulus programmes are now being removed, and protectionist sentiments may increase with persistent unemployment and mounting pressure on government finances. The danger is that restrictions could build up incrementally, slowly stifling trade and ultimately weakening the effectiveness of the anti-cyclical stimulus measures that have been introduced. Once put in place, protection may become entrenched and difficult to undo. Retaliation may occur, compounding the effects of unilateral measures. Continued attention and vigilance are therefore needed.

31. Of immediate concern is the indirect impact that crisis-induced fiscal stimulus packages may have on trade. We generally think of protectionism as tariffs, quotas, or other measures imposed at the border to restrict trade or make imported products more expensive. But there is a wide array of measures that governments can take behind their borders that will have similar effects, including various forms of direct subsidies. Support to one sector in one country, whatever the motivation, disadvantages competing sectors at home and abroad.³ Simulations conducted by OECD (2010a) show that effects are particularly negative if support is afforded only to capital, because this may lead to a substitution towards more capital use in production, to the detriment of employment. Like an arms race, a subsidies race benefits no one in

² See, for example, OECD (2010a). For an exhaustive review of all trade and investment measures introduced by G-20 Governments, see the OECD, WTO, UNCTAD Report on G-20 Trade and Investment Measures, latest issue: 14 June 2010. The Global Trade Alert (www.globaltradealert.org) is another valuable initiative, providing a catalogue of measures adopted by all countries (G-20 and others) since the November, 2008 pledge.

³ This is true for sectoral support measures introduced during the crisis and those existing before the crisis, notably in the agricultural sector.

the end. Subsidies and other emergency measures imposed during the crisis should not remain in place indefinitely.

Further Liberalisation of Goods and Services

32. There is great scope for a more active and ambitious trade liberalisation agenda. An immediate opportunity exists in the form of a successful conclusion to the WTO Doha Development Agenda negotiations. An extensive empirical literature documents the potential gains from a Doha agreement; see OECD (2010a) for a survey of estimates. And new analysis by the World Bank concludes that the gains from further trade reforms are even larger than previously estimated. Once account is taken of the dispersion in protection across products — something that has not been done in the modelling literature — the real income effects of liberalisation for developing countries more than double, while those accruing to high-income economies rise by 50% (Laborde *et al.*, 2010). Full liberalisation of trade in goods is estimated to increase average real incomes in developing countries by 1.3%, and by 0.76% in high-income countries. Gains are highly skewed towards developing economies, with countries such as Brazil, Egypt, Thailand, Nigeria gaining between 3% and 6% of GDP. Aside from improvements in effective market access, a Doha deal will reduce uncertainty by expanding policy commitments in a number of areas, ranging from tariff bindings to new rules on trade facilitation. These negotiations can lock in trade reforms that have already been implemented unilaterally, and provide confidence to investors that the reforms are permanent. A Doha deal would thus increase business confidence, solidify the essential role of the rule-based, multilateral trading system, and deliver new economic opportunities.

33. A new OECD study prepared as a background paper for this report takes a fresh approach to estimating the economic effects of trade liberalisation on growth, employment, and real wages (OECD, 2010b).⁴ It employs computable equilibrium (CGE) modelling to consider the effects of two policy scenarios. In both cases the G-20 countries are assumed to cut in half their existing tariffs and NTMs. Those NTMs are now more important barriers than tariffs, and include such restrictions as domestic regulations, standards, and administrative procedures that apply to imports. In principle the underlying policy measures should also apply to domestic products, but differences in regulations and costs of enforcement may mean that foreign products are affected disproportionately. Many of the NTMs serve a legitimate public policy function, but it is widely accepted that there is substantial scope to reduce the costs on foreign products of enforcing domestic standards, as well as significant opportunities to remove redundant requirements — by accepting for example that foreign standards are equivalent to domestic ones through, *inter alia*, mutual recognition agreements. In recognition of the fact that the total elimination of NTMs is neither feasible nor desirable, the OECD study assumes that only one-half of the trade costs associated with NTMs can be removed through liberalisation.

34. The OECD study examines the impact of trade liberalisation under two scenarios that differ in their assumptions about prevailing labour market conditions. One scenario assumes weak labour markets (an “unemployment” or “recession” scenario); the other scenario assumes there is no involuntary unemployment (the “full employment” or “long-run” scenario). The “unemployment” scenario assumes

⁴ The results are based on a CGE model that covers global world trade and production, using the latest GTAP database. The model features monopolistic competition and firm-internal scale economies in manufacturing sectors. In the short run ‘recession’ environment, capital stocks are assumed fixed by sector and region; unemployment (with perfectly elastic supply at the given real wage rate) is assumed in North America, the countries of the European Union and South Africa. In the long run, capital is assumed mobile between sectors and regions and all markets are assumed to clear, including the labour market. In each economy labour supply responds positively to wage increases. Higher savings and investment yield higher capital stocks. In both settings, changes in net capital flows between economies are assumed to be zero so as not to confound the trade scenarios with macroeconomic mechanisms that lie outside the model.

that unemployment exists in North America, the EU, and South Africa, while other countries in the sample (e.g. India) are assumed to have full employment. In the countries with unemployment, wages are assumed to be fixed and any adjustments in the labour market take the form of employment changes. In the full employment scenario, labour markets are modelled by an upward sloping labour supply curve and adjustments take the form of changes in both wages and employment levels. Under both scenarios, the model forecasts the results of a 50% cut in the G-20 countries' tariffs and NTMs.

35. Table 1 reports the percentage changes in the employment of both skilled and less-skilled workers in 28 countries. The results are unambiguous: Further liberalisation produces positive outcomes for growth and employment. While there are a few countries in which the consequences would be slightly negative in the unemployment scenario, in the long run employment of both skilled and lower-skilled workers would increase in every country. The gains are expected to be higher in some countries than in others, but over the long run all countries would see employment of lower-skilled workers rise by 0.9-3.9%, and employment of skilled workers rise by 0.1-4.0%. The model also predicts that wages of unskilled workers rise modestly between 0.7% and 3.6% for the few G-20 countries that are assumed to have full employment under the unemployment scenario, but the cost savings due to liberalisation lead to a major increase in the long-run wages of unskilled workers, from 2% to 8%. Similar magnitudes are observed for skilled workers.

36. Further findings in the same study show strong income effects in both labour market scenarios, though once again the results vary across countries. Increases in national income are significant, with growth in the unemployment scenario being generally in the range of 1%-4% for all but a few G-20 countries. Long-run effects are even greater, with increases for most countries ranging between 7% and 12%. These are large effects, especially considering that they do not include the additional welfare effects captured by the analysis of trade liberalisation at a disaggregated level, as in Laborde *et al.* (2010). The main reason for the large predicted effects is that the tariff-equivalent of prevailing NTMs is high (in the 20-30% range).⁵

⁵ The income results, and hence also the employment results, are largely driven by improved market access through NTM liberalisation. The inclusion of NTMs, as well as the differentiated treatment of labour markets in the short run and in the long run, are amongst the features that distinguish this analysis from other large-scale modelling studies that have focussed on the assessment of potential effects of a Doha agreement, and that typically report somewhat lower world income effects.

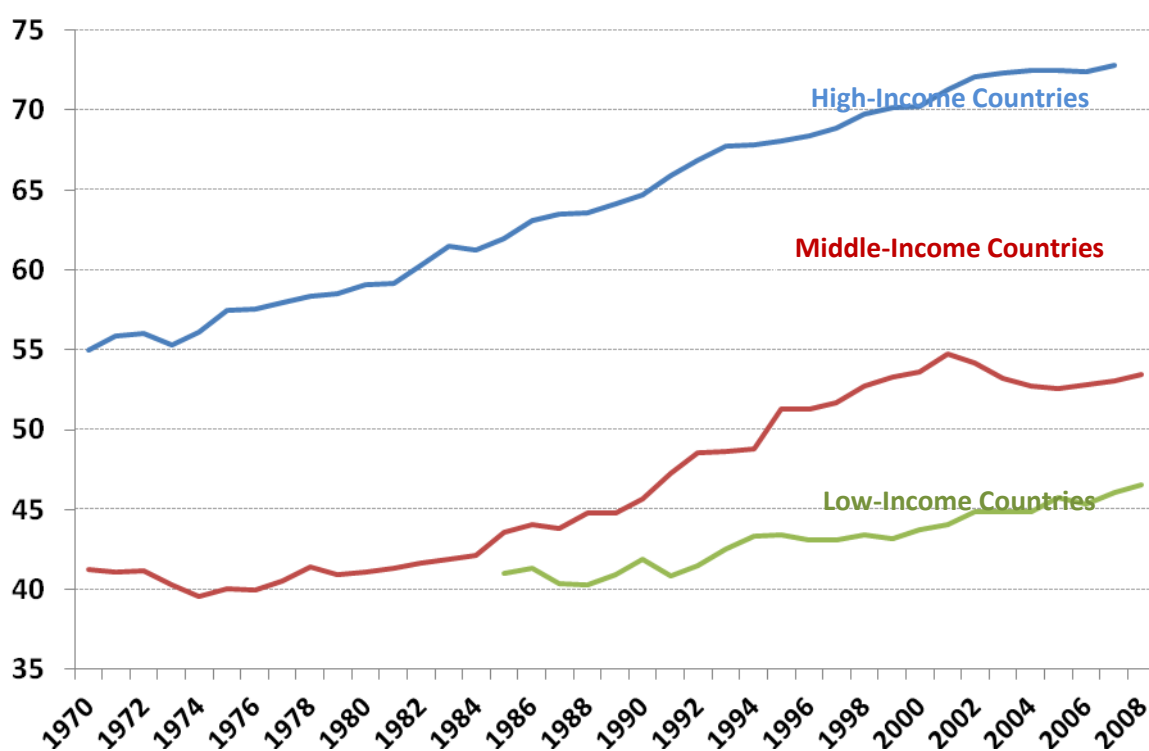
Table 1. Simulated Percentage Changes in Employment and Real Incomes Following Goods Liberalisation

Both scenarios: the G-20 Countries Implement a 50% MFN Tariff Reduction and Reduce Non-Tariff Barriers by 50% on an MFN Basis

	Less-Skilled Workers		Skilled Workers		Real Income	
	Recession scenario	Long Run scenario	Recession scenario	Long Run scenario	Recession scenario	Long Run scenario
G-20 Members						
Argentina	0.55	2.31	0.35	2.18	1.40	7.32
Australia	0.32	2.25	0.24	2.07	0.77	6.88
Brazil	0.33	1.97	0.41	2.18	1.26	7.48
Canada	0.78	1.74	1.14	1.81	0.98	5.60
China	0.79	2.73	0.97	2.96	2.91	12.13
France	0.92	2.27	1.21	2.31	1.12	6.92
Germany	0.85	2.04	1.06	2.06	1.18	6.75
Great Britain	2.70	1.86	3.15	2.27	2.83	6.58
India	0.60	2.12	1.03	3.74	2.44	9.50
Indonesia	0.65	1.88	0.31	1.42	1.64	8.03
Italy	0.23	2.71	0.44	2.72	0.59	8.63
Japan	0.61	2.32	0.68	2.47	1.03	7.62
Republic of Korea	1.77	3.94	1.76	4.01	3.15	12.18
Mexico	3.36	0.92	4.92	0.14	4.61	-0.55
Russia	0.42	1.85	1.11	3.01	2.04	8.22
South Africa	2.56	2.06	3.75	2.39	2.82	7.05
Turkey	0.47	2.60	0.53	2.67	1.13	8.80
United States	0.53	1.28	0.83	1.28	0.89	4.58
Other European Union						
Netherlands	2.56	2.53	3.01	2.59	2.49	6.94
Spain	2.12	2.67	1.95	2.32	1.78	8.55
Other Euro Zone	2.90	2.58	3.14	2.60	2.74	8.93
Other Non-Euro Zone EU	1.80	2.36	2.34	2.56	1.95	7.35
Other Developed						
New Zealand	0.56	2.63	0.16	2.02	0.80	8.24
Norway	0.34	2.33	0.33	2.32	0.25	6.49
Switzerland	0.20	1.74	0.24	1.87	0.34	6.25
Other Developing						
African Least-Developed	0.19	2.28	-0.14	1.55	0.24	6.62
Bangladesh	-0.13	0.72	-0.28	0.60	-0.03	5.26
Other ASEAN-Plus	0.58	2.99	0.25	2.07	0.69	11.04
Egypt	-0.06	1.89	-0.27	1.48	0.03	6.99
Nigeria	0.21	2.92	0.04	2.07	0.30	7.62
Thailand	0.46	2.51	-0.19	2.05	0.86	10.32
Viet Nam	0.82	1.81	0.20	1.11	1.05	6.09
Other N. Africa MidEast	0.23	2.59	0.04	2.59	0.22	7.05
Other Asian LDCs	-0.06	1.24	-0.40	0.60	0.17	7.34
Other Asia & Pacific	-0.14	1.23	-0.40	0.99	0.08	7.52
Other Latin America	0.14	1.99	-0.13	1.89	0.21	6.87
Other SSA	1.02	2.44	0.57	1.84	1.04	8.36
Rest of World	-0.06	1.82	-0.13	1.82	0.14	7.17

Source: Adapted from OECD 2010b, Table 5.

Figure 2. Share of Services in GDP, 1970-2008



Note: Excludes construction.

Source: World Development Indicators.

37. The gains are higher still when one takes into account the liberalisation of trade in services, as modern economies are service economies. There is a close association between the level of development of a country and the share of its GDP that is accounted for by services (Figure 2). Services make up about 46% of the economy in the low-income countries, 54% in the middle-income countries, and 73% in the high-income countries. The share of services has risen over time for all countries at any level of income. In 1970, for example, the share of services in GDP of the high-income countries was about equal to where it is for the middle-income countries today, and the share of services in the latter group then was even lower than that of the low-income countries today. Clearly, the development of services is intimately linked with economic development overall.

38. Identifying and quantifying trade barriers is not as straight-forward for services as it is for goods. Trade in services is restricted by a diverse array of complex, behind-the-border regulations, rather than by traditional border measures such as tariffs and quotas, and the data required to construct a credible model are simply not available. The type of CGE modelling reported above for goods is therefore not currently possible for services. It is nevertheless certain that barriers to trade and investment in services are often significant, and in many countries are higher than barriers to trade in goods (Francois and Hoekman, 2010). A World Bank database of services trade policies shows that barriers are particularly high in many countries for sectors such as professional services and transportation (Gootiiz and Mattoo, 2009).

39. Services are mainly traded through investment, which is known in WTO parlance as “commercial presence”.⁶ The OECD has constructed restrictiveness indices for policies affecting inward FDI for the major services sectors, capturing limits on foreign equity, restrictions on the nationality or residency of board members and key personnel, screening of foreign investors, and restrictions on capital flows such as repatriation of profits.⁷ Econometric estimates of the relationship between restrictions on FDI and FDI stocks find that if one cuts FDI restrictiveness in half this leads on average to a 7% increase in FDI (OECD, 2010c). The results range from zero in markets where FDI is already fully liberalised to 12% in the most restricted markets.

40. In a background paper prepared for this report, OECD (OECD 2010c) assesses the labour market effects of an increase in the stock of FDI in services. It finds that in the short run, FDI liberalisation would have a small but positive effect on employment of skilled labour, ranging from zero in countries that are already highly liberalised to a 1.4% increase. The result for unskilled labour is similar, with a short-run increase in employment ranging from zero to 1.2%. Bearing in mind that services jobs account for between 70% and 80% of total jobs, the changes are quite significant in the most restrictive countries. Furthermore, liberalisation in FDI for services does not lead to a short-run net loss of jobs in any of the G-20 countries. In the long run, when the G-20 economies are back to full employment, the impact of FDI liberalisation is mainly felt in the shifts of employment between sectors and between skilled and unskilled workers.

41. Behind-the-border regulations that significantly raise the entry costs of foreign services providers are captured in the OECD Product Market Regulation (PMR) index, which covers the overall economy as well as key services sectors such as professional services, transport, communication, electricity, and retail services. A reduction in the PMR by one index point could increase FDI by as much as 30% (OECD, 2010b). Because there is only a limited overlap between the two indicators (FDI restrictiveness and PMR), the impact of behind-the-border reforms would add to the impact of FDI liberalisation.⁸ The predicted increase in FDI stocks following a combination of FDI liberalisation and product market reforms would raise total employment in services by just under 1%, and would have an even larger impact on productivity. Unskilled labour productivity in services is estimated to increase by as much as 15%, as foreign entry brings new technology and skills upgrading. Medium-skilled workers would also see a productivity gain of about 2%, while high-skilled workers would experience a small reduction in productivity of about 1.7%.⁹

Part 2: Strategies at the National Level

42. There are economic, social, and political reasons for government policy intervention to facilitate the re-employment of trade-displaced workers in jobs that make full use of their productive capacities. From an efficiency perspective, market failures may prevent displaced workers from finding jobs in which their skills are used most efficiently. With imperfect information, displaced workers could end up in jobs

⁶ A commonly cited figure is that 56% of services trade is through commercial presence. About a quarter of the remaining services trade is conducted intra-firm, about 75% is intermediate inputs, and about half is in transport and travel.

⁷ While all of these restrictions may represent costs to foreign investors, some have been positively associated with technological spillovers to the benefit of the host economy. It has, for instance, been argued in the literature that joint ventures lead to stronger technology spillovers and ultimately stronger growth effects than FDI that is not combined with national investment (Chang, 2004).

⁸ The correlation between the two indices is only 0.15, and both indicators are included in the FDI regressions.

⁹ The changes in productivity follow from the changes in the skills composition of employment. The marginal product of any factor of production usually diminishes as the employment of that factor increases, holding the input of other factors constant.

that do not match their productivity potential. From an equity perspective, it may not seem fair to a majority of the population that the costs of adjustment are borne by a minority of workers while the gains from trade are spread among the wider population or, worse still, concentrated in the hands of a few. From a political economy perspective, resistance to trade liberalisation may strengthen over time in the absence of mechanisms ensuring support to workers negatively affected by trade reform. Adapting labour market policies to deepening international economic integration also requires measures to help workers cope with the volatility associated with external shocks, such as the sharp fall in export demand during the recent crisis. It is important, however, that governments differentiate their policy responses depending on the type of external labour market shock they are addressing. Most of the discussion below focuses on policies to help workers adapt to permanent structural change resulting from permanent trade liberalisation. Policies to reduce the social costs resulting from a transitory fall in labour demand are also briefly discussed.

43. Trade liberalisation is likely to impact employment positively, but those benefits do not necessarily materialize immediately and tend not to be distributed evenly. This makes it necessary to manage the adjustment costs associated with trade liberalisation, a point that is especially true for workers, households, and communities that are unable to harness market opportunities because entry costs are prohibitively high. A major factor to take advantage of the opportunities from trade is education. Globalisation and technological progress continue to shift labour demand towards adaptable workers with a high general level of education and the ability to continue learning throughout their professional life. This requires investment and strategies for education and skill policies that take into account the changing labour needs of the world economy

44. Smooth adjustment requires that an economy have several components in place (Haltiwanger, 2010). Infrastructure needs to be of sufficiently high quality to ensure that the growth of existing and start-up businesses is not thwarted by bottlenecks in transportation and communications. Competition policy and efficient markets are needed to prevent large firms from abusing their market power or obtaining special treatment from the state. Financial markets need to be sufficiently developed to fund new and expanding businesses, and to deal with the high rate of failure among start-ups and small businesses. Regulations should provide appropriate oversight without imposing onerous time and resource costs either entry or exit. The legal system has to function so that property rights are well-established and bankruptcy and business failure can be accommodated. The rule of law must ensure that graft, corruption, and other forms of criminal activity don't disadvantage the businesses that play by the rules.

Peer-to-Peer Approaches to Regulatory Liberalisation

45. Trade negotiations are conducted on a country-to-country basis, but the domestic consultative process is also important. Countries cannot reach agreement with one another over which commitments they will make without first determining at home what it is they should ask of their partners and what it is they are prepared to offer. This process of consultations with other ministries and the private sector was relatively simple in the days when trade policy covered only tariffs and other border measures related to manufactures, but is vastly more complex when the scope of negotiations covers (among other things) services, intellectual property rights, and other behind-the-border measures.

46. This is among the reasons why the pace of the negotiations in the Doha Development Agenda has been so slow, especially on trade in services. Trade ministries in all countries, no matter what the level of economic development, tend to encounter resistance when seeking guidance from other ministries that have line responsibility for the regulation of services (e.g., transportation, communications, health, etc.). It is difficult to break a deadlock in Geneva if it is preceded by a series of deadlocks in national capitals.

47. International organisations can help national governments to develop effective policies in several ways (Box 2). One is by assisting them to undertake a concerted effort to exchange information on national

experiences with regulation and enforcement. Sharing experiences regarding what works and what does not, could help improve awareness, consultations, and ultimately preparedness. Establishment of a forum under the auspices of the G-20 aimed at substantive discussion and analysis of the impacts of liberalisation and complementary sector-specific regulation could do much to build a common understanding of the potential gains from liberalisation, especially for services trade. Experience has shown that progress in services negotiations is smoother if they are conducted by trade negotiators and regulators together. A co-operative mechanism that generates information, analysis, and data on regulatory experience could also do much to assist poorer developing countries to improve regulatory norms and their implementation — especially if taken up as part of the Aid for Trade Initiative. Indeed, there could also be scope to steer technical assistance directly to the strengthening of regulatory bodies in developing countries (Hoekman and Mattoo, 2007; Jansen, 2007).

Box 2. International Institutions Can Help National Governments to Promote Sustainable and Inclusive Growth

It is vital that countries have in place the mechanisms needed not merely to take advantage of the opportunities that trade liberalisation offers to the more productive and efficient firms, but also to help manage the displacements that will be experienced by less-efficient firms and the workers that they employ. While national governments have primary responsibility for devising and implementing their programmes, international organisations can provide assistance in a number of areas.

One is to help countries identify the distribution of the benefits and the costs of liberalisation. International organisations can help countries determine which regions, sectors, skill groups, and occupations are expected to benefit, and which are expected to lose in the short, medium or long run. They can also help countries to understand better how trade policies and labour market and social policies interact, and thus contribute to more coherent policy design.

International organisations can contribute to disseminating knowledge and building capacity on the issue of trade and employment, thus assisting policymakers and private sector actors to understand the challenges better. These organisations can provide platforms at the national, regional, or global level where decision makers in charge of trade policies can meet those in charge of labour markets and social policies.

Another important role for international organisations is to provide technical assistance to countries in designing programmes to assist workers, firms, and communities in adjusting to increased competition and exposure to external shocks. Existing initiatives such as the Social Protection Floor Initiative, the Enhanced Integrated Framework for the least-developed countries, and Aid for Trade offer useful experiences on which to build.

International financial institutions can work to direct more resources to financing adjustment programmes, as already contemplated under the Aid for Trade initiative, and in mobilizing additional resources. They can also work to directing additional resources towards the strengthening of social protection systems and strengthening the skill base of the workforce. This can help to ensure that developing countries, which generally have higher levels of trade protection, are able to seize the opportunities provided by liberalisation. Without sufficiently developed human and physical infrastructure, a country's potential to gain from the global marketplace is blunted. Removing such constraints to trade, particularly for the least-developed economies, would help to ensure a stronger and more balanced global economy.

Promoting Labour Market Adaptability.

48. Modern economies need to constantly reallocate resources, including labour, from declining to expanding firms and sectors (Blanchard, 2005; Bartelsman *et al*, 2009). The process of resource reallocation is one of the key engines of productivity and economic growth and it is enhanced by trade openness and the associated higher pace of technological transfers. But labour market adjustments are rarely smooth and their impact is often significant for those who lose their jobs. Workers displaced from declining industries or firms are not necessarily well positioned to move into newly created jobs that may require different qualifications, or they may be located in different regions.

49. Governments have different tools to promote the required adaptability in the labour market, including the reallocation of workers from declining to expanding activities, while also cushioning the impact on the affected workers (ILO and WTO; 2007; OECD 2006). Beyond the enforcement of the basic principles and rights at work (see Box 4), governments often regulate the hiring and firing of workers through employment protection legislation. Interventions in this area are clearly justified by the need to protect workers from arbitrary actions and to provide some stability in employment. There could also be efficiency considerations to the extent hiring and firing regulations lead to long-lasting work relationships that encourage firms' investment in human capital of their workforce. But, as with the majority of labor regulations, onerous employment protection provisions can raise labor costs and reduce job creation (OECD, 2010). Moreover, by raising labor adjustment costs, employment protection may also reduce firms' ability to reallocate resources and take advantage of the opportunities offered by new technologies and access to new markets.¹⁰

Box 3. Fundamental Principles and Rights at Work

Labour market institutions which encompass labor legislation, institutions for collective bargaining and social dialogue, and government agencies responsible for labor market policies, differ considerably across countries.

Despite this diversity, there are some universally held standards. The ILO's Declaration of Fundamental Principles and Rights at Work of 1998 spells out a number of basic principles and rights that include freedom of association, the right to collective bargaining and non-discrimination. The Declaration also covers the elimination of all forms of forced or compulsory labour as well as the effective abolition of child labour. In the ILO Declaration on Social Justice for a Fair Globalisation (2008), ILO Members agreed that the violation of fundamental principles and rights at work cannot be invoked or otherwise used as a legitimate comparative advantage and that labour standards should also not be used for protectionist trade purposes. Despite the fact that many countries have signed the ILO Conventions associated with the Declaration, enforcement of these core labour standards is still a major challenge in a number of them.

50. Governments thus face the difficult challenge of promoting labour market adaptability while protecting workers against arbitrariness and maintaining incentives for firms to invest in human capital. Over the past two decades, many countries have sought to promote labour market adaptability by reforming employment protection legislation. But in a number of cases, such reforms have involved easing regulations on *temporary* and other atypical labour contracts, while leaving in place stringent restrictions on permanent contracts. While increasing overall labour mobility, these reforms have not necessarily promoted a more efficient allocation of workers towards more productive and rewarding jobs. At the same time, they have greatly exposed workers holding temporary contracts to business-cycle fluctuations, as clearly shown during the recent crisis when temporary workers bore the brunt of job losses in most countries (OECD, 2010). To promote labour market adaptability, it is important to strike an appropriate balance between the employment protection of temporary and permanent contracts so as to allow temporary jobs to function better as stepping stones into permanent jobs, rather than as traps.

Supporting Workers Affected by Change

51. Adequate employment protection legislation should be accompanied by effective labour market programmes to cushion the costs for workers affected by labour mobility and facilitate quick reintegration into productive and rewarding jobs. These include adequate safety nets –typically in the form of unemployment benefits - with clear job-search incentives and effective re-employment services. As is

¹⁰ Lamo et al. (2007), Janiak (2007) and Saint-Paul (2007) show that, if labour is not mobile across sectors or firms within sectors, opening to trade may destroy more jobs than it creates.

emphasised in the Reassessed OECD Jobs Strategy (OECD, 2006) relatively generous welfare benefits can be consistent with high employment rates and efficient worker mobility. But these benefits work best if they are part of an activation/mutual obligation strategy, which combines effective re-employment services with strong job-search incentives, enforced by the threat of moderate benefit sanctions.

52. Unemployment benefits that provide social insurance against the loss of earnings due to unemployment are, however, likely to cover only part of the costs incurred by displaced workers. Evidence on trade-displaced workers, for instance, suggests that workers may earn significantly less in the jobs they find after unemployment (Kletzer, 2001; Ebenstein *et al.* 2009).¹¹ Wage-insurance programmes that pay an earnings subsidy to displaced workers who accept a new job at a lower wage can help to cushion income losses that persist after displaced workers are re-employed.¹² Given that these schemes raise complex design-related issues, they must be carefully scrutinised to assess whether other redistribution policies can be more effective in compensating the affected workers.

53. While in advanced countries unemployment benefits represent a key pillar in the strategy to support jobseekers and facilitate their reintegration into employment, the relatively minimal coverage of unemployment compensation systems and the often low benefit levels limit their capacity to provide adequate safety nets in most developing and emerging economies. However, a growing number of emerging economies – including Brazil, Chile, China and Indonesia - have introduced cash transfer programmes to provide some protection to the poorest segments of their populations. Cash transfer programmes tend to reduce the long-term impact of income shocks on the chronically poor through income provision and, when conditional, have had positive consequences on children’s education and health outcomes.

Efficient re-employment services can make a real difference

54. By helping trade-displaced workers to re-integrate into the workforce, active labour market programmes (ALMPs) can enhance the adaptive capacity of labour markets while mitigating the costs imposed on job losers. AMLPs that are widely used in industrialised countries include such measures as job-search assistance, retraining schemes for displaced workers, relocation assistance, employment subsidies, public-sector job creation, or assistance for small business start-ups. They are likely to be most effective if supported by efficient systems of Labour Market Information and Analysis. Experience in different OECD countries suggests that active programmes work best if they fully integrated with income support schemes and if they are tailored to the different needs of the jobseekers (OECD, 2005).

55. Many developing countries also use ALMPs, but the scale of such interventions and the resources devoted to them are more limited (ILO and WTO, 2007). The management and design of the programmes do not seem to be optimal. There is clearly a case for strengthening the capacity of these countries to use ALMPs. One complicating factor is the aforementioned duality of labour markets in many developing countries, in which a high proportion of total employment is in the informal economy.

Is There a Role for Targeted Trade-Adjustment Programmes?

56. There is still an intense debate as to whether specific measures should be put in place to assist trade-displaced workers (OECD, 2005; ILO and WTO, 2007). Some argue that it is preferable to assist trade-displaced workers using general earnings-replacement, redistribution and active labour market

¹¹ These findings confirm the predictions of trade theory that some workers may suffer long-term losses from trade reform either in relative or absolute terms (ILO and WTO, 2007).

¹² A wage-insurance component has, for example, been included as a component of the U.S. Trade Adjustment Assistance scheme (Kletzer and Litan, 2001; Kletzer, 2004).

policies. General schemes have the advantage that they do not need to go through the difficult task of identifying trade displaced workers (WTO, 2008) and that they also reach those indirectly affected by trade reform or trade shocks. Relying on general programmes also avoids the extra administrative costs associated with setting up dedicated programmes, and may lead to more equitable treatment of workers experiencing similar labour market difficulties, independent of whether trade competition played a role in causing their difficulties. Experience in a number of OECD countries (e.g. the United States) nevertheless suggests that targeted programmes may be better able to provide a co-ordinated package of services for workers affected by mass layoffs (OECD, 2005a). But the argument in favour of these programmes rests partly on the important political purpose that they can play. Those segments of civil society that are concerned by the potential disruptions that might result from trade liberalisation, as well as those policymakers who represent those constituents, may be less inclined to oppose the negotiation, approval, and implementation of trade agreements if those initiatives are complemented by trade adjustment-assistance programmes.

Labour Market Policy Responses to Negative but Transitory Trade Shocks

57. Trade can also be a source of *transitory* external shocks on national labour markets as shown by the widespread impact of the recent world trade collapse on advanced and emerging economies alike (Jansen and von Uexkull, 2010). The recent crisis has shown that countries with unemployment benefit or cash transfer schemes in place before the crisis were relatively well positioned to deal with the crisis because the schemes automatically increased disbursements and effectively absorbed income shocks caused by job or revenue losses (Cazes and Verrick, 2010; OECD 2010, Paci *et al.*, 2009). To be most effective, existing schemes have been upscaled during the crisis in numerous industrialised countries but also in emerging economies like Brazil, Chile or Russia. Many advanced and emerging economies have also boosted funding for existing ALMPs during the crisis (OECD, 2010).

58. Among the ALMPs that can be most effective in the aftermath of a temporary trade shock are those aimed at promoting labour demand. During the recent economic crisis, short-time working (STW) schemes, such as the German *Kurzarbeit* scheme or the French *chômage partiel*, have proved to be particularly effective in preserving viable jobs (OECD, 2010; Hijzen and Venn, 2010). Many advanced and emerging economies have introduced and scaled up STWs. Examples of companies that introduced similar schemes during the crisis after consultation with their employees and without government subsidisation illustrates the very positive role social dialogue can play in times of crisis (ILO, 2010d). To be effective, STWs should be well designed to support viable firms and jobs and should be temporary to avoid hindering productivity-enhancing labour reallocation.

59. Work-sharing schemes are less effective for those entering the labour market and those on temporary or other atypical contracts who are not covered by these schemes, including the youth who have been hard hit by the recent crisis. Youth measures include efforts to keep them in school until they acquire a diploma that is recognised by employers and measures to promote job creation. The latter can be achieved through subsidised apprenticeship programmes as well as tax cuts and wage subsidies for low-wage jobs or for jobs taken up by youths (Scarpetta *et al.* 2010; Bell and Blanchflower, 2009; Cazes and Verick, 2009).

The Need for Fiscal Space to Provide Social Protection

60. Transitory shocks such as the recent crisis tend to produce both an increase in the demand for social protection policies and a reduction in the revenue needed to fund these programmes. That reduction in revenue may result both from the dampening of economic activity as well as tax incentives that are

introduced to stimulate the economy.¹³ Government budgets are thus likely to come under pressure during crises, and the latest episode is no exception. Creating fiscal space during phases of growth should be a priority for policymakers as it will allow them to act when a crisis hits.

61. Trade contributes to growth in national income, which in turn leads to increases in tax revenues. However, openness can also impose certain limitations on governments' capacity to build fiscal space as openness may lead governments to reduce capital taxation and increase government spending towards privately productive public goods (such as R&D and infrastructures) to attract and retain FDI (Liberati, 2007; Garrett, 2001). This "efficiency" effect tends to lower total spending, and in particular lower spending on such items as social insurance. Openness increases the demand by voters for social insurance to mitigate higher exposure to external shocks¹⁴ and the recent crisis underlines the need for well-designed social protection systems that can be expanded or deployed in the event of an economic shock. Momentum on this should not be allowed to flag after the crisis abates; the rebuilding of sound government budgets should go hand- in- hand with the strengthening of social protection systems where they are currently weak and the maintenance of schemes that have proven to be effective during the crisis.

V. Conclusion

62. In their request for a report on the benefits of trade liberalisation for employment and growth the G-20 leaders observed that "open markets play a pivotal role in supporting growth and job creation". The available evidence and analysis underscores the importance of open markets for growth, employment and development. Trade liberalisation, accompanied by an appropriate microeconomic and macroeconomic policy framework, is an engine of growth in developed and developing countries alike. Trade contributes to efficiency and technological progress, allowing countries to benefit through increases in real living standards. Trade liberalisation can counteract declines in demand that are brought about by transitory global economic shocks and improve long-run growth prospects via a permanent, supply-side stimulus. Moreover, if properly managed, trade liberalisation can be a crucial component of a "pro-poor" development strategy.

63. It must also be emphasised that the changes brought by trade liberalisation come at a cost to workers in the less-efficient firms/industries as they transition to more-efficient firms/industries. These costs may be short-run in nature due to "frictional" unemployment, but also could be permanent if workers receive lower remuneration and if some find themselves "structurally" unemployed.

64. Both equity and efficiency demand that market-opening initiatives be embedded in an appropriate overall policy framework that fosters inclusive growth and improves employment outcomes. Complementary policies are needed to ensure that the benefits from trade are widely shared especially by poor households and regions that potentially have the most to gain but that may not be able to leverage new opportunities because of market imperfections, inadequate infrastructure, and the like. Well-designed labour and education policies can help to maximise the gains for competitive producers while easing the transition for those who experience disruptions.

65. While economies are still recovering from the downturn of 2008, the crisis phase has passed. During that crisis the G-20 countries demonstrated their willingness to act collectively to prevent a wave of protectionism, and thus to preserve the decades of progress towards the liberalisation of global markets. That same leadership and willingness can now be directed towards the pursuit of a concerted program of

¹³ The OECD Economic Outlook database suggests median falls in tax revenues across the OECD of 1.2% of GDP in 2009 and 1.5% in 2010. Moreover, the IMF (2010) found that the sharp recession-induced fall in tax revenues is the main reasons for growing budget deficits in numerous countries.

¹⁴ Some scholars call this the "compensation effect." See, for example, Cameron (1978) and Rodrik (1998).

trade and investment liberalisation and ensuring that the benefits of trade are widely shared– starting with a renewed focus to conclude the Doha Development Agenda expeditiously. Actions to remove barriers to trade in goods and services will support greater economic activity for the world as a whole, while at the same time helping to achieve a more balanced global economy.

66. When opening their markets, countries are well-advised to adopt a comprehensive policy strategy to address adjustment problems and distributional concerns. That strategy requires that countries have institutions to ensure that the benefits are passed on to consumers and workers; effective labour market policies to facilitate adjustment and enhance mobility; macroeconomic policies to promote growth and employment; and investments in education. The crisis demonstrated that open economies are exposed to external shocks, but it also showed how social protection systems help to manage shocks. Openness to trade also helps economies recover more quickly: an economy that is more open is also more agile and adaptable because it is less constrained by the limits of domestic demand.

67. National governments are principally responsible for putting these elements in place, but international institutions can play an important facilitative role; they can ensure that the economic rationale and the consequences of liberalisation are well understood, as are the policy requirements that enable the benefits from increased openness to be widely shared between and within countries. International organisations can also provide technical and financial assistance to help developing countries take full advantage of a more open market and to deal with the challenge of adjustment. Existing initiatives, such as Aid for Trade, the Enhanced Integrated Framework for least-developed countries and the Social Protection Floor Initiative, offer useful models on which to build.

APPENDIX.
THE RELATIONSHIP BETWEEN TRADE AND EMPLOYMENT:
A REVIEW OF THE LATEST SCHOLARSHIP

The review of literature that follows covers many studies that place as much emphasis on the challenges as on the opportunities of trade liberalisation. It also reports on work which argues that an increasing share of the labour force may have reasons to view trade as a potential threat to job security. Some evidence exists that rising foreign competition and technical change may be causing wages and employment to become more sensitive to economic shocks. There is also evidence that national institutions and policies significantly affect the impact of trade and globalisation on labour market performance.

A few caveats are in order before turning to the literature. One is that, as Krugman (2008) and others have pointed out, some studies in this area are dated. Research that uses data from the 1980s and 1990s does not reflect the dramatic increase in industrialized countries' imports of manufactures from developing countries or the rise of off-shoring. Where possible, therefore, the review that follows is based more on recent than on older studies, and is largely confined to those that are empirical rather than those based on theoretical models.

Many of the issues discussed here are matters of active debate, and consensus can sometimes be elusive. Disagreement sometimes emerges not only on the conclusions that can be drawn from the data, but on what are the right questions to ask. Moreover, some issues relating to trade and employment have received sustained attention for decades, while others remain under-examined. Recent surveys of the literature observe, for example, that there is remarkably little theoretical or empirical work on the relationship between trade and transitional unemployment (Hoekman and Winters, 2007; Goldberg and Pavcnik, 2007).

The holes in the scholarship can be especially large for developing countries. Few studies exist on the relationship between trade reform and the elasticity of demand for labour in developing countries – to name one topic – and those few that we have yield mixed results. The lack of evidence on the relationship between trade and transitional unemployment in the case of developing countries can be linked to the difficulties of measuring or even defining the phenomenon of transitional unemployment in dualistic economies, where a large share of employment is informal (Hoekman and Winters, 2007). Evidence on the linkages between trade and informal employment is scarce, mainly because of the lack of data on informality and the regulatory compliance of firms. A recent review of the research on trade and informality found that the limited amount of evidence available does not allow one to draw any general conclusions regarding the effect of trade opening on informal employment (ILO and WTO, 2009).

The Impact of Trade on Employment

Traditional trade models typically assume full employment of all factors of production and thus do not help much in understanding the effect of trade on the overall level of employment in an economy. Predictions tend to be ambiguous when market imperfections such as wage rigidities or job searching mechanisms are introduced into the models (Hoekman and Winters, 2007). Helpman et al. (2010), for instance, show that the reallocation of resources towards more productive firms following the opening of trade reduces the hiring rate. By contrast, the tightness of the labour market can either remain constant or rise. The net effect of opening a closed economy to trade on the unemployment rate is thus ambiguous.

Some authors find that trade openness reduces the structural rate of unemployment, both in a restricted panel of OECD countries and in a cross-section for a larger set of countries (Felbermayr *et al.*, 2009). A 10% increase in total trade openness is found to reduce unemployment by about one percentage point. Openness increases total factor productivity, and that in turn has a strong negative effect on the rate of unemployment. Another cross-national study found fairly strong evidence that unemployment and trade openness are negatively correlated (Dutt *et al.*, 2009). Overall, the results suggest that trade opening has a short-run unemployment-increasing impact, followed by an unemployment-reducing effect over the long run.

Other empirical studies suggest that the degree of trade openness is not an important determinant of either overall employment or aggregate unemployment. In OECD countries, neither the share of the working-age population that is employed nor the rate of unemployment are correlated with trade openness (OECD, 2005a and 2007a). Hoekman and Winters (2007) found no empirical evidence supporting the view that trade opening could have adverse long-run consequences for employment. On the contrary, trade liberalisation increased participation in some Latin American countries. A more recent study using data from a large set of developing countries over the period 1980-2006 found that the correlation between trade liberalisation and overall industrial employment is close to zero (McMillan and Verduzco, 2010). The same result holds whether the correlation is measured from a short-run or a long-run perspective. The impact of trade liberalisation can nevertheless be country-specific, and those that liberalise aggressively may have different outcomes (McMillan and Verduzco, 2010). For instance, China and India both experienced similar reductions in tariffs of around 40% over the long run. While subsequent industrial employment boomed in China, it showed only a modest increase in India.

While most trade models would typically predict that opening to trade should not affect aggregate employment, they all predict that it should induce some reallocation of labour between firms or industries. There is some evidence of a relatively weak negative impact of import competition on sectoral employment. OECD (2007) found no significant association between import penetration and industry-level labour demand.¹⁵ One recent study finds significant although relatively small effects of the import penetration rate on manufacturing employment in the United States: a 1 percentage point increase in import penetration is associated with a 0.6 percent decrease in sectoral employment (Ebenstein *et al.*, 2009). Import penetration can however only explain less than 5 percent of the reduction in manufacturing employment observed in the United States over the sample period considered by the authors (1983-2002).¹⁶ The results for developing countries are mixed, but overall they show low correlations between import penetration and sectoral employment. Castro *et al.* (2007), for instance, show that in Argentina the increase in overall import penetration during the period 1991-2003 could explain about 6% of the decline in manufacturing employment, which was at most 20% of the total observed loss in manufacturing employment; the remaining 80% had other causes.

¹⁵ The same study, however, found that a higher share of imports from non-OECD countries in total imports is associated with lower sectoral labour demand. See below.

¹⁶ Similar qualitative results are found by Tomiura (2003) for Japan.

Are the Jobs Lost to Imports Replaced by Exporters?

Available evidence appears to suggest that in the longer run the net effect of trade opening on employment is muted. In the shorter run, however, job destructions may exceed job creations, leading to temporary increases in unemployment. On the theoretical side, Lamo et al. (2007) and Saint-Paul (2007) show that if labor is not mobile across sectors because human capital is sector-specific, opening to trade destroys more jobs than it creates. In a heterogeneous firms framework, Janiak (2007) shows that this phenomenon can also hold within industries. Job destruction overweighs job creation (that is, not all displaced workers are absorbed by the more productive firms that increase their market share) because more productive firms seek to exploit their market power on the goods market, extracting higher rents.¹⁷

On the empirical side, a recent study using a sample of developed and developing countries for the period 1990-2000 shows a rise in nationwide unemployment rate in the year of liberalisation of about 0.6%, due to dislocation effects (Dutt et al., 2009). Janiak (2007) also finds that, in the United States in the 1980s, a 1 point increase in the import penetration ratio led to a 14.7 points surge of the job destruction rate, whereas the positive effects on job creation was marginal. He also finds that increases in the export ratio generated higher increase in job destruction than in job creation (6.5 against 4.5). Two recent studies tend to confirm that trade induces displacements and they suggest that it may take time for displaced workers to find new jobs. A study shows that trade opening in Uruguay in the 1980s and early 1990s was associated with much higher job destruction but only with slightly higher job creation (Casacuberta and Gandelman, 2010). Another study shows that Brazil's trade liberalisation in the early 1990s resulted in worker displacements from the previously protected industries, but that these displaced workers were not absorbed by the most competitive industries (Muendler, 2010). Comparative-advantage industries and exporters displace significantly more workers and hire fewer workers than the average employer. Most displaced workers shift to non-traded industries or out of formal employment. And resource reallocation appears to remain incomplete for years.

While it may seem obvious that workers who lose jobs in an import-competing industry would do well to seek employment in an exporting industry, there are several reasons why this is difficult. In addition to possible market failures and incompatible skill-sets, as discussed in the section dealing with adjustment programs, there may be other problems. The exporting “winners” may not necessarily expand their job base. One explanation for the fall of employment in comparative-advantage industries seems to be that these firms raise productivity faster than in other industries in response to tougher competition and enhanced export opportunities. (see Menezes-Filho and Muendler, 2007, for evidence on Brazil).

Another important stylised fact regarding the reallocation process is that trade liberalisation appears to have far smaller effects on intersectoral labour shifts than is often presumed. In their review of 25 liberalisation episodes across developing and developed countries Wacziarg and Wallack (2004) find little evidence that opening up to trade leads to increased intersectoral labour reallocation. Similarly, case studies of developing countries in Roberts and Tybout (1996) have shown that, after controlling for demand shocks, industry exit and entry generally do not increase with import competition. Some of the reasons for this may be the relatively short timeframe of many empirical analyses and the focus on formal

¹⁷ See also Caballero and Hammour (1996) for more insights on the short run relation between trade and unemployment. There are also some studies (Egger et al. 2006; Munch 2005) that study short-run employment dynamics (adjustment costs) induced by material offshoring. The effects are generally small (but negative). Feenstra (2010) argues job churning could derive by the incapacity of workers to fulfill the newly created tasks requirements. In fact, both in domestic and foreign countries offshoring determines an upward shift of the average skill level required.

employment (Hoekman and Porto, 2010). However, this result has also been attributed to rigid labour markets or to the existence of imperfect product markets (Goldberg and Pavcnik, 2007).

Within-industry reallocations seem to be more significant. Haltiwanger *et al.* (2004) found that trade liberalisation increased the pace of within-industry job reallocation for a set of Latin American countries. Sanchez and Butler (2004) found that trade liberalisation and labour market reforms in Argentina have led to the displacement of inefficient firms by more efficient entrants. Furthermore, they found that this reallocation has been accompanied by intensified job churning. Kim and Sun (2009) studied the effect of NAFTA on labour churning within industries (apparel and automotive) in the United States, finding significant effects. Likewise, Elliot and Lindley (2006) find that there has been more intra-industry than inter-industry mobility as a result of trade liberalisation in the UK manufacturing sector during the period 1995-2000.

The Impact of Trade on Wages and Inequality within Countries

Inequality has risen in many countries in recent decades, and the relationship between inequality and growth has been an important focus of academic inquiry. Inequality is a multifaceted phenomenon that is associated with seemingly unrelated but critical developments such as the emergence of the subprime mortgage crisis in the United States (the trigger event for the broader global crisis) and strong export orientation in China. Different measures of inequality have been used in the empirical literature analysing the distributional effects of trade reform: wage inequality between high- and low-skilled labour, the labour share of income, the Gini coefficient, and percentile shares (WTO 2008, Box 16).

The share of national income accounted for by wages has declined in most OECD countries since 1980. The average wage, in other words, has not grown as fast as the growth in labour productivity, trade, and foreign direct investment. There may be several causes for the decline in the national wage share, ranging from the reduced bargaining power of workers to the adoption of more capital-intensive technologies by firms and changes in the structure of economies (i.e., a shift from labour-intensive to more capital-intensive sectors) (de Serres *et al.* 2002). The effect of globalisation has been estimated to be small (see, for instance Welsch and Ochs, 2005).

As argued above, the relative demand for unskilled workers has decreased in the last decades in a number of industrialised and developing countries, exerting downward pressure on their relative wage and employment. According to the traditional trade model, trade should increase the relative demand for the relatively more abundant factor, presumably skilled labour in developed countries and unskilled labour in developing ones. The labour market developments of the 1980s and early 1990s were therefore consistent with the predictions of the traditional trade model only for developed countries, but not for developing ones.

Computerisation and other technological advances have probably been more important than trade in stimulating demand for more skilled labour. As Jaumotte *et al.* (2008) and others have stressed, the effect of skill-biased technical change (e.g., the increased use of computers in the workplace) is often identified as a cause of the growing inequality in the United States. The argument here is that falling relative demand for low-skilled workers has more than offset the falling relative supply of these workers, and thus produced downward pressure on their wages. The fact that wage inequality has also tended to increase in many developing countries is consistent with the explanation that skill-biased technical change played a major role in raising skill requirements. Other authors point instead to a weakening of redistributive policies. One survey (Howell, 2002) found that the evidence for skill-biased technical change is debatable, pointing out that growing inequality was concentrated in the 1980s whereas the computerization of the workplace did not take off until the 1990s. OECD data and analyses confirm that inequality has tended to increase in recent decades, but also suggest that the role of globalisation in this

process has been modest (OECD, 2007a). The early empirical literature did not find evidence of a substantial impact of trade opening on the wage differential between skilled and unskilled workers in developed countries. The relevant effects on wage inequality were mostly attributed to skill-biased technological change.¹⁸ The impact of trade on wages was deemed small. This was not only the conclusion of labour economists, but also of trade economists (Baldwin and Cain, 1997; Baldwin and Hilton, 1984; Krugman, 2000; Leamer, 1994, 1998, 2000; Haskel and Slaughter, 2001).

However, Krugman (2008) has recently argued that research that uses data from the 1980s and 1990s is outdated, because it does not reflect the dramatic increase in manufactured imports from developing countries since the early 1990s, which could in turn be responsible for the increase in wage inequality in the United States and other advanced countries. Moreover, some studies have suggested that the industry level may be the wrong unit of analysis when studying the impact of trade or offshoring on wage inequality. Ebenstein et al. (2009) argue that major rigidities in the labor market are in fact linked to mobility across occupations, not sectors. If workers find it easy to relocate within (or across) sectors, but are more likely to remain in the same occupation when they switch jobs, then occupation-specific measures of international competition are more appropriate for capturing the effects of trade and offshoring on wages. They conclude that a one percentage point increase in occupation-specific import competition is associated with a 0.25% decline in real wages.

As far as developing countries are concerned, many of them – presumably relatively abundant in unskilled labor – also experienced a widening of the wage gap between skilled and unskilled workers in the last two decades. As argued above, this is inconsistent with the predictions of traditional trade models. Goldberg and Pavcnik (2007) discuss a number of potential explanations for these developments. In this context, it is interesting to note that offshoring from high-income countries is associated with an increase in the relative demand for skilled workers.¹⁹ Both country and industry characteristics are important in explaining skill premia, according to Brambilla *et al.* (2010). Their study of Latin American trade concluded that higher sectoral exports are positively linked with the skill premium at the industry level, but that the effect may not be very large; a doubling in sectoral exports is associated with a 0.28 percentage point increase in the skill premium at the industry level.

There is also a large body of literature that documents the presence of exporter wage premia – i.e. the difference in the wage paid by exporters and the wage paid by non-exporters – both in developed and in developing countries. Evidence from U.S. firm-level data shows that exporters are roughly 11% more productive in terms of value-added per worker and 3% more productive in terms of total factor productivity. They also pay about 6% higher wages. The difference among exporters and non-exporters remains even after controlling for size and industry effects (Bernard et al. 2007). In Western European countries, exporting firms tend to pay wages that are 10-20% higher than non-exporting ones (Mayer and Ottaviano, 2007). Similar results have been observed in a number of developing countries. Isgut (2001), for example, shows that in Colombia average annual wages were much higher in exporting plants than in non-exporting plants. Similarly, Sinani (2003) finds that in Estonia average labour costs for exporters were four times (in 1994) and three times (in 1999) higher than the average labour costs for non-exporters. And Van Biesebroeck (2005) calculates that, after controlling for size, exporting firms in a subset of Sub-Saharan African countries pay on average 34% higher wages than non-exporting firms.

Frías *et al.* (2009) find that approximately two-thirds of the higher level of wages in larger, more productive plants is explained by higher levels of export wage premia, and that nearly all of the differential

¹⁸ For a survey of the specific results of this literature, see WTO (2008), Section E.

¹⁹ See Feenstra and Hanson (1997) for a theoretical model and an empirical application to Mexico and Lorentowicz et al. (2005) for an application to Poland.

within-industry wage change due to the export shock is explained by changes in export wage premia. Some studies indicate that exporters can be distinguished from non-exporters even before they penetrate foreign markets. In Germany, for example, the exporter wage premium already existed in the years before firms start to export, and it does not increase in the following years. Higher wages in exporting firms thus appear to be due to self-selection of more productive, better paying firms into export markets (Schank *et al.*, 2008).

Conversely, there is not much empirical evidence that trade liberalisation significantly affects industry wage premia – defined as the fraction of worker wages that cannot be explained by observable worker characteristics (Goldberg and Pavcnik, 2007). This is not surprising, given that the theory is ambiguous. On the one hand, trade liberalisation may lead to lower rents in protected industries, reducing industry wages. On the other hand, trade liberalisation might increase the average level of industry productivity, raising industry-specific wages. Goldberg and Pavcnik (2007) argue that the studies that find a decline in industry wages following liberalisation estimate effects that are too small to contribute to any observed increase in wage inequality across different skill groups.

Trade and Poverty

The large body of empirical work on the topic strongly supports the theoretical presumption that trade liberalisation reduces poverty on average and in the long run (Winters, *et. al.* 2004). Moreover, there is no evidence that it leads to an increase in poverty. Indeed, the record of growth and poverty reduction achieved by the developing countries that oriented their economies towards dynamic participation in world trade, investment and technology flows stands as one of the most remarkable episodes in the history of economic development. Living standards have improved dramatically in outward-oriented countries, mainly in Asia, ranging from the East-Asian “tigers” (e.g., Korea, Singapore, and Hong Kong, China) to the emerging South-East Asian economy of Malaysia, Thailand and Indonesia. In 1975, six out of ten Asians lived in absolute poverty (defined as less than \$1 of income a day), a plight that afflicts less than two out of ten Asians today. Equally compelling in this regard is the case of China who, with a current population of 1.3 billion, managed to bring down the share of its people living in poverty from 53% at the onset of economic reforms in 1981 to 8% twenty years later (Ravallion and Chen, 2007). This would suggest that over 400 million people have risen out of abject poverty in China alone since it began to open to the outside world.

Still, as we note throughout this report, there are always losers as well as winners throughout the process of structural adjustment, and some households can be adversely affected by greater openness. As the very poor are the least able to sustain negative shocks of this sort, the case for complementary policies and social policies to protect the most vulnerable is even stronger.

Differences across Sectors and Type of Trading Partner

Foreign competition reduces employment in the most exposed industries. More jobs tend to disappear in import-competing industries such as (in the case of industrialised countries) the manufacture of clothing and consumer electronics (OECD, 2007a). Empirical work also suggests that the origin of the imports matters. Imports from low-wage countries have a stronger impact on displacing jobs than trade between high-income countries. One reason for the difference is that a great deal of North-North trade is *intra*-industry trade, with a pair of countries trading some of the same products with one another (for example, automobiles). North-South trade is more likely to be characterised to a greater extent by *inter*-industry due to the often large differences in input prices and technology.

In OECD countries, a higher share of imports from non-OECD countries in total imports is associated with lower sectoral labour demand (OECD, 2007). Another study of the role of international trade in the reallocation of U.S. manufacturing within and across industries confirms that the geographical composition of imports matters, and that plant survival and growth are negatively associated with industry exposure to imports from low-wage countries (Bernard *et al.*, 2006). Yet another finding is that the size of countries may matter, and that employment levels in small, open economies may be more affected by trade than is the case for large economies. For a small open economy like Austria, Onaran (2008) estimates that import penetration from the Eastern European countries resulted in a cumulative decline of 20.9% in total manufacturing employment; manufacturing employment would have decreased 1.8% less without imports.

This issue has produced a lively debate among economists in the United States. Based on the growing share of high-tech goods in the types of goods traded between industrialised and developing countries, Lawrence (2008) concludes that imports from developing countries could not be the source of rising inequality in the industrialised countries. This view is not universally held. Krugman (2008) took issue with Lawrence's analysis of the imports from developing countries, noting that much of the developing-country content embedded in these goods was less sophisticated than the final product. He characterises the apparent sophistication of developing country exports as "largely a statistical illusion" that results from the phenomenon of vertical specialisation with low trade costs.

The Labour Market Effects of Off-Shoring

Disaggregated supply chains and off-shoring — broadly defined as the physical relocation of parts of the production process in a foreign country — play an increasingly important role in the trading system. Off-shoring has multiple effects on employment. While evidence suggests that the effects of off-shoring on employment are weaker than those stemming from import penetration (Biscourp and Kramarz, 2007; Ebenstein *et al.*, 2009), they have attracted considerable attention because of the fear that this new form of international trade would lead to extensive job destruction.

From the perspective of an industrialised country, sourcing in developing countries means that domestic production will become less labour-intensive, and employment in the industrialised country will generally fall for any given level of output. Off-shoring, however, also raises productivity, permitting lower prices and higher profits that lead to higher sales. The additional hiring due to improved competitiveness and higher sales appears to be sufficiently large to offset the job losses due to the fall in labour intensity (OECD, 2007; Hijzen and Swaim, 2007). A study of 17 OECD countries found that off-shoring has either no effect or a slight positive effect on sectoral employment (Hijzen and Swaim, 2007). Intra-industry off-shoring reduces the labour intensity of production but does not affect overall industry employment. This is because the productivity gains from such off-shoring are sufficiently large for the jobs created by higher sales to offset completely the jobs lost by relocating certain production stages to foreign production sites. Inter-industry off-shoring does not affect labour intensity, but may have a positive effect on overall industry employment.

Another study found a small effect of off-shoring on U.S. manufacturing employment (Ebenstein *et al.*, 2009). As in the case of import competition, the effect depends on the location of offshore activities: While a 10 percentage point increase in off-shoring to low-wage countries reduces employment in manufacturing by 0.2%, off-shoring to high-wage countries increases employment in manufacturing by 0.8%. Similarly, in their study of 89 Swedish industries in the period 1995-2000, Ekholm and Hakkala (2005) distinguish between off-shoring to low-income countries and off-shoring to high-income countries. The effect of the former depends on the educational attainment of workers (it is positive on highly educated ones, negative on workers with an intermediate level of education). The latter (the main type in Sweden's case) has no statistically significant effect.

An extensive body of empirical literature has focused on the effects of off-shoring on the relative employment and the relative wage of skilled versus unskilled workers. In the 1980s and the first half of the 1990s, the labour markets of a number of countries experienced an increase in the employment and wages of skilled workers relative to unskilled workers in both developed and developing countries (Feenstra, 2010). As claimed above, skill biased technical change (SBTC) has been the main driver of observed increases in inequality. Material off-shoring, however, has been identified as a trade explanation that produces outcomes that are observationally equivalent to those of SBTC (Feenstra and Hanson, 1997). It has been claimed that material off-shoring hurts unskilled workers employed in manufacturing in developed countries, by easing the possibility to substitute them with imported intermediate inputs from less developed countries (Feenstra and Hanson, 1997). Of course, off-shoring benefit workers in destination countries, and from an overall welfare consideration, off-shoring is no different from other forms of international competition of factors.

In countries with flexible labor markets, the increase in the relative demand for skilled workers has brought about an increase both in their relative wage and in their relative employment. In countries with less flexible labor markets, where wage flexibility is low, the increase in the relative demand for skilled workers has brought about small changes in the relative wage, but significant increases in the relative skilled employment and decreases in unemployment for the unskilled. A comprehensive survey of the literature (Crinò, 2009) concludes that in both groups of countries material off-shoring has been an important determinant of the outward shift of the relative labor demand, contributing to the increase in skilled employment and wages. Specifically, material off-shoring mainly worked by reducing the relative labor demand for workers with the lowest level of skills.

In the United States during the second half of the 1990s the relative wage of skilled workers went up, but this development was coupled with a decrease in their relative employment. These seemingly contradictory trends might be explained either by an increase in the relative demand for workers towards the high end of the skill distribution and away from workers with medium skills, or alternatively by services off-shoring (Feenstra, 2010). A study by Sitchinava (2008) shows that the increased use of computers explains 95% of the rise in the relative wage of skilled labour, while service off-shoring contributes to 15% of that increase and material off-shoring to 7%. These figures imply that services off-shoring might have a larger impact than the materials type on the dynamics of relative wages in the 1990s.

Trade and Worker Insecurity

Closer trade integration makes employment and earnings more responsive to changing business conditions. Firms with international production networks are better able to reallocate jobs across international borders in response to changes in relative wages in different countries. This could expose the workforce to greater insecurity, and also tends to weaken the bargaining position of employees.

Some evidence has been presented of foreign competition directly increasing job instability and wage instability. Using data from the European Community Household Panel, the OECD (2007) concluded that a depreciation of the industry-specific real exchange rate (a proxy for foreign competition) makes jobs less stable. Moreover, the intensification of foreign competition via an appreciation of the exchange rate tends to amplify the sensitivity of wages to industry-specific shocks. The economic impact is modest, but relatively more important for low-tenure and low-skill workers than for other groups in the workforce. There is also some evidence that the Mexican trade reforms in the 1980s and 1990s, and in particular the tariff declines, were associated with increased income uncertainty (Krebs *et al.*, 2005).

Two other, indirect channels exist through which employment and wage prospects might be worsened by trade. First, trade may increase volatility in wage and employment by leading to greater price volatility and productivity shocks. Second, trade may increase the (absolute value of the) elasticity of labor

demand, either through pro-competitive effects on product markets or by enhancing the substitutability of domestic labor with foreign labor.²⁰ There is no conclusive evidence in favor of the former channel (see Scheve and Slaughter, 2004). However, for what concerns the impact on the elasticity of labor demand, OECD (2007) documents a significant increase between 1980 and 2002. OECD (2007) finds that increased exposure to international trade, especially in the form of offshoring, raised the elasticity of labor demand, by making it easier to substitute between domestic workers and their foreign counterparts. Results from numerical simulations show that the offshoring-driven raise in labor demand elasticity, in turn, can lead to considerably more volatility of both wages and employment (OECD, 2007).

Trade and Adjustment Costs

Until recently most of the evidence on the incidence of trade-related displacement and consequent costs was indirect and tended to understate adjustment costs (OECD, 2005). Estimating the incidence of trade-related job displacements and the resulting adjustment costs, however, is notoriously difficult. First, identifying displaced workers for whom international trade is likely to have played a significant role in causing their employer to terminate their job is a challenge. Also, the focus should be on the impact of trade on job displacement or gross job destruction rather than net employment changes. For reasons of data availability, however, most research has used the latter. Moreover, layoffs cannot be seen as purely economic phenomena, but also have far-reaching social, health, and political effects. They are associated not just with the immediate loss of earnings, but also with future losses; those losses are higher if the layoffs occur during a recession. They are also associated with a higher risk of stress-related illnesses in the short term and higher mortality rates in the long term. Several studies have also shown that children suffer: in the short-run, parental job loss tends to reduce the schooling achievement of their children. Parental job loss increases the probability that a child repeats a grade in school by nearly 15 percent (Stevens and Schaller, 2009), and a father's income loss reduces the earnings prospects of their sons (Oreopoulos et al., 2008). Moreover, individuals who have experienced a recession in early adulthood tend to believe less in personal effort, perceive stronger inequalities, and have less confidence in public institutions (Giuliano and Spilimbergo, 2009). According to Altindag and Mocan (2010), the personal experience with joblessness translates into negative opinions about the effectiveness of democracy and increases the desire for a rogue leader, this effect is found to be more pronounced for the long-term unemployed, and it extends to individuals who live in a country and period with high unemployment even if they do not themselves lose a job.

Research on a wide range of countries has shown that adjustment costs vary significantly among displaced workers and that they depend on certain personal characteristics (OECD, 2005). Evidence for the United States suggests that workers displaced from high-international-competition industries are similar to those displaced from medium-competition industries (Kletzer, 2001). It also shows an important dispersion of characteristics among workers displaced from the high-competition-industries. In both the United States and Europe, workers displaced from jobs in the industries facing the most intense international competition are slower to become re-employed and experience larger wage losses than do workers displaced from other industries (OECD, 2005). In the United States, the wage losses are a major source of earning losses for the displaced workers while long term unemployment and labor-force withdrawal are the biggest source of losses in Europe. Interestingly, workers' characteristics and their matching with local labor demand seem to be more important for determining adjustment costs than the precise reason for the layoff (Kletzer, 2001). Adjustment costs appear to be highest for older workers, for workers with higher tenures and for less educated job losers. Finally, an examination of re-employment by broad sectors confirms that many displaced workers become re-employed in the same industry or a closely related one.

²⁰ Both ideas have been advanced by Rodrik (1997).

Trade and Gender Inequality

The impact of trade liberalisation on women is important not only because they represent over half of any population but, as OECD (2009) argues, also because they face constraints that make them less able to benefit from liberalisation. Women often have less access to productive resources, time, and education, but well-designed policy responses may aid women in taking advantage of greater openness to trade. That conclusion is seconded by the World Bank (2004), which argues that policymakers need to consider a broad range of issues unrelated to trade if both women and men are to reap the full benefits of trade expansion. These include skills acquisition, a non-discriminatory labour market, and unemployment benefits. Women's education and skill accumulation are the most important factors determining the impact of trade on women's employment and the gender wage gap, and as long as women remain less qualified they are likely to remain in lower-paying, less secure jobs. Education and skills also provide greater flexibility and power to negotiate wages and other work conditions. Enactment and enforcement of antidiscrimination laws are also critical as wage discrimination often persists with trade expansion.

The World Bank (2004) argues that trade tends to increase the availability of wage jobs for women in developing countries, particularly in export sectors, but also acknowledges that certain factors (e.g., discrimination, lower skills, and gender inequalities in access to resources) may impede women's ability to benefit from trade expansion. Some of these factors may be especially prevalent among female farmers in Sub-Saharan Africa. Other contributors to the literature are less positive. Rodgers and Menon (2008) found that increasing trade openness in more concentrated industries is associated with growing residual wage gaps between men and women employed in India's manufacturing industries. Competition from international trade rather than domestic pressures or changes in worker characteristics caused an increase in wage discrepancies between men and women. Schultz (2006) found in a sample of 70 countries from 1965 to 1980 that tariff, quota, and foreign exchange restrictions were inversely associated not only with trade, but also with the levels of education and health, especially for women. Liberalisation of trade policy is consequently linked to increased trade, to greater accumulation of human capital, and to increased gender equality. Çağatay (2001) saw both positive and negative links. She observed first that the export-orientation of developing countries advances in tandem with the increase in women's share of paid employment, but also observed that in industrialised economies increased trade with developing countries has led to loss of women's employment in industries where they are over-represented (e.g., textiles, apparel, and leather goods).

As is the case for the wider literature on trade and employment, much depends on the sectors involved. Busse and Spielmann (2005) found that countries with a larger gender wage gap have higher exports of labour-intensive goods, and gender inequality in labour force activity rates and educational attainment rates are negatively linked with comparative advantage in labour-intensive commodities. According to Seguino (2005), a concentration of women in mobile export industries that face severe competition from other low-wage countries reduces their bargaining power and inhibits closure of gender-wage gaps. In Japan increased international competition, especially from neighbouring Asian countries, is associated with wage discrimination against women in all industries, resulting in a wider gender wage gap. The gap widened in competitive industries that experienced greater increase in export share than in those that export little. Among concentrated (or high-tech) industries, an increase in exports reduced gender wage inequality (Yamamoto, 2007). Schultz (2006) observes that natural resource exports appear to reduce investments in schooling and health, and also delay the equalization of these human capital investments between men and women.

BIBLIOGRAPHY

- Acemoglu, D. and D. Autor. 2010. "Skills, Tasks and Technologies: Implications for Employment and Earnings", NBER Working Paper 16082, June.
- Altindag, D.T. and N.H. Mocan. 2010. "Joblessness and Perceptions about the Effectiveness of Democracy." NBER Working Paper No. 15994. Cambridge, Massachusetts: National Bureau of Economic Research.
- Baldwin, Robert E. and Glen G. Cain. 1997. "Shifts in U.S. Relative Wages: The Role of Trade, Technology, and Factor Endowments." NBER Working Paper 5934. Cambridge, Massachusetts; National Bureau of Economic Research.
- Baldwin, R. E. and R. S. Hilton. 1984. "A Technique for Indicating Comparative Costs and Predicting Changes in Trade Ratios." *Review of Economics and Statistics* Volume 66 Number 1.
- Bartelsman, E. J. Haltiwanger and S. Scarpetta, 2009. "Measuring and Analyzing Cross-country Differences in Firm Dynamics," NBER Chapters, in: *Producer Dynamics: New Evidence from Micro Data* National Bureau of Economic Research, Inc.
- Beaulieu, Eugene, Vivek Dehejia and Hazrat-Omar Zakhilwal, 2004. "International Trade, Labour Turnover, and the Wage Premium: Testing the Bhagwati-Dehejia Hypothesis for Canada," CESifo Working Paper Series 1149, CESifo Group Munich.
- Bell, David and David Blanchflower. 2009. "What Should be Done about Rising Unemployment in the UK?" IZA Discussion Paper No. 4040.
- Bernard, Andrew B., J. Bradford Jensen, Stephen Redding and Peter K. Schott. 2007. "Firms in International Trade," CEP Discussion Papers dp0795, Centre for Economic Performance, LSE.
- Bernard, A. B., Bradford J.J., and P.K. Schott. 2006. "Survival of the Best Fit: Exposure to Low-Wage Countries and the (Uneven) Growth of U.S. Manufacturing Plants." *Journal of International Economics* Volume 68 Number 1.
- Biscourp, P. and F. Kramarz. 2007. "Employment, Skill Structure and International Trade: Firm-Level Evidence for France." *Journal of International Economics* Volume 72 Number 1.
- Blanchard, Olivier. 2005. "European Unemployment: The Evolution of Facts and Ideas." Processed.
- Borchert, I. and A. Mattoo. 2009. *The Crisis-Resilience of Services Trade*. World Bank Policy Research Working Paper 4917. Washington, D.C.: World Bank.
- Brambilla, Irene, Rafael Dix Carneiro, Daniel Lederman, and Guido Porto. 2010. *Skills, Exports, and the Wages of Five Million Latin American Workers*. World Bank Policy Research Working Paper 5246. Washington, D.C.: World Bank.
- Busse, Matthias and Christian Spielmann. 2005. *Gender Inequality and Trade*. Discussion Paper 308. Hamburg: Hamburgisches Welt-Wirtschafts-Archiv.
- Caballero, R. and M. Hammour, 1996, "On the Ills of Adjustment," *Journal of Development Economics*, 51, 161-92.

- Çağatay, Nilüfer. 2001. *Trade, Gender and Poverty*. New York: United Nations Development Programme.
- Cameron, David R. 1978. "The Expansion of the Public Economy: A Comparative Analysis." *American Political Science Review* Volume 72 Number 4.
- Casacuberta, C. and N. Gandelman. 2010. "Reallocation and Adjustment in the Manufacturing Sector." Chapter in Hoekman and Porto (2010).
- Castro, L., M. Olarreaga and D. Saslavsky. 2007. *The Impact of Trade with China and India on Argentina's Manufacturing Employment*. Policy Research Working Paper Series 4153. Washington, D.C.: The World Bank.
- Cazes, Sandrine, Sher Verick and Caroline Heuer. 2009. "Labour Market Policies Times of Crisis." Employment Working Paper No. 35. Geneva: ILO.
- Chetty, R. 2008. "Moral Hazard vs. Liquidity and Optimal Unemployment Insurance." *Journal of Political Economy* Volume 116 Number 2.
- Collins, S., ed. 1998. *Imports, Exports and the American Worker*. Washington, D.C.: Brookings Institution.
- Crinò, R. 2009. "Off-Shoring, Multinationals and Labour Market: A Review of the Empirical Literature." *Journal of Economic Surveys* Volume 23 Number 2.
- De Serres, A.S. Scarpetta and C. de la Maisonneuve. 2002. "Falling Wage Shares in Europe and the United States: How Important is Aggregation Bias?" *Empirica* Volume 28 Number 4.
- Dutt, P., D. Mitra and P. Ranjan. 2009. "International Trade and Unemployment: Theory and Cross-National Evidence." *Journal of International Economics* Volume 78 Number 1.
- Ebenstein, A., A. Harrison, M. McMillan and S. Phillips. 2009. "Estimating the Impact of Trade and Off-shoring on American Workers Using the Current Population Surveys." NBER Working Papers 15107. Cambridge, Massachusetts: National Bureau of Economic Research.
- Egger, P., M. Pfaffermayr and A. Weber, 2006, "Sectoral Adjustment of Employment: The Impact of Outsourcing and Trade at the Micro-Level," IZA Discussion Papers 921, Institute for the Study of Labor (IZA).
- Ekholm, K. and K. Hakkala. 2005. "The Effect of Off-shoring on Labour Demand: Evidence from Sweden." Working Paper Series 654, Research Institute of Industrial Economics.
- Elliott, Robert J. R. and J. K. Lindley. 2006. "Trade, Skills and Adjustment Costs: A Study of Intra - Sectoral Labour Mobility." *Review of Development Economics* Volume 10 Number 1.
- Feenstra, R.C. 2010. *Off-shoring in the Global Economy: Micro Economic Structure and Macroeconomic Implications*. Cambridge, Massachusetts: The MIT Press.
- Feenstra, R.C. and G.H. Hanson. 1997. "Foreign Direct Investment and Relative Wages: Evidence from Mexico's Maquiladoras," *Journal of International Economics*, 42, 371-394.
- Felbermayr, G., J. Prat and H.J. Schmerer. 2009. "Trade and Unemployment: What Do the Data Say?" IZA Discussion Papers 4184. Institute for the Study of Labour.

- Francois, J. And B. Hoekman. 2010. "Services Trade and Policy," *Journal of Economic Literature*, 48:642-92.
- Francois, Joseph, Miriam Manchin, and Hanna Norberg. 2010. "Labour Market Impacts of NTM and Tariff Reduction in Goods by the G-20." Processed.
- Frías, Judith A., David S. Kaplan, and Eric A. Verhoogen. 2009. "Exports and Wage Premia: Evidence from Mexican Employer-Employee Data." Processed.
- Gamberoni, Elisa, Erik Von Uexkull, and Sebastian Weber. 2010. "The Roles of Openness and Labour Market Institutions for Employment Dynamics during Economic Crises." Employment Working Paper 68 (Geneva: ILO, Employment Sector).
- Garber, P., ed. 1994. *The Mexico-US Free Trade Agreement*. Cambridge: The MIT Press.
- Garrett, Geoffrey and Deborah Mitchell, 2001. "Globalisation, government spending and taxation in the OECD," *European Journal of Political Research*, Wiley-Blackwell, vol. 39(2), pages 145-177, March.
- Gereffi, Gary and Stacey Frederick. 2010. *The Global Apparel Value Chain, Trade and the Crisis: Challenges and Opportunities for Developing Countries*. World Bank Policy Research Working Paper No. 5281. Washington, D.C.: The World Bank.
- Giuliano, P. and A. Spilimbergo. 2009. *Growing up in a Recession: Beliefs and the Macroeconomy*. NBER Working Paper No. 15321. Cambridge, Massachusetts: National Bureau of Economic Research.
- Goldberg, P. K. and N. Pavcnik. 2007. "Distributional Effects of Globalisation in Developing Countries." *Journal of Economic Literature* Volume 45 Number 1.
- Gootiiz, Batshur and Aaditya Mattoo, 2009. "Services in Doha: What's on the Table?." Policy Research Working Paper Series 4903, the World Bank.
- Green, F., A. Dickerson, and J.S. Arbache (2001). "A picture of wage inequality and the allocation of labor through a period of trade liberalisation: The case of Brazil," *WorldDevelopment*, 29: 1923-1939.
- Gregg, P.A. and E. Tominey. 2005. "The Wage Scar from Male Youth Unemployment." *Labour Economics* Volume 12.
- Haltiwanger, J. 2010. "Globalisation and Economic Volatility" (mimeo), Geneva: ILO and WTO.
- Haltiwanger, J., A. Kugler, M. Kugler, A. Micco, and Carmen Pages. 2004. "Effects of Tariffs and Real Exchange Rates on Job Reallocation: Evidence from Latin America." *Journal of Policy Reform*, Volume 7.
- Haltiwanger, J., S. Scarpetta and H. Schweiger, 2008. "Assessing Job Flows Across Countries: The Role of Industry, Firm Size and Regulations," NBER Working Papers 13920, National Bureau of Economic Research, Inc.
- Haskel, Jonathan and Slaughter, Matthew J. 2001. "Trade, Technology and U.K. Wage Inequality," *Economic Journal*, *Royal Economic Society*, 111(468), 163-87.

- Helpman, E., O. Itskhoki, and S. Redding. 2010. "Inequality and Unemployment in a Global Economy." *Econometrica* Volume 78 Number 4.
- Hijzen, A and P. Swaim. 2007. "Does Off-shoring Reduce Industry Employment?" GEP Research Paper 2007/24. Nottingham: Leverhulme Centre, University of Nottingham.
- Hoekman, B. and A. Mattoo. 2007 "Regulatory Cooperation, Aid for Trade and the GATS," *Pacific Economic Review*, 12(4), 399-418.
- Hoekman, B. and G. Porto. 2010. "Trade adjustment costs in developing countries: impacts, determinants and policy responses." In Porto and Hoekman (2010).
- Hoekman, B. and L. A. Winters. 2007. "Trade and Employment: Stylized Facts and Research Findings." Chapter in Ocampo *et al.* (2007).
- Howell, D.R. 2002. *Increasing earnings inequality and unemployment in developed countries: Markets, institutions and the „unified theory“*, SCEPA Working Paper 2002-01 (New York, NY, Schwartz Center for Economic Policy Analysis, 2002).
- Iacovone, Leonardo, 2009. *The Bigger You Are the Stronger It Makes You: Evidence on the Asymmetric Impact of Liberalisation*. Policy Research Working Paper No. 4930. The World Bank, May.
- Inter-American Development Bank (IADB), 2004. *Good Jobs Wanted: Labor Markets in Latin America*, Washington DC: IADB.
- ILO. 2009. "Protecting People, Promoting Jobs: ILO Report to G-20 Leaders' Summit, Pittsburg, 24-25 September."
- ILO. 2010. *Global Employment Trends-2010*, Geneva.
- ILO .2010a. *Accelerating a job-rich recovery in G20 countries: building on experience*", An ILO report with substantive contributions from the OECD to the G20 Labour and Employment Ministers Meeting, Washington D.C. April 2010.
- ILO. 2010c. *Global Employment Trends for Youth-2010*, Geneva.
- ILO. 2010d. *Social Dialogue during the Crisis*, unpublished manuscript. Geneva: ILO Sectoral Activities Department.
- ILO and WTO. 2007. "Trade and Employment Challenges for Policy Research." International Labour Office and World Trade Organisation, Geneva.
- ILO and WTO. 2009. "Globalisation and Informal Jobs in Developing Countries," International Labour Office and World Trade Organisation, Geneva.
- International Monetary Fund. 2010. *IMF Fiscal Monitoring Series: Navigating the Fiscal Challenges Ahead*. World Economic and Financial Surveys. Washington, D.C.: 2010.
- Isgut, Alberto E. 2001. "What's Different about Exporters? Evidence from Colombian Manufacturing." *Journal of Development Studies* Volume 37 Number 5.

- Islam, R., G. Betcherman and A.N. Luinstra (2000): *East Asian Labour Markets and the Economic Crisis: Impacts, Responses and Lessons* (Washington, D.C., World Bank).
- Janiak, A. 2007. "Does Trade Liberalisation Lead to Unemployment? Theory and Some Evidence," *mimeo*, ECARES, Université Libre de Bruxelles.
- Jansen, Marion. 2007. "Services Liberalisation at the Regional Level: Does Southern and Eastern Africa Stand to Gain from Economic Partnership Agreement Negotiations?" *Journal of World Trade*, 41, 2: 411-451.
- Jansen, Marion and Erik von Uexkuell. 2010. *Trade and Employment in the Global Crisis*. ILO and Academic Foundation.
- Jaumotte, F., S. Lall and C. Papageorgiou. 2008. Rising Income Inequality: Technology, or Trade and Financial Globalisation? IMF Working Paper No. 185. Washington, D.C.: International Monetary Fund.
- Kaplinsky, Raphael and Massuma Farooki. 2010. "What are the Implications for Global Value Chains when Markets Shift from North to South?", *World Bank Policy Research Working Paper* No. 5205, World Bank.
- Kee, Hiau Looi and Hoon, Hian Teck, 2005. "Trade, capital accumulation and structural unemployment: an empirical study of the Singapore economy," *Journal of Development Economics*, Elsevier, vol. 77(1), pages 125-152, June
- Kee, Hiau Looi, Christina Neagu, and Alessandro Nicita. 2010. "Is Protectionism on the Rise During the Crisis?" <http://voxeu.org/index.php?q=node/5125>.
- Khanna, Gaurav, David L. Newhouse and Pierella Paci. 2010. "Fewer jobs or smaller paychecks? Aggregate labor market impacts of the crisis in selected Middle-Income Countries," *Economic Premise*, No. 11 (April). Washington DC: World Bank.
- Kim, M. and H. Sun. 2009. "Does Trade Liberalisation Affect Labour Market Churning?", *mimeo*, U.S. Bureau of Labour Statistics.
- Klein, Michael W. and Christoph Moser & Dieter M. Urban, 2010. "The Contribution of Trade to Wage Inequality: The Role of Skill, Gender, and Nationality," NBER Working Papers 15985, National Bureau of Economic Research, Inc.
- Kletzer, L. 2001. "Job Loss from Imports: Measuring the Costs", Washington, DC: Institute for International Economics.
- Kletzer, L. and Litan, R.E. , 2001. "A Prescription to Relieve Worker Axiety" Policy Brief PB01-2, Washington, DC: Peterson Institute for International Economics.
- Kletzer, L. 2004. "Trade-Related Job Loss and Wage Insurance: A Synthetic Review" *Review of International Economics* 12(5): 724-748.

- Krebs, T., P. Krishna and W. Maloney. 2005. "Trade policy, income risk, and welfare," Policy Research Working Paper Series 3622, the World Bank, Washington, D.C.
- Krugman, P. 2008. "Trade and Wages, Reconsidered," *Brookings Papers on Economic Activity*, Spring 2008, 103-154.
- Krugman, P., 2000, "Technology, Trade and Factor Prices," *Journal of International Economics*, 50 (1), 51-71.
- Laborde, D., W. Martin and D. Van der Mensbrugge. 2010. "Measuring the Benefits of Global Trade Reform with Optimal Aggregators of Distortions," World Bank, mimeo.
- Lamo, A., J. Messina and E. Wasmer. 2007. "Are Specific Skills an Obstacle to Labour Market Adjustment? Theory and an Application to the EU Enlargement," CSEF Working Papers 172, Centre for Studies in Economics and Finance (CSEF), University of Naples, Italy.
- Lawrence, Robert. 2008. *Blue-Collar Blues: Is Trade to Blame for Rising U.S. Income Inequality?* Washington, D.C.: Institute for International Economics.
- Leamer, E.E. 1994, "Wage Effects of a US-Mexican Free Trade Agreement." Chapter in Garber (1994).
- _____. 1998. "In Search of Stolper-Samuelson Linkages between International Trade and Lower Wages." Chapter in Collins (1998).
- _____. 2000. "What's the Use of Factor Contents?" *Journal of International Economics*, Volume 50 Number 1.
- Liberati, Paolo, 2007. "Trade Openness, Capital Openness and Government Size," *Journal of Public Policy*, Cambridge University Press, vol. 27(2), pages 215-247, August.
- Lorentowicz, A., D. Marin and A. Raubold, 2005, "Is Human Capital Losing from Outsourcing? Evidence for Austria and Poland," CESifo Working Paper Series 1616, CESifo Group Munich.
- Mayer, Thierry and Ottaviano, Gianmarco. 2007. "The happy few: the internationalisation of European firms New facts based on firm-level evidence," Open Access publications from Sciences Po info:hdl:2441/10147, Sciences Po.
- McMillan, M. and I. Verduzco. 2010. "New Evidence on Trade and Employment." Processed.
- Melitz, M. J., 2003, "The Impact of Trade on Intra-Industry Reallocations and Aggregate Industry Productivity." *Econometrica*. Volume 71 Number 6.
- Menezes-Filho, N. A., M.A. Muendler. 2007. "Labour Reallocation in Response to Trade Reform," CESifo Working Paper Series 1936, CESifo Group, Munich.
- Milberg, William and Deborah Winkler. 2010. *Trade Crisis and Recovery: Restructuring of Global Value Chains.* World Bank Policy Research Working Paper No. 5294. Washington, D.C.: The World Bank.

- Muendler, M. A., 2010, "Trade Reform, Employment Allocation And Worker Flows," in Porto, G., and B. Hoekman, eds., *Trade Adjustment Costs in Developing Countries: Impacts, Determinants and Policy Responses*, World Bank, Washington, DC.
- Munch, Jakob Roland, 2005. "International Offshoring and Individual Job Separations." Discussion Papers 05-11, University of Copenhagen, Department of Economics.
- Ocampo A., K.S. Jomo and S. Khan, eds. 2007. *Policy Matters: Economic and Social Policies to Sustain Equitable Development*. London and Opus, New Delhi: Zed Books.
- OECD. 2003. *The Sources of Growth in OECD Countries*, Paris
- OECD. 2005. *OECD Employment Outlook 2005*, Paris.
- OECD. 2005a. "Trade-adjustment costs in OECD labour markets: a mountain or a molehill?", *OECD Employment Outlook*, Chapter 1, June 2005.
- OECD. 2005b. Trade and Gender: Issues and Interactions. OECD Trade Policy Working Paper No. 24. Paris.
- OECD. 2006. Boosting Jobs and Incomes: Policy Lessons from Reassessing the OECD Jobs Strategy, *OECD Employment Outlook*. Paris.
- OECD. 2007. *OECD Employment Outlook 2007*, Paris.
- OECD. 2007a. "OECD Workers in the Global Economy: Increasingly Vulnerable?", *OECD Employment Outlook*, Chapter 3, June 2007. Paris.
- OECD. 2007b. "Globalisation, Jobs and Wages", *OECD Policy Brief*, June 2007. Paris.
- OECD. 2007c. "Activating the unemployed: What countries do?", *OECD Employment Outlook*, Chapter 5, June 2007. Paris.
- OECD .2009 "Trade in Intermediate Goods and Services", OECD Trade Policy Working Papers, No. 93. Paris.
- OECD. 2010. *OECD Employment Outlook — 2010*, Paris.
- OECD. 2010a. *Trade and Economic Effects of Responses to the Economic Crisis*, Paris, France
- OECD. 2010b. Labor Market Implications of Reducing Trade Costs in Goods and Services, OECD Trade Policy Working Paper (mimeo).
- OECD. 2010c. "The Employment Implications of Liberalising Foreign Direct Investment in Services." Processed.
- OECD, WTO and UNCTAD. 2010. Report on G-20 Trade and Investment Measures.
- Onaran, Ö. 2008, "The Effect of Import Penetration on Labour Market Outcomes in Austrian Manufacturing Industry," Department of Economics Working Papers wuwp119, Vienna University of Economics, Department of Economics.

- Oreopoulos, P., M. Page and A.H. Stevens. 2008. "The Intergenerational Effects of Worker Displacement." *Journal of Labour Economics*, 26(3), pp. 455-483.
- Owen, Ann L. and Bing Y. Yu. 2008. "Regional Differences in Wage Inequality across Industries in China." *Applied Economics Letters* Volume 15 Issue 2.
- Paci, Pierella, Anna Revenga and B. Rijkers. 2009. "Coping with Crises: Why and How to Protect Employment and Earnings", World Bank Research Working Paper 5094 (Washington, D.C.).
- Porto, G., and B. Hoekman, eds. 2010. *Trade Adjustment Costs in Developing Countries: Impacts, Determinants and Policy Responses*. Washington, D.C.: The World Bank.
- Riker, David (2010), "Do Do Jobs In Export Industries Still Pay More? And Why?", *Manufacturing and Services Economics Brief*, July.
- Roberts, M. J. and J. R. Tybout. 1996. "Industrial Evolution in Developing Countries: A Preview." In Roberts and Tybout (1996).
- Roberts, M. J. and J. R. Tybout, eds. 1996. *Industrial Evolution in Developing Countries: Micro Patterns of Turnover, Productivity, and Market Structure*. Washington: Oxford University Press.
- Robertson, Raymond and Gladys Lopez-Acevedo (2010) "Apparel Wages Before and After the Better Factories Cambodia Program", World Bank Working Paper.
- Rodriguez, Francisco and Dani Rodrik. 2001. "Trade Policy and Economic Growth: A Sceptic's Guide to the Cross-National Evidence." NBER Macroeconomics Annual 2000. Cambridge, MIT Press, pp. 261-324.
- Rodrik, Dani. 1998. "Why Do More Open Economies Have Bigger Governments?" *Journal of Political Economy* Volume 106 Number 5.
- _____. *Has Globalisation Gone too Far?*, 1997, Institute for International Economics.
- Sabarwal, S., N. Sinha, and M. Buvinic. 2009. "The Global Financial Crisis: Assessing Vulnerability for Women and Children." Policy Brief, World Bank Poverty Reduction and Economic Management Network, Gender and Development Group, Washington, D.C.
- Saint-Paul, G. 2007. "Making Sense of Bolkestein-Bashing: Trade Liberalisation under Segmented Labour Markets." *Journal of International Economics* Volume 73 Number 1.
- Sanchez, G. and I. Butler. 2004. "Market Institutions, Labour Market Dynamics, and Productivity in Argentina During the 1990's." *Journal of Policy Reform* Volume 7 Number 4.
- Scarpetta, S. A. Sonnet and T. Manfredi, 2010. "Rising Youth Unemployment During The Crisis: How to Prevent Negative Long-term Consequences on a Generation?," OECD Social, Employment and Migration Working Papers 106, OECD, Directorate for Employment, Labour and Social Affairs.
- Schank, Thorsten, Claus Schnabel, and Joachim Wagner. 2008. "Higher Wages in Exporting Firms: Self-Selection, Export Effect, or Both? First Evidence from German Linked Employer-Employee Data." Discussion Paper No. 3359. Bonn: Forschungsinstitut zur Zukunft der Arbeit.

- Scheve, K. F. and M. J. Slaughter. 2004. "Economic Insecurity and the Globalisation of Production", *American Journal of Political Science*, 48 (4).
- Schultz, T. Paul. 2006. "Does the Liberalisation of Trade Advance Gender Equality in Schooling and Health?" Economic Growth Center Discussion Paper No. 935.
- Seguino, Stephanie. 2005. *Gender Inequality in a Globalizing World*. Working Paper No. 426. Annandale-on-Hudson, New York: Levy Economics Institute Working Paper Collection.
- Sinani, Evis. 2003. "Export Market Participation: The Importance of Sunk Costs and Spillovers." Mimeo, Center for East European Studies, Copenhagen Business School, March.
- Sitchinava, N. 2008. "Trade in Intermediate Goods: Trends, Effects, and Determinants." PhD Dissertation Presented to the Department of Economics and the Graduate School of the University of Oregon.
- Stevens, A. and J. Schaller. 2009. Short-run Effects of Parental Job Loss on Children's Academic Achievement, *NBER Working Paper* No. 15480, Cambridge, Massachusetts.
- Tomiura, E., 2003, "The Impact of Import Competition on Japanese Manufacturing Employment," *Journal of the Japanese and International Economies*, Elsevier, 17(2), 118-133.
- Van Biesebroeck, Johannes. 2005. "Exporting raises productivity in sub-Saharan African manufacturing firms," *Journal of International Economics*, Elsevier, 67(2), 373-391.
- Verhoogen, Eric A. 2008. "Trade, Quality Upgrading, and Wage Inequality in the Mexican Manufacturing Sector." *Quarterly Journal of Economics* Volume 123 Number 2.
- Von Braunm J. 2008. Food and Financial Crises: Implications for Agriculture and the Poor. Food Policy Report 20. Washington DC, International Food Policy Research Institute.
- Wacziarg, Romain and Jessica Seddon Wallack. 2004. "Trade Liberalisation and Intersectoral Labour Movements." *Journal of International Economics* Volume 64 Number 2.
- Welsch, Heinz and Ochs, Carsten. 2005. "The determinants of aggregate energy use in West Germany: factor substitution, technological change, and trade," *Energy Economics*, Elsevier, 27(1), 93-111.
- Were, Maureen and Steve Kayizzi-Mugerwa. 2009. "Do Exporting Firms Pay Higher Wages? Evidence from Kenya's Manufacturing Sector." *African Development Review* Volume 21 Issue 3.
- Winters, L. Alan, Neil McCulloch, and Andrew McKay. 2004. "Trade Liberalisation and Poverty: The Evidence so Far." *Journal of Economic Literature*, Vol. 42, No. 1 (March), pp. 72-115.
- World Bank. 2004. "The Impact of International Trade on Gender Equality." *PREMnotes* Number 86.
- World Bank. 2009. *Globalisation, Wages and the Quality of Jobs: five country studies*. World Bank, Washington DC
- World Bank. 2010. *Global Economic Prospects*, Washington, D.C.
- WTO. 2008. "Distributional Consequences of Trade," *World Trade Report 2004* -Trade in a Globalizing World, World Trade Organisation, Geneva.

Yamamoto, Yumiko. 2007. "Trade, Technology and Gender Wage Gap: A Case of Japan." Processed.