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**Trade Policy Review Body**

# OVERVIEW OF DEVELOPMENTS IN THE INTERNATIONAL TRADING ENVIRONMENT[1]

Annual Report by the Director-General

## PART B: SHAPING FACTORS FOR TRADE: LOOKING TO THE FUTURE

Table of Contents

*Page*



[1] This Report covers the period October 2008 to October 2009. It is presented pursuant to Paragraph G of the Trade Policy Review Mechanism and aims to assist the TPRB to undertake its annual overview of developments in the international trading environment that are having an impact on the multilateral trading system. The Report is issued under the sole responsibility of the Director-General. It has no legal effect on the rights and obligations of Members, nor does it have any legal implications with respect to the conformity of any measure noted in the Report with any WTO Agreement or any provisions thereof.

*Page*

**EXECUTIVE SUMMARY**

1. The world faces its deepest economic crisis since the 1930s with merchandise trade contracting at a rate that expert reckoning suggests is even greater than that experienced during a similar stage of the Great Depression. The reduction in trade flows stands in contrast to the process of economic integration and the dramatic expansion of trade since the end of the Second World War. In many respects, this process of globalization was deeper and more broadly based than the first wave of globalization that took place between 1870 and the start of the First World War.

2. The increased economic inter-dependence among nations was driven by a combination of technological change, economic policy reforms, and geopolitical changes. The technological drivers of globalization were innovations that improved the speed of transportation and communications and lowered their costs. Equally notable are changes in business and production methods which allowed the rise of global supply chains. Globalization benefited from economic policies that resulted in the reduction or elimination of restrictions on international trade, financial flows and movement of persons.

3. At this stage of the crisis, there is growing evidence that the worst is behind us. But as governments contemplate crisis exit strategies, one question comes to mind. How different will the world look after the crisis? More specifically, will the crisis result in a retreat from economic integration? Underlying this issue is a distinction between cyclical and secular forces. On the one hand the current contraction in economic activity and trade may be revealed to be a once-in-a-hundred year's downturn so that over time the world will return to the status quo ante. In this case the only real challenge is to ensure that any damage occasioned by the crisis is undone upon exit. But the other possibility is that the origins of the crisis and its severity will combine to create a turning point that will put the world on a different, less integrationist path. The argument for this second possibility will be strengthened if there are other secular, centrifugal forces already at work in the world economy, and which perhaps the crisis will accentuate.

<u>Shaping factors for trade</u>

4. While it may not be possible to provide a definitive answer to this question, it is possible to identify those factors that are likely to have a hand in shaping the answer. Principally, they include the macroeconomic consequences of the crisis, the deleveraging in the financial sector and likely regulatory reform; whether the U.S. dollar continues to play a dominant roles in the international economic system; the fragmentation of production ("offshoring" in common parlance) and public attitudes towards trade and globalization.

<u>Macroeconomics consequences of the crisis</u>

5. There are three main issues related to the macroeconomic consequences of the crisis that are playing a role in international trade: the contraction in aggregate demand as a result of the massive fall in asset prices, the reduction in global imbalances, and whether there will be a reversal of what has been termed the “great moderation”.

6. Estimates of the value of wealth lost as a consequence of the crisis are large, whether measured in absolute terms (in the tens of trillions of dollars), or relative to household wealth (20 per cent in the case of the United States) or relative to the size of the economy (in the order of between 70 per cent to 90 per cent of GDP in some countries). The traditional channel through which changes in household wealth affect economic activity is through the induced change in consumption. Once an unexpected loss of wealth occurs, consumers would cut their current spending as a fraction (roughly equal to the real interest rate) of the change in wealth and maintain the new level of spending over a certain period of time. This effect would operate no matter what form wealth is held, whether in

financial assets or in real assets, such as a home. The estimate of the marginal propensity to consume out of wealth found in the empirical literature generally is between 1 per cent and 10 per cent. This means that a $10 trillion reduction in wealth could permanently reduce consumption by as much as US$1 trillion a year.

7. This reduction in consumption in developed countries severely affected by the crisis will show up as a reduction in current account deficits. This follows from the condition for macroeconomic balance where the difference between domestic investment and domestic savings must be financed by foreign savings. Holding investment constant, an increase in domestic savings requires less foreign savings. Given the prominent role played by these imbalances in increasing trade in the past decade, such a reduction may well imply a slower rate of growth in international trade. This prospect raises two important questions for trade as well as for the development strategy pursued by a number of emerging economies. First, will a rebalancing reduce opportunities for economies to rely on export-led growth as a development strategy? Second, how far can increased domestic demand in some large emerging economies such as China, India, and Brazil, which have not suffered as huge a reduction in growth as developed economies, fill the gap left by the industrial economies?

8. Many emerging Asian countries have followed export-led strategies that have in large measure been remarkably successful in spurring economic development. One way that this strategy can be characterized is that it involved the cross-border transfer of goods and services to developed markets in exchange for financing the centre country's current account deficits. But given the likelihood of prolonged weakness in demand for emerging Asia's exports, the source of future growth for emerging economies may need to come from domestically generated demand. Thus, this rebalancing of demand may be in emerging Asia's own self-interest. This transformation could be managed in a number of ways: developing or improving social safety nets to reduce precautionary savings by households; accelerating the development of the domestic financial system to increase its efficiency in allocating savings to domestic investment; adopting a more flexible exchange rate regime; and obtaining a greater voice in international financial affairs so as to help reduce the incentive to self-insure against future financial crisis by accumulating large foreign exchange reserves.

9. Whether the projected decline in current account imbalances actually leads to weaker trade growth depends in part on whether domestic demand in large emerging economies such as China, India, and Brazil can fill the gap left by the industrial economies. In purchasing power parity terms, Brazil, Russia, India, and China combined are about equal to the size of the U.S. economy. However, some estimates suggest that this will not be sufficient to offset the reduction in global demand stemming from lower U.S. and EU growth in the next few years.

10. Since the early 1980s, there has been reduced volatility in inflation and GDP growth rates of industrial countries. This pattern has been so striking that a term has been coined for it: the great moderation. Stability in the global macroeconomic environment can enable more cross-border transactions to take place. Firms face reduced costs of operating in different countries. Firms engaged in international trade will encounter less volatility in exchange rates and can operate at a greater scale. Investors will be subject to less risk when making cross-border investments.

11. At least three reasons have been found to explain this great moderation. The first is luck: the world has simply been fortunate during this period not to have experienced a large adverse shock. The second explanation is structural change in economic institutions, technology, business practices, or other structural features of the economy that have improved its ability to adjust. Finally, the third explanation attributes the phenomenon to skilled economic policymakers who developed a better understanding of the economy and better economic tools to manage it.

12. But the aggressive fiscal and monetary response by governments to the crisis has dramatically increased budget deficits and expanded money supplies. A long-term threat of inflation will hang over the world if governments are unable to fashion an exit strategy from these policies when the global economy recovers. As governments wrestle with the many problems unleashed by this crisis - weak household demand, growing public debts, and the rebalancing of global demand - the world may be embarking on a more uncertain future in terms of macroeconomic policymaking. One of the consequences of the crisis may be a return to greater volatility in economic outcomes. Undoing the great moderation may well lead to a less globalized world.

Finance deleveraging and regulatory reform

13. The crisis has resulted in a massive process of financial deleveraging roughly measured as the decline in the credit to GDP ratio. This is explained partly by the fall in the market value of the assets held by financial institutions and partly by worsening macroeconomic conditions. This has direct effects on world trade through a reduction in the supply of lending for trade, and indirect effects, through the reduction in aggregate demand linked to the severe credit crunch. It is likely that this deleveraging process in the international banking sector is far from over.

14. One worrying consequence of the global credit crunch is the collapse in private capital flows to developing countries, be it foreign direct investment or other forms of inflows. This is affecting capital accumulation, and hence growth, in countries that need capital the most. It is limiting investments in trade-related infrastructure that would expand their capacity to trade in the future. Ironically, it was the growing integration of many developing country economies into the global economy that made them much more dependent on private capital flows. In many instances, the confounding of country risk and individual bank risk has fuelled unfounded fears of default from perfectly credit-worthy banks in developing countries. There may be a role for international financial institutions to play to correct this "perception gap" which might unfairly marginalize countries and institutions that have gained access to international financial markets in the early part of the decade and might lose it as a result of the "de-leveraging" process in which they bear little responsibility.

15. Given that the financial sector was the epicentre of the crisis, regulatory reform has been a major policy priority of many countries. In the short-term, it is possible that increased regulations may aggravate the credit crunch. But increased regulatory supervision can be positive for global integration and trade in the long run if it reduces systemic risk, pro-cyclical leverage and improve public confidence in the global financial system. To ensure that this objective is met, regulators need to take certain principles into account. Regulations should be applied in a non-discriminatory manner. Likewise, countries having provided support to banks, either through capital injections, liquidity provision, government loans and guarantees should, when the deleveraging process is at an end, withdraw support in a way that does not leave an uneven level-playing field between national and foreign-owned institutions.

The role of the dollar as an international currency

16. Since at least the 1920s, and definitely since after the Second World War (WWII), the United States dollar has been the main currency used in international transactions. Currently, 64 per cent of the world's allocated foreign exchange reserves are held in U.S. dollars. The share would probably be larger if unallocated foreign exchange reserves are taken into account. More than 88 per cent of daily foreign exchange trades involve the dollar. The prices of many primary commodities, including oil, are invoiced in U.S. dollars.

17. The existence of a vehicle currency saves on transaction costs and makes possible more international exchange than otherwise. It is cheaper for payments between agents in foreign countries to be made indirectly using the international currency than directly by trading in their own currency

markets. The economic literature suggests that there at least four important characteristics of a country that determines whether its currency can serve as a vehicle currency. The first is its size, in terms of output, trade and financial flows. The second is the depth of its financial market. The third is confidence by the rest of the world in the economic policies that the country pursues, and in particular, that it will not abuse its privilege of seigniorage. Lastly, there may be network externalities involved so that the more widely a currency is used in international exchange, the more economic agents will want to use it in economic transactions.

18. Some of the determinants that favour the dominant role of the dollar may be eroded by the crisis. Over the next five years, the U.S. economy is expected to grow more slowly than the rest of the world. The divergence in expected growth is particularly stark when the United States is compared with developing countries like China and India. While the United States will continue to be the biggest economy in the world, its relative share of global output will see a decline. Large future U.S. fiscal deficits and the incipient threat of inflation from monetary expansion may erode confidence in the future value of the dollar. There are also more long-term trends, such as the persistent U.S. current account deficits and the depreciation of the dollar that may work against the currency. However, the presence of network externalities creates inertia in the use of an international currency so that it retains its dominant position even if the other determinants argue for the currency's diminished importance. This means that although there may be secular and crisis-related forces that are working against the international role of the U.S. dollar, it need not immediately lose its role as a vehicle currency.

Business fragmentation

19. The international fragmentation of production has played an important role in the evolution of international trade in the last half century. Goods are increasingly made in two or more sequential stages and firms increasingly rely on imported goods. More recent developments have seen firms not only source inputs from foreign countries, but also offshore office tasks. This process has been driven by technological improvements and regulatory changes which collectively have reduced transport and communication costs as well as the cost of tariff protection.

20. Firms benefit because they can reduce their costs by locating some of those production activities in countries which have a comparative advantage in those stages of production. Many developing countries have become hosts to these offshored activities and benefited from increases in foreign direct investment (FDI), employment and trade. But many other developing countries have been left out from these production networks. The economic literature has identified what may be lacking in those countries, and consequently, what they would need to invest in if they wish to be part of international production networks in the future: a sound institutional framework that can enforce legal contracts, good physical infrastructure, and lower costs of doing business.

21. Offshoring may have served as an important channel through which the financial crisis has been propagated to international trade. In a world with offshoring, the volume of trade changes proportionately more than the change in GDP because parts and components have to cross national borders several times. Trade also declines in a more synchronised way because the reduction in imports following a negative demand shock is reflected immediately in the reduction of exports by the same country.

22. Offshoring is probably here to stay since the technological advancements that have made it possible are unlikely to be reversed. However, it is also fair to point to some long-term and crisis-related factors that may work in the opposite direction. Higher energy prices can undermine the incentive to offshore given the importance of the oil price in transport costs. If the long-term trend is towards higher energy prices, offshoring may be one of its casualties. Increased sensitivity of consumers to climate change may reduce the demand for products that need to be transported many

times or travel long distances. Since these characteristics are typical of offshored goods, this shift in consumer preferences may reduce offshoring.

23. The government response to the crisis is likely to be a major factor to consider as well. If governments respond to the crisis by turning protectionist, the higher trade costs will make offshoring less profitable. The reliance on subsidies by many rich countries may also induce some stages of production in vertically specialized production networks to switch back to developed countries. Anticipating that rich countries will be more likely than poor countries to subsidize their private sector during a crisis, firms that have offshored operations in developing countries may choose to relocate back some of their production to rich countries.

Public attitudes

24. Continued public support for trade and globalization is necessary if governments are to remain committed to economic openness. Although the crisis may be expected to sour public perceptions of the benefits from trade, strengthening or expanding social protection systems may help mitigate the fallout.

25. A number of institutions, such as Pew, the Financial Times/Harris Poll, and the German Marshall Fund, periodically conduct surveys of public opinion on trade and globalization. They show that while attitudes to trade continue to be positive, these have gradually worsened in the past few years, especially in more advanced economies. Attitudes towards immigration appear to be more stable over time. However, people tend to be more anti-immigration than anti-trade.

26. Globalization influences public perceptions through its effects on the distribution of income and on economic uncertainty. Changes in both of these variables may be responsible for the gradual rise in anti-trade attitudes particularly in countries where welfare programmes are weak or non-existent. Thus, sustaining positive attitudes to open trade requires social safety nets and welfare programmes that lower the negative consequences of economic uncertainty. However, a welfare system raises the fiscal costs of low-skilled immigration and worsens anti-immigration sentiments of natives in receiving economies. This may suggest a kind of trade-off for policymakers who wish to increase public support for globalization through the expansion of social protection systems. They may succeed in strengthening support for trade openness but at the cost of reducing support for openness to low-skilled immigrants.

27. It may be too early to infer the effect that the economic crisis has had on public attitudes and we lack world-wide surveys. Nevertheless, the crisis has introduced greater economic uncertainty and is likely to worsen attitudes towards globalization. In countries where welfare systems are more developed, attitudes to immigrants may worsen. In countries where welfare systems are less developed, the changing mood may take the form of a rise in anti-trade sentiments. The danger is that the hostile mood will eventually lead to trade restrictions and that once these barriers are in place they will be difficult to reverse. Several governments have responded to the economic crisis by boosting public spending and revitalizing welfare programmes. To the extent that these programmes reduce economic risk and uncertainty, they may have a positive effect on voters' support for open markets.

Other challenges

28. There are also other long-term challenges such as climate change, scarcities in food, energy and natural resources, and new private standards that are likely to confront the global economy in the future.

29. Private standards can perform economically useful functions. They can be a way for firms to appeal to changing consumer preferences and a form of quality control over complex production

processes. However, the proliferation of private standards and, in the end, of many competing standards for the very same products, could reduce economic efficiency. This could end up hampering the attainment of the environmental, safety, and other regulatory goals that these standards may be designed to achieve. In addition, private standards may occasionally arise from a desire to restrict competition and trade. While WTO rules have focused on government mandated product standards (technical regulations), many future standards are likely to be generated by private firms and industries. The concern is that in the future an increasingly larger part of international trade will be covered by standards that are not subject to multilateral disciplines.

30. Since 2003, the prices of food, energy and natural resources have been rising. The advent of the financial and economic crisis put a halt to this trend. This rise is explained by variety of different factors, such as the rapid economic growth and rising demand for food in some emerging economies, droughts, and the increased production of biofuels from foods. High energy prices have made agricultural production more expensive by raising the cost of inputs like fertilizers, pesticides, and transportation services. Governments have responded to high energy prices by encouraging the production and use of bio-fuels which led to a shift in cultivation away from food and towards bio-fuel feedstock putting further pressure on food prices. Rising primary commodity prices have benefited commodity exporting developing countries but harmed a number of food-importing developing countries. One concern has been with the use of export restrictions by countries trying to alleviate food scarcity at home. This can occasionally exacerbate scarcities in world markets.

31. In addition to the many threats to humankind posed by rising global temperatures, climate change can affect the pattern and volume of international trade flows. Climate change can increase the vulnerability of the supply, transport and distribution chains upon which trade depends thereby increasing the cost of international trade. Rising average temperatures and increasing frequency of extreme weather events can lead to shifts in the geographical pattern of production and hence in the direction and volume of international trade flows. This effect will be stronger in those countries whose comparative advantage stems from climatic or geographical factors. Countries that are unprepared for these changes, which most likely will be the poorest countries, may face enormous trade adjustments.

32. The link between climate change and trade is not unidirectional. International trade can play a role in mitigating climate change and in helping countries adapt to its consequences. Trade serves as a channel for spreading goods, services and technologies that are more energy efficient or emit less greenhouse gases. This is the contribution that the liberalization of environmental goods and services in the Doha Round can make to the effort to mitigate climate change. In addition, trade can help bridge differences in demand and supply conditions that may arise as a result of changes to the geographical patterns of production from climate change.

33. One key worry would be a failure by countries to achieve international agreement on how to tackle climate change. It can lead countries to use trade measures unilaterally to counterbalance the effect of climate change mitigation measures on their industries' competitiveness or as a way to strategically influence the environmental policy pursued by their trade partners. In effect, the absence of an international environmental solution may spill over into the trade arena, stoking trade tensions and reducing the potential growth of international trade.

## Conclusions

34. The massive retrenchment in international trade flows reflects the economic shock from the worst downturn since the 1930s. What is less certain is whether the economic shock has also set in motion forces that in the future will work against greater economic integration. In any case, there are certain steps governments could take now that could help revive international trade flows and strengthen the international trading system.

35. Macroeconomic policies would need to be supportive given the current weakness in private demand. They also need to dovetail with the effort to revive international trade. This means that existing and future policies must be designed so that they are non-discriminatory and do not favour home suppliers relative to foreign suppliers. As global imbalances are unwound, export-oriented emerging economies will need to depend more on domestic sources of growth. Although it is easier said than done, policymakers must be ready to withdraw stimulus and liquidity in an orderly fashion once the recovery gains solid footing.

36. Regulatory changes in the financial sector should be applied in a non-discriminatory manner. Countries that have provided support to their financial sector during the crisis must ensure that as part of their exit strategy it does not leave an uneven level-playing field between national and foreign-owned institutions.

37. Given the expected huge shortfalls in private capital flows to developing countries, multilateral, regional and bilateral donors must step up their efforts to deliver and expand aid for trade. By providing resources to build the trade-related skills and infrastructure that are vital to the integration of the poorest countries into the international trading system, aid for trade will help these countries recover from an economic crisis that they had no hand in creating.

38. With unemployment likely to continue to rise until at least next year, increasing social spending would help avert a looming social crisis. In developed countries that have been hard hit by the financial crisis, social protection systems are a valuable mechanism for underpinning public support for open trade. It is also valuable in another context as a mechanism to assist rebalancing of global demand since the lack of social protection systems in emerging economies has been raised as one of the reasons for which households there have high precautionary savings.

39. While one cannot rule out worsening employment conditions triggering more demand for trade restrictions, on the whole, the system of WTO rules have held up well in the midst of the crisis. There has been no systemic breakdown in the international trading system and WTO Members have resisted the allure of protectionism. As the worst effects of the crisis recede, WTO Members must begin to remove whatever trade-restrictive measures they have been taken, in response to the economic downturn, including subsidies and other forms of state assistance.

40. Whether it is in the context of exiting the crisis, or facing up to future scarcity in food, energy and natural resources, or dealing with climate change, open markets provide the best way for the international trading system to contribute to a solution. Beyond quickly dismantling protectionist measures, WTO Members need to push for greater market opening. The Seventh WTO Ministerial Meeting provides an opportunity for members to accelerate the final phase of negotiations so as to successfully conclude the Doha Round by 2010.

## I. INTRODUCTION

41. The period after the Second World War (WWII) was one of growing global integration and unprecedented expansion in international trade. It was made possible by technological innovations and changes to economic policies that reduced barriers to the cross-border movement of goods, capital and labour. By anchoring their development strategy to this long-term increase in international trade, many developing countries were able to structurally transform their economies and enjoy a sustained period of high growth.

42. The economic crisis that struck the world saw a near collapse of the financial system in developed economies and a massive retreat in international trade flows. Only unprecedented action to save the financial system, large doses of fiscal stimulus and quantitative easing prevented the resulting economic contraction from turning into something worse. As the world emerges from the depths of

the crisis, will we see a quick return to the economic trajectory that it was following before? Or has the crisis caused such a rupture and created enough public distrust of those forces and policies favouring globalization that the world will move to an altogether different trajectory?

43. While it may not be possible to provide a definitive answer to these questions, the report will identify those factors that are likely to have a hand in shaping the answer. Some of these factors affecting the evolution of international trade predate the current crisis while others have arisen as a result of the economic crisis. The report will consider what can be done to revive international trade flows and strengthen the international trading system. The report will pay particular attention to the plight of developing countries, examining how they have been affected by the crisis and how they, with the assistance of the international community, can best respond to the emerging challenges.

44. The report is organized as follows. Section II describes the course of economic integration in the post WWII period and identifies the main drivers of globalization. Section III identifies those factors that are likely to have both an immediate and long-term influence on the development of international trade. They include the macroeconomic consequences of the crisis and, in particular, the likelihood of prolonged weakness in aggregate demand; financial deleveraging and regulatory reform in the financial sector; the existence of a vehicle currency in the international economic system; fragmentation of production (e.g. offshoring); and public attitudes to globalization. The analysis extends to other long-term issues such as the growth in private standards, greater scarcity in food, energy and natural resources, and climate change. Section IV concludes with a number of proposals about how governments can best revive international trade and strengthen it against those centrifugal forces that have been unleashed by the crisis.

## II. GLOBALIZATION AND TRADE

45. Since the mid-19th century, there have been at least two episodes of increased global integration.[2] The first began in 1870 and ended with the beginning of the First World War. The second episode began in the aftermath of WWII and continues today. These two most recent episodes of globalization have been characterized by increased integration in trade, capital flows and movement of labour, although there are differences in the importance each of these elements played in the two episodes. In both periods, rapid trade and output growth went together with major shifts in the relative size of the economies involved.

46. After WWII, international trade entered a long period of record expansion boosting real world merchandise exports by 6.2 per cent over the 1950-2007 period. This growth was faster than that seen in the first wave of globalization and was accompanied by a long-term shift in the composition of world merchandise trade, with a substantial rise in the share of manufactured goods and a marked decline in agricultural products and non-fuels minerals. The share of agricultural products (including processed food) in world merchandise trade declined from more than 40 per cent in 1950 to less than 10 per cent since 1999. The share of fuels in world merchandise exports has fluctuated widely due to the volatility in their prices. The highest shares for fuels in world merchandise exports were reached in 1974, 1981 and 2007 (a 20 per cent share on each occasion).

47. This second period of globalization was also marked by the increased participation of emerging economies in the international economy, first as exporters of raw materials and natural resources, but increasingly too as exporters of labour-intensive manufactures and information technology products and services. An important role in this latter process was played by emerging

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[2] Baldwin, Richard, and P. Martin. 1999. 'Two Waves of Globalization: Superficial Similarities, Fundamental Differences" in Globalization and Labour, ed. H. Siebert, 3-59. Tubingen, J.C.B. Mohr for Kiel Institute of World Economics.

economies in Asia, beginning with the newly industrializing economies[3] (NIEs) who, from the 1960s onwards, followed an outward oriented trade policy and succeeded in dramatically increasing their merchandise exports. They were eventually followed by the world's two most populous states as China and India allowed private enterprise to flourish and opened up their markets to trade and investment. These economic changes have been rewarded by a sustained period of rapid economic growth lifting hundreds of millions from poverty. However, many least-developed countries, who collectively account for less than 1 per cent of world trade, have not been able to fully benefit from the process of globalization.

48. Globalization was driven primarily by technological innovations, adoption of more liberal economic policies and geopolitical changes. Chief among the technological handmaidens of globalization were inventions that improved the speed of transportation and communications and lowered their costs. These included the development of the jet engine and its universal use in aviation for transporting people and goods and the use of containers in international shipping. Massive investments in road infrastructure also allowed large shares of trade to be carried by road in Western Europe and North America. The other dramatic change was the revolution in information and communication technology. New products such as the personal computer, the cellular phone, and the internet have radically lowered communication costs facilitating the rise of global supply chains and contributing to other profound socio-political and economic changes.

49. The economic policies that have contributed most directly to global integration have been those which reduced or eliminated restrictions on international trade and financial transactions. Currencies became convertible and balance of payments restrictions were relaxed. Tariff reductions were pursued multilaterally through successive GATT negotiations and bilaterally and regionally through preferential trade opening as well. But many countries undertook trade reforms unilaterally. Many developing countries that initially had inward-looking trade policies began to shift away from the strategy of development through import substitution. One also needs to mention other economic changes that have contributed, perhaps in a more indirect way, to globalization. Beginning in the 1970s, many governments reformed their policies on major service industries such as transport and telecommunications. This process involved privatization of state-owned enterprises and the removal of government restrictions so as to increase competition in these sectors. Finally, global macroeconomic stability marked by the reduction in output and inflation volatility in major economies has provided a conducive environment to international integration (see the discussion of the "great moderation" in section III.A.3).

50. Geopolitical changes also facilitated globalization. The dissolution of the Soviet Union and the failure of the model of central planning led to the adoption of market oriented economic policies in what was once the socialist bloc and to their eventual integration into the global economy.

51. Global integration in product, capital and labour markets results in a more efficient allocation of resources so that output and incomes are higher than otherwise. Consumers and producers have a wider choice of products and services at lower prices. Capital can flow to countries which need it the most for economic development. To the extent that technology is embodied in capital goods or is closely linked to FDI flows, integration improves the growth prospects of developing countries. Allowing workers to move across national borders can alleviate skill shortages in receiving countries or improve dependency ratios in rapidly ageing societies while alleviating unemployment or under-employment in supplying countries.

[3] The NIEs include Chinese Taipei; Hong Kong, China; Korea, Republic of; Malaysia and Thailand.

## III. FACTORS LIKELY TO AFFECT THE FUTURE EVOLUTION OF TRADE

52. The dramatic retrenchment in trade and international economic integration that has been provoked by the current crisis raises the question of whether this simply reflects a short-term, or cyclical phenomenon, or whether the crisis has set in motion economic, social and political forces that will put the global economy on a less integrationist path. As stated in the Introduction, it may not be possible to provide a definitive answer to this question. However, it is possible to identify those factors that are likely to have a hand in shaping the answer. They include the macroeconomic consequences of the crisis and the unwinding of global imbalances, the deleveraging in the financial sector and likely regulatory reform, whether the U.S. dollar continues to play a dominant roles in the international economic system, the fragmentation of production (i.e., offshoring) and public attitudes towards trade and globalization. Though not covered in as much detail, there is also a discussion of the likely effects of private standards, greater scarcity in food, energy and natural resources, and climate change. In analysing each of these issues, the report attempts to distinguish those aspects that may have been present even prior to the crisis, changes stemming directly from the crisis and those effects arising from policy responses taken by governments.

### A. MACROECONOMIC CONSEQUENCES OF THE CRISIS

53. There are three main issues related to the macroeconomic consequences of the crisis that will be covered, all of which are likely to influence international trade in the short, medium and long-term. They include the contraction in aggregate demand as a result of the massive fall in wealth, the reduction in global imbalances, and whether there will be a reversal of what has been called the “great moderation”.

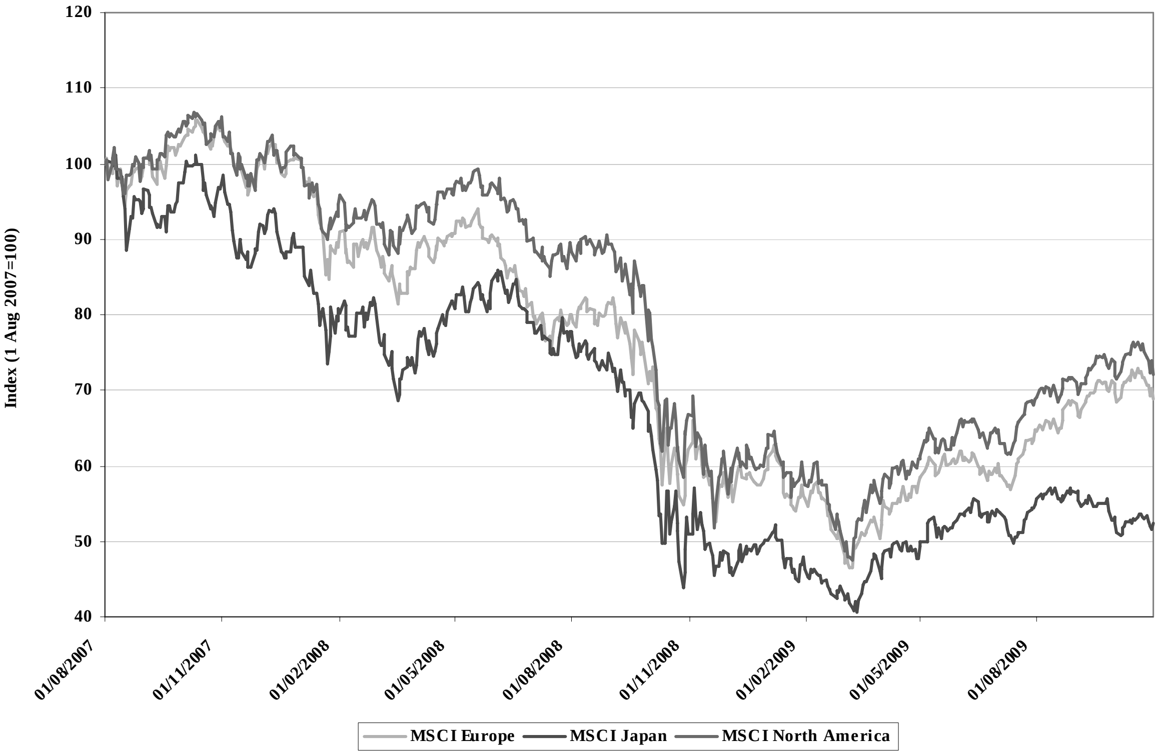
### 1. Negative wealth effect on aggregate demand

54. From a macroeconomic point of view, the crisis has been a balance sheet crisis drastically reducing the wealth of households and the assets of financial institutions. The bursting of the housing and financial bubbles has dramatically reduced household wealth, held in financial assets and homes prices in developed countries.

55. Between the end of 2007 and the second quarter of this year, the net wealth of U.S. households fell by US$12.8 trillion (nearly 20 per cent of their net wealth and 88 per cent of U.S. GDP).[4] For the United Kingdom, the IMF's April World Economic Outlook estimated that household wealth fell by about UK£1 trillion in 2008 (which is a little over 69 per cent of UK GDP). It is possible to get a broader sense of this reduction in household wealth from examining trends in equity markets (see Figure 1 and Figure 2). From their peaks in the third quarter of 2007 to their troughs in the first quarter of 2009, developed country equity markets fell by between 56 to 60 percent in local currency terms. They have recovered since although they are still between a third and a half below their peak values (based on end-October 2009 values). If anything, stock markets in emerging markets fell even more dramatically, though stock ownership is less broadly based in emerging markets and, therefore, the knock-on effect on household consumption will not be as strong. International indices of home prices are more difficult to come by. But the Case-Schiller composite index for home prices in the top ten metropolitan areas of the United States has fallen by a third since its peak in April 2006.

[4] From Table B.100 of Flow of Funds Accounts of the United States: Second Quarter 2009, page 104. There has been some recovery in the third quarter of 2009 as equity markets came back from their lows in March 2009.

**Figure 1**
**Developed Country Stock Market Indices**



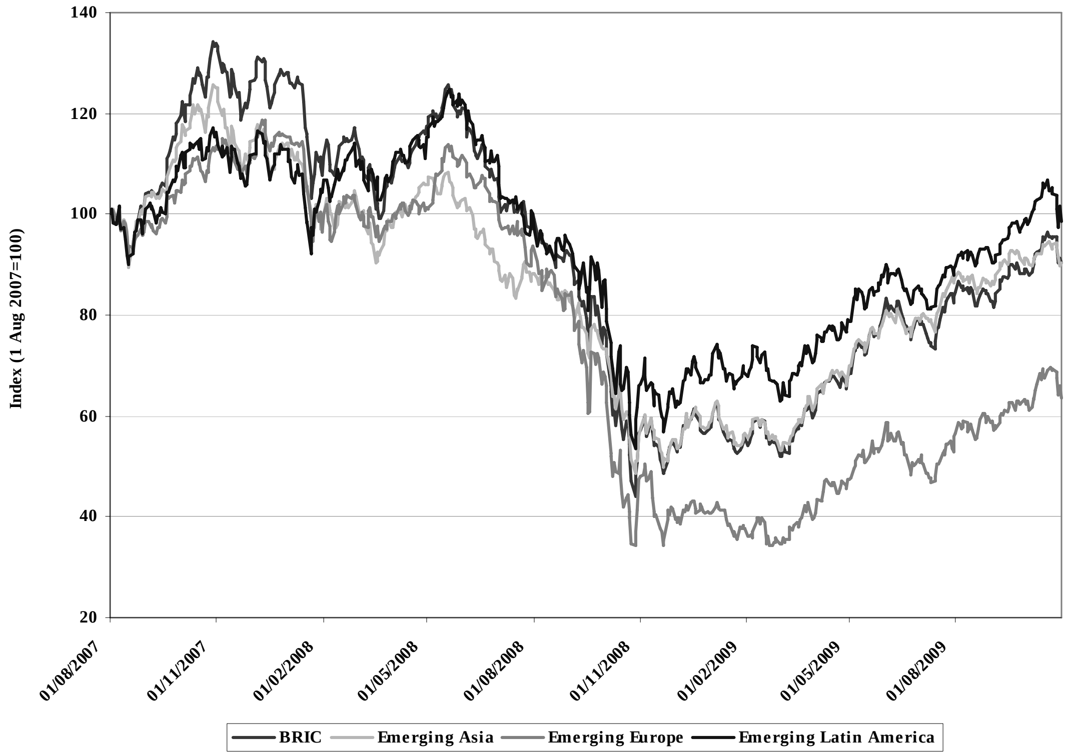

*Source*: MSCI Barra.

56. The deterioration in household wealth prompts certain questions: how do household balance sheets affect economic activity? More specifically, how would households' consumption behaviour be altered by this massive reduction in wealth? The traditional channel through which household balance sheets affect economic activity is through the wealth effect: once an unexpected loss of wealth occurs, consumers would cut their current spending as a fraction of the change in wealth and maintain the new level of spending over a certain period of time. Since the seminal work by Modigliani[5], macroeconomists have generally accepted the idea that consumption responds to changes in wealth. A simple formulation of Modigliani's life cycle hypothesis is that consumers will distribute increases in anticipated wealth over time and that the marginal propensity to consume (MPC) out of all wealth, whether from stocks, real estate, or any other source, should be the same small number, something just over the real interest rate. Apart from the wealth effect from house prices, some have pointed to equity extraction as another important channel for house prices to affect consumption.[6] This involves borrowing by existing homeowners against the increase in home equity. It allows previously credit-constrained homeowners to move toward their desired level of consumption.

[5] Modigliani, F., and Ando A. 1963. "The Life Cycle Hypothesis of Saving: Aggregated Implications and Tests." American Economic Review, 53: 55-84.

[6] The effects from equity extraction can be large. Mian and Sufi (2009) estimates that U.S. homeowners are able to extract US$0.25 to US$0.30 in cash from their houses for every $1 of growth in house price. Their analysis suggests that the home-equity withdrawals are primarily used for consumption or home improvement, which temporarily boosts economic growth. (See Mian, Atif, and Amir Sufi. 2009. "House Prices, Home Equity-Based Borrowing, and the U.S. Household Leverage Crisis." http://ssrn.com/abstract=1397607.

**Figure 2**
**Emerging market stock market indices**




*Source*: MSCI Barra.

57. The broad theoretical notion in Modigliani's work had led to a significant amount of research trying to identify the empirical relationship between changes in consumption and wealth. The empirical literature on the wealth effect analyse whether, and if so, to what extent changes in wealth affect consumption behaviour. Giving a precise answer to this question involves statistically estimating the value of the MPC. In regression models relating changes in the logarithm of consumption to changes in the logarithm of stock market or housing wealth, the estimated coefficient measures the "wealth effect" – the casual effect of exogenous changes in wealth upon consumption behaviour.

58. The studies vary according to the type of asset (financial, housing) being considered, the nature of the data (macro, micro), the country (the United States, the United Kingdom, Italy, Japan, Australia) that is the subject of analysis and so on. However, there are certain conclusions that these studies share in common. First, the wealth effects on consumption are positive and significant. In general, the estimated MPC is between 1 per cent and 10 per cent l (see Table 1 for the estimated MPCs). This means that a US$10 trillion reduction in wealth could permanently reduce consumption by as much as US$1 trillion a year. Secondly, the long-term MPC out of wealth is much higher than the short-term MPC. This is probably caused by the fact that individuals need time to adjust their consumption habits when their wealth changes. Third, while there continues to be some uncertainty about whether the wealth effect from housing is equal to that from financial assets, the effect for both are significant. Estimates of housing wealth effects tend to be larger in the United States and the United Kingdom than in the euro area and Japan. Housing effects also vary between homeowners, who experience an increase in housing wealth, and renters whose consumption effects are zero or negative.

**Table 1**
**Estimates of the Marginal Propensity to Consume (MPC) out of Wealth**

| | Country | MPC out of Financial Assets | MPC out of House Assets | Total |
|---|---|---|---|---|
| Bhatia (1987) | United States | | 0.03-0.05 | |
| Bover (2005) | Spain | | 0.015 | |
| Case et al (2005) | United State | 0.03-0.06 | | |
| Case et al (2005) | Developed countries | 0.11-0.14 | | |
| Carroll et al.(2006) | United States | | Short run / Long run<br>0.02 / 0.04-0.19 | |
| Disney et al. (2002) | United Kingdom | | 0.09-0.14 | |
| Dvornak, Kohler (2003) | Australia | 0.06-0.09 | 0.03 | |
| Engelhardt (1996) | United States | | Mean household / Median household<br>0.14 / 0.03 | |
| Grant and Peltonen (2005) | Italy | 0.005 | | |
| Hori and Shimizutani (2003) | Japan | 0.05-0.10 | Individual homes / Condominium<br>0.01 / 0.005 | |
| Ludvingson, Steindel (1999) | United States | 0.04 | | |
| Maki and Palumbo(2001) | United States | 0.03-0.05 | | |
| Paiella (2007) | Italy | 0.09 | | 0.04 |
| Skinner (1989) | United States | | ≥ 0.06 | |
| Starr-Mccluer (2002) | United States | 0.033 | | |

59. The literature based on financial wealth ignores the consumption behaviour of individuals who do not own stocks. However, given the importance of wealthy individuals in most societies, the consumption effects estimated from changes in financial wealth remains a good barometer for consumption changes at the national level. But perhaps the biggest gap in the empirical literature is that it is sadly lacking in coverage of wealth effects in developing countries.

60. This wealth effect may explain why badly hit economies such as Iceland, Ireland, Spain, and the United Kingdom have seen a precipitous decline in consumer demand (see Table 2). This negative wealth effect on consumption suggests that recovery of consumer demand may well be a protracted process posing worrying implications for a quick turnaround or recovery in international trade flows since consumption expenditures represent the biggest share of aggregate demand in many industrial countries. In 2008, it accounted for 70 per cent of GDP in the United States, 64 per cent in the United Kingdom, 58 per cent in Japan, and 56 per cent in Germany.[7]

[7] U.S. data comes from the Bureau of Economic Analysis of the Department of Commerce; UK data is from UK National Statistics; Japanese data is from the Statistics Bureau of the Ministry of Internal Affairs and Communications; and German data comes from the Statistisches Bundesamt Deutschland.

**Table 2**
**Projected Change in Consumption Expenditures in Selected OECD Countries**

| Countries | Average: 2000-2006 | 2007 | 2008 | 2009* |
|---|---|---|---|---|
| Iceland | 4.2 | 5.6 | -7.7 | -16.2 |
| Ireland | 5.6 | 6.0 | -0.8 | -7.2 |
| Germany | 0.7 | -0.3 | -0.1 | 0.4 |
| Japan | 1.2 | 0.7 | 0.6 | -1.7 |
| Spain | 3.8 | 3.5 | 0.1 | -4.4 |
| United Kingdom | 3.0 | 3.1 | 1.4 | -3.4 |
| United States | 3.2 | 2.8 | 0.2 | -1.0 |
| OECD Average | 2.7 | 2.5 | 0.7 | -1.5 |

*Projection.

*Source*: OECD Economic Outlook No. 85.

## 2. Reduced global imbalances

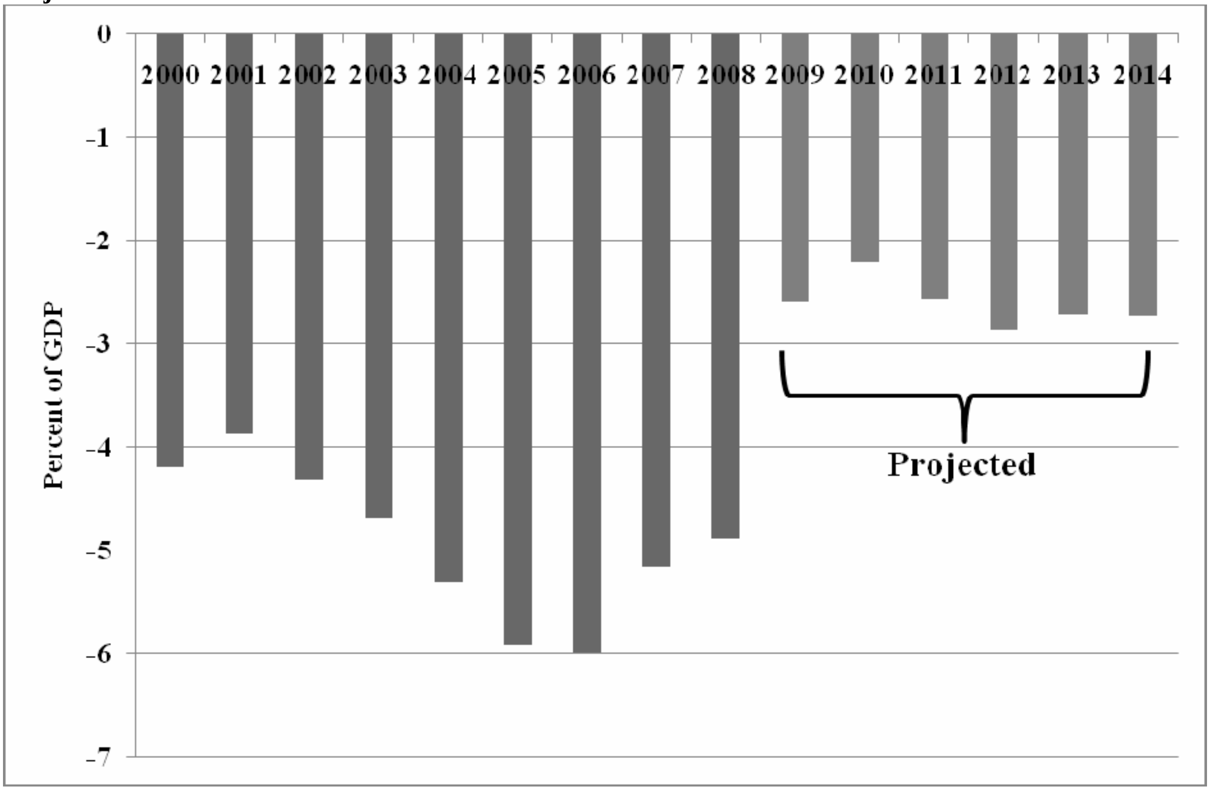
61. Reduced consumption and increased savings in developed countries severely affected by the crisis has some adverse consequences for trade. It may well imply a slower rate of growth in international trade flows given the large role played by consumption in some developed countries in increasing imports in the past decade. One way to see the link between reduced consumption (or increased domestic savings) and reduced imports is through the condition for macroeconomic balance: domestic investment must equal the sum of private ($S_P$), government ($S_G$) and foreign savings ($S_F$):$I=S_p+S_G+S_F$.

62. But foreign savings is equal to a country's current account deficit (which also includes the merchandise trade balance). The savings by foreigners being "lent" to domestic residents must be matched by a corresponding excess of payments on foreign goods and services. One side effect of the large current account imbalances of the last few years has been a higher growth rate in world merchandise trade. Many countries were willing to produce and ship more merchandise goods to the United States than could be paid for by the sale (export) of U.S. products to them, thu s helping fuel global trade. Over the period 2000-08, the U.S. trade deficit has averaged about 7.2 percent of world imports, much higher than its average share of 4.4 per cent during the 1990s.[8] The U.S. trade deficit has thus represented a hefty source of demand growth to world trade.

63. A permanent decrease in personal consumption expenditures because of the wealth effect (an increase in domestic savings ($S_p$) will require less foreign savings, holding all other factors constant. This means that part of the adjustment to the current crisis will be a reduction in global imbalances. Most projections by international organizations is of a decline in these imbalances. For example, the IMF expects the current account deficit of the United States to shrink to between 2 and 3 per cent of GDP in the next five years, after reaching 6 per cent of GDP (see Figure 3).

[8] This is based on calculations using UN Comtrade data.

**Figure 3**
**Projection of U.S. current account as share of GDP**




*Source*: IMF World Economic Outlook Database (October 2009).

64. This prospect raises some important questions for trade as well as for the development strategy pursued by a number of emerging economies. Will a rebalancing reduce opportunities for economies to rely on export-led growth as a development strategy? How far can increased domestic demand in some large emerging economies such as China, India, and Brazil, which have not suffered as huge a reduction in growth as developed economies, fill the gap left by the industrial economies?

65. Many emerging Asian countries have followed export-led development strategies. Some studies have characterized this strategy as a response to the problem of rapidly integrating a large pool of underemployed labour into the industrial sector.[9] Export led growth and FDI inflows have allowed emerging Asian economies to rapidly mobilize and employ tens of millions of workers. In return for the cross-border transfer of goods and services to the centre country (the United States.), the emerging Asian economies have financed the centre country's deficits.

66. But now with the likelihood of a prolonged weakness in demand for emerging Asia's exports, the source of future growth may need to come from domestically generated demand. So far, emerging Asia appears likely to exit from the crisis earlier than other parts of the world, thanks partly to government stimulus programmes. In the medium to long-term, shifting to a more balanced growth model may be in emerging Asia's own self-interest.[10] This transformation could be managed in a number of ways. One set of actions will involve boosting domestic demand. In the medium to

[9] Dooley, Michael P., David Folkerts-Landau, and Peter Garber. 2007. "Direct Investment, Rising Real Wages and the Absorption of Excess Labor in the Periphery." In G7 Current Account Imbalances: Sustainability and Adjustment, ed. Clarida, Richard, 103-132. Chicago: University of Chicago Press.

[10] Asian Development Bank (2009). Asian Development Outlook 2009: Rebalancing Asia's Growth. Manila: ADB.

longer-run, emerging Asian governments will need to adopt policies that transfer corporate profits, which constitutes the bulk of many emerging Asian countries' savings, to households, through for example the tax system. Developing or expanding social safety nets can help reduce precautionary saving by households. Measures to improve the domestic investment climate can increase the incentives for savings to be channelled to domestic investment. Another set of policies will be aimed at altering the structure of output so that it becomes more closely aligned with domestic demand, for example by removing policy distortions that favour manufacturing over services, or tradables over non-tradables. Another set of measures will involve accelerating the development of the domestic financial system, which will increase its efficiency in allocating savings to domestic investment. More flexible exchange rate regimes would help rebalance growth. Finally, a greater voice in international financial affairs may help reduce the incentive for Asian economies to self-insure against future financial crisis by accumulating large foreign exchange reserves.

67. To what extent can rebalanced demand from fast-growing emerging economies like China, India, and Brazil fill the gap left by the industrial economies? In purchasing power parity terms, Brazil, Russia, India, and China combined are about equal to the size of the U.S. economy. The four countries together account for 22.2 per cent of global GDP while the United States accounts for a fifth.[11] Because these emerging economies are expected to continue to grow faster than the United States, they will represent 27.4 per cent of world output by 2014 while the U.S. share will decline to 18.3 per cent. Thus, it may be possible for them, particularly China, to power global trade growth. However, some estimates suggest that even if China's current account falls dramatically by half, it would add the equivalent of less than half a percentage point to demand in the rest of the world.[12] This will not be sufficient to offset the reduction in global growth stemming from lower U.S. and EU growth in the next few years.[13]

### 3. Undoing the "great moderation"?

68. One striking trend in the macroeconomic performance of industrial countries since the early 1980s has been the reduced volatility of inflation and the growth rate of GDP This trend has been so striking that the term, the "great moderation" has been coined to refer to it. The first studies to document this reduction in volatility were focussed on the United States..[14] But later studies have shown that this great moderation extended to other major industrial economies - France, Germany, Italy, Japan, the United Kingdom – as well.[15]

69. At least three reasons have been found to explain the great moderation. The first is luck.[16] The world has simply been fortunate during this period not to have experienced a large adverse shock. The second explanation is structural change in economic institutions, technology, business practices, or other structural features of the economy that have enhanced its ability to adjust.[17] Finally, the third

[11] Estimates are derived from the IMF's World Economic Outlook database (October 2009).

[12] DB Research. 2009. "Responding to the Crisis: Did China and Brazil Miss an Opportunity?" Talking point, August 17.

[13] Jäger, Markus. 2009. "Will the BRICs (Read: China) Really Become the New Global Growth Engine?" VoxEU.org, 26 September. http://www.voxeu.org/index.php?q=node/4026.

[14] Kim, Chang-Jin, and Charles Nelson. 1999. "Has the U.S. Economy Become More Stable? A Bayesian Approach Based on a Markov-Switching Model of the Business Cycle." Review of Economics and Statistics, 81(4): 608-616.

[15] Blanchard, Olivier, and John Simon. 2001. "The Long and Large Decline in U.S. Output Volatility." Brookings Papers on Economic Activity, 2001(1): 135-164.

[16] Stock, James H., and Mark W. Watson. 2003. "Has the Business Cycle Changed? Evidence and Explanations." Paper presented at the Monetary Policy and Uncertainty Federal Reserve Bank of Kansas Symposium, Jackson Hole, WY

[17] Dynan, Karen E., Elmendorf, Douglas W., and Daniel E. Sichel. 2006. "Can Financial Innovation Help Explain the Reduced Volatility of Economic Activity." Journal of Monetary Economics, 53(1): 123-150.

explanation is improved macroeconomic policymaking.[18] Economic policymakers have a better understanding of the economy.[19] They have a greater commitment to fight inflation and better economic tools to do so with independent central banks being the most powerful of those weapons.

70. Stability in the global macroeconomic environment can enable greater economic integration to take place. Within a country, low rates of inflation and lower output volatility makes for a more predictable economic environment that helps consumers, producers and investors make better economic decisions. If this stability applies across other countries as well, more cross-border transactions are likely to take place holding other things constant. Firms face reduced costs of operating in different countries. Firms engaged in international trade will encounter less volatility in exchange rates and can operate at a greater scale. Investors will be subject to less risk when making cross-border investments.

71. With this crisis, the global economy's run of good luck ended. Furthermore, the forceful fiscal and monetary response by governments has dramatically increased budget deficits and expanded money supplies. Governments will need to mop up this liquidity and to bring down the stock of public debt as the global economy begins to recover. Otherwise, a long-term threat of inflation will hang over the world. In a fundamental way, the great moderation may have drawn to a close with this crisis. As governments wrestle with the problems of weak household demand, growing public debts, and the rebalancing of global demand, the world may be embarking on a more uncertain future in terms of macroeconomic policymaking which will introduce greater volatility to economic outcomes. One of the consequences of undoing the great moderation may well be a return to a less globalized world.

## B. FINANCIAL DELEVERAGING AND REGULATORY REFORM

72. The financial sector has been under severe stress since the end of 2007 as the profitable but highly risky leveraging operations of many banking institutions came to a disastrous end. In 2007, half of U.S. corporate profits came from the financial sector which only accounted for roughly 15 per cent of GDP. The crisis has resulted in a massive process of financial deleveraging, which is putting pressure on balance sheets and asset values, threatening the solvency of some of the world's largest financial institutions, and discouraging fresh lending. While progress to deal with systemic and solvency issues have been made in the past two years, notably through "unconventional" monetary policy and fiscal measures applied by central banks and governments, respectively, the balance-sheets of commercial banks are being hit by "second-round" effects of this long downturn, i.e. the direct effects of shrinking economic growth on loan re-payment.

73. The process of financial deleveraging has direct effects on world trade through the supply of lending for trade (trade credit), which has shrunk with world trade (even more than trade in certain developing parts of the world), and indirect effects, through the reduction in aggregate demand, linked to the credit crunch that is resulting from financial institution's need to recover proper levels of capitalization and liquidity.

74. Despite efforts made to date, the deleveraging of the international banking sector is far from over. While the IMF's estimated future write-downs of assets reached US$4 trillion in the spring of 2009, based on similar methodology the estimate stood at US$3.4 trillion in the fall of 2009.[20] As suggested by the IMF on several occasions, the process of cleansing bank balance sheets is still too

[18] Clarida, Richard H., Gali, Jordi, and Gertler, Mark. 2000. "Monetary Policy Rules and Macroeconomic Stability: Evidence and Some Theory." Quarterly Journal of Economics, 115(1): 147-180.

[19] Bernanke, Ben S. 2004. "The Great Moderation." Remarks at the Meetings of the Eastern Economic Association, Washington, DC.

[20] IMF (2009), Global Financial Stability Report and revisions.

slow, though it has made significant progress in the United States and in Europe after full stress test exercises. Efforts to solve the solvency and liquidity crisis come at a direct cost to the world economy since international and local banks will have to be recapitalized or restructured in line with losses provisioned in their balance sheets. Since it is expected that the international banking sector will not find all of the capital and liquidity resources they need in the market, the rescue effort will take a toll on public finances and debt in the short-to medium run. In the short-run also, the issuance of government paper will tend to crowd out bank lending, particularly as long as banks have a preference for liquidity. Thus, apart from the need to recapitalize the banking system, the demand for liquidity will also be a factor in sustaining a credit crunch in countries in which the banking system has overexpanded. Until commercial institutions "rebalance" their maturity structure and strengthen their deposit base, the need to roll-over short-term money market debt and maturing long-term debt may continue to increase for some time still.

75. The above considerations all point to the reduction of bank balance sheets, rather than an expansion of lending. While the credit crunch may ease with the return of operating profits in the banking sector, the world's prudential authorities are working within the Financial Stability Board (FSB) to restore public confidence in financial institutions. The world's depositors and borrowers, as well as investors, should be able to assess transparently the safety and soundness of financial institutions. The FSB has proposed to G-20 leaders a number of rules and guidelines aimed in general at increasing the prudential oversight of banks, investment firms and insurance companies, notably by increasing the transparency of financial instruments, preventing excessive risk-taking and leveraging, applying appropriate accounting rules, strengthening and better enforcing capital and liquidity ratios, strengthening cooperation between supervisory bodies. The prudential upgrade implied by the "re-regulation" of financial institutions is likely to add to the current requirements on financial institutions to be properly capitalized and managed.

76. While in the short-term prudential upgrade may aggravate the credit crunch, in the medium-to-long run it will reduce riskiness and improve public confidence in the international banking system. The return of deposits to banks will facilitate intermediation and lending. Increased regulatory supervision can be positive for global integration and trade in the long run if it reduces systemic risk, pro-cyclical leverage and improve public confidence in the global financial system. But policy-makers should avoid changes in regulations that would impair the efficiency of the financial system and increase the cost of financial transactions without appreciably reducing systemic risk.

77. Re-regulation should also be applied in a non-discriminatory manner, and avoid any form of "re-nationalization" of lending. Likewise, countries having provided support to banks, either through capital injections, liquidity provision, government loans and guarantees should be able to exit support as the deleveraging process takes place, in a way that does not leave an uneven level-playing field between national and foreign-owned institutions, and even between certain categories of credit and others. In this vein, the proper capital adequacy rules under Basle II for trade finance contain some flexibility that the G-20 in London has acknowledged. The use of existing flexibilities would avoid undue discrimination against cross-border, short-term trade transactions, relative to other forms of domestic lending that may not be inherently less risky.

78. All in all, the "re-sizing" of the international financial sector should lead to a re-pricing of risk that is more realistic, a re-calibration of financial activities towards the real economy and to more efficient use of finance. The allocation of savings to investment should in the end be improved. However, it is important that special account of poor countries' banking system be taken into account. Capital flows to developing countries, be it foreign direct investment or other form of inflows, collapsed as a result of the global credit crunch (see Box 1). This is affecting capital accumulation, and hence growth, in countries that need such capital the most. It is limiting investments in trade-related infrastructure that would expand poor countries' capacity to trade in the future. While in areas such as trade finance Tier 1 local banks in emerging countries, which in general were in better "shape"

than international banks, could substitute for foreign ones, in low-income countries this is not the case. In many instances, the confounding of country risk and individual bank risk has fuelled unfounded fears of default from perfectly credit-worthy local partners. There may be a role for international financial institutions to play to correct this "perception gap" which might unfairly marginalize countries and institutions that have gained access to international financial markets and the benefits of globalization in the early part of the decade and might lose them in a "deleveraging" process in which they bear little responsibility. One risk of the re-calibration of the international financial sector is to impose capital deflation, financial marginalization, and in the end potential output reduction to such countries. That would in turn affect their ability to reap the benefits of international demand when it rebounds.

**Box 1: Shrinking financial flows to developing countries**

In the middle of this financial storm, net private capital inflows to developing countries fell to US$707 billion in 2008 from its peak of US$1.2 trillion in 2007 representing a decline of 41 percent. Prospects for a resumption of capital flows to the developing world are dim. They are projected to fall by half to US$363 billion in 2009. Unlike previous crises, the decline in inflows has hit every developing region with emerging Europe and Central Asia being hit the hardest. The growing integration of many developing country economies into the global economy have made them much more dependent on private capital flows. Thus, the dramatic contraction of capital flows is expected to have a broader and deeper economic impact on them. The only silver lining perhaps is that FDI inflows to developing countries continued to increase in 2008, reaching US$583 billion, although almost all the increase occurred in middle-income countries, such as the Russian Federation, India, Brazil, and China.

*Source: World Bank (2009) Global Development Finance 2009.*

## C. THE ROLE OF THE DOLLAR IN INTERNATIONAL TRADE

### 1. Introduction

79. By some accounts, the United States dollar has been the main currency employed in international transactions since at least 1924-26 when it overtook sterling as the leading reserve currency.[21] This was the product of a long and cumulative process.[22] The U.S. economy surpassed the British economy in size in the late nineteenth century. But it took the United States until the First World War for its exports to overtake British exports and U.S. exports did not obtain a permanent and substantial position until WWII. It was also around the First World War that the United States switched from being a net international debtor to a net international creditor while Britain moved in the opposite direction.

80. Evidence of the dominant role of the dollar today is ubiquitous. Currently, 64 per cent of the world's allocated[23] foreign exchange reserves are held in U.S. dollars (see Figure 4). The share is probably larger if unallocated foreign exchange reserves are taken into account. Roughly 88 per cent of daily foreign exchange trades involve dollars. The prices of many primary commodities, including oil, are invoiced in U.S. dollars. While the euro, which is often touted as a rival to the dollar, is a strong second, most transactions involving the euro are concentrated in the EU and neighbouring

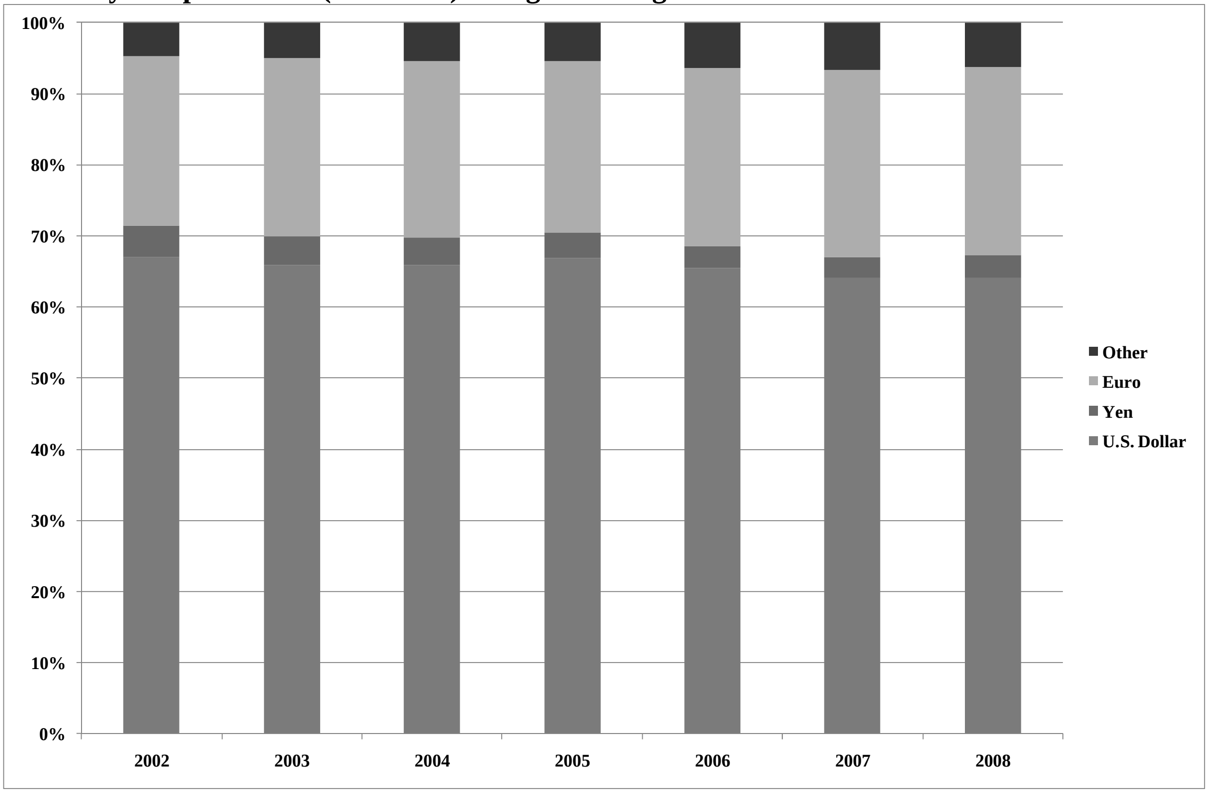
[21] Eichengreen, Barry, and Marc Flandreau. 2008. "The Rise and Fall of the Dollar, or When Did the Dollar Replace Sterling as the Leading International Currency?" NBER Working Paper 14154.

[22] Chinn, Menzie, and Jeffrey A Frankel. 2007. "Will the Euro Eventually Surpass the Dollar as Leading Reserve International Currency?" In G7 Current Account Imbalances: Sustainability and Adjustment, ed. Clarida, Richard, 283-336. Chicago: University of Chicago Press.

[23] Allocated foreign exchange reserves are reserves whose currency composition has been identified.

countries.[24] Beyond the European continent, euro turnover is low, at 20 per cent or less. By contrast, the share of the dollar is more equally distributed across regions. Thus, the dollar functions as a vehicle currency globally, while the euro only plays a big role in the European region.

**Figure 4**
**Currency composition of (Allocated) foreign exchange reserves**




*Source*: International Monetary Fund.

81. Despite the dominance of the U.S. dollar, there are economists who even before the advent of the crisis suggested that the dollar's premier status was already in doubt.[25] The Chinn and Frankel papers point out the United States has a quarter of a century of chronic current account deficits and the dollar has an even longer (35-year) history of trend depreciation. Furthermore, there now exists a potential rival in the euro. While there are many possible explanations for U.S. current account deficits, one particular explanation is based on the dollar's role as the global reserve currency. Although the proposition was meant to apply to the dollar's role in the fixed exchange rate system of Bretton Woods, the basic dilemma it articulates may have some continuing relevance for today. The "Triffin dilemma" states that as the supplier of the global reserve currency the United States needs to run persistent external deficits.[26] As world trade and the global economy expands, more reserve assets are demanded. As the supplier of the world's reserve currency, the United States has no choice but to meet this demand through chronic current account deficits. If the U.S. stops running balance of payments deficits, the resulting shortage of liquidity would retard the development of trade and the global economy. However, the dilemma posed by this is that excessive U.S. balance of payments

[24] Cohen, Benjamin J. 2009. "Dollar Dominance, Euro Aspirations: Recipe for Discord?" Journal of Common Market Studies, 47(4): 741-766.

[25] Chinn, Menzie, and Jeffrey A Frankel. 2008. "Why the Euro Will Rival the Dollar." International Finance, 11(1): 49-73.

[26] Triffin, Robert. 1960. Gold and the Dollar Crisis: The Future of Convertibility. New Haven: Yale University Press.

deficits would eventually erode confidence in the value of the U.S. dollar and undermine its role as the world's reserve currency.

82. The Chinn and Frankel papers point to secular trends that may gradually erode the dominant status of the U.S. dollar. Does the advent of the global economic crisis provide a further push to the decline in the dollar's international role? This section explores what factors are likely to determine the answer to this question and what the possible implications are for international trade.

## 2. Factors determining the international role of a currency

83. In the domestic economy, money performs several functions: it serves as a medium of exchange, a unit of account, and a store of value. An international currency performs the same functions with respect to international transactions (see Table 3). In particular, an international currency is the vehicle through which transactions between other currencies are made. This means that market participants in countries with their own currencies engage in currency trade indirectly using the international currency rather than directly with their currencies. This is because certain economic characteristics (to be discussed below) of the country issuing the international currency make it cheaper for payments between agents in foreign countries to be made indirectly using the international currency than directly by trading in their own currency markets. Thus, the benefits of a vehicle currency is that it saves on transaction costs and therefore makes possible more exchanges than in a world where there is no vehicle currency.

**Table 3**
**Matrix of International Currency Use**

| Function | Private use | Official use |
|---|---|---|
| **Medium of exchange** | Vehicle currency | Intervention currency |
| **Unit of account** | Quotation currency | Anchor currency |
| **Store of value** | Investment, debt | FX reserve currency |

*Source*: Reisen, Helmut. 2009. "Shifting Wealth: Is the U.S. Dollar Empire Falling?" VoxEU.org, 20 June. http://www.voxeu.org/index.php?q=node/3672.

84. In a world with multiple countries each issuing its own fiat currency, any given one of which can in principle serve as a vehicle for international transactions, what factors would propel a currency to a dominant international role? The international finance literature suggests at least four important determinants.[27]

(a) Size of the economy (output, trade and finance)

85. The currency of a country with a large share in international output, trade and finance has a strong likelihood of becoming the international currency of choice. On average, the share of international transactions involving a particular country will be equal to that country's share of world output. Thus, the bigger a country's share in world GDP, the more frequently will that country's currency be involved in international economic transactions.[28]

[27] Krugman, Paul. 1980. "Vehicle Currencies and the Structure of International Exchange." Journal of Money, Credit and Banking, 12(3): 513-526. McKinnon, Ronald I. 1979. Money in International Exchange. Oxford: Oxford University Press.

[28] However, there are exceptions. For example, only a disproportionately small share of trade is invoiced in Japanese yen as opposed to dollars which is not consistent with Japan's ranking in world GDP. This may be explained by the fact that most raw materials are priced in dollars, most of Japan's imports are oil and other raw materials, while much of its exports go to the United States.

(b) Size and depth of national financial market

86. To attain international currency status, capital and money markets in the home country must not only be open and free of controls, but also deep and well developed. It has also been argued that a strong central bank and a large financial sector to counterbalance the political influence of the real sector are important. The point is that a large financial sector and a strong central bank will be more able to resist political pressure from producers of tradable goods in favour of depreciating the currency to help push exports.[29]

(c) Confidence in the value of a currency

87. To remain attractive as an international currency, the value of the currency must be stable, and in particular, there must be market confidence that its value will not be depreciated or inflated away in the future. It is important to note that an international currency would frequently be used as a form in which to hold assets by, for example, firms holding working balances of the currencies in which they invoice, investors holding bonds issued internationally and central banks holding currency reserves.[30]

(d) Network externalities

88. Finally, there are "network externalities" involved in the use of an international currency. This means that the attractiveness of using a particular currency in international transactions increases the more widely it is employed in international exchange. An individual (exporter, importer, borrower, lender, or currency trader) is more likely to use a given currency in his or her transactions if everyone else is doing so. If a currency is widely used to invoice trade, it is more likely to be used to invoice financial transactions as well. If it is more widely used in financial transactions, it is more likely to be a vehicle currency in foreign exchange trading. If it is used as a vehicle currency, it is more likely to be used as a currency to which smaller countries peg, and so forth.[31]

89. The presence of network externalities create a form of inertia in the use of an international currency so that it retains its dominant position even if all other determinants (size of economy, size and depth of national financial market, confidence in the currency's value) begin to diminish. For example, sterling remained an important international currency even after Britain lost its position as an economic power early in the 20$^{th}$ century. In the present context, this inertial bias favours the continued central role of the dollar.

## 3. The effect of the financial crisis on the international role of the dollar

90. One way of examining how the crisis may affect the international role of the dollar is to consider its effects on the key determinants discussed above.

91. In the short to medium run, the crisis is likely to lead to weaker U.S. output growth. The IMF's forecast of average U.S. growth over the next five years is 2.3 per cent while it foresees the world as a whole growing by 4.2 per cent over the same period.[32] Developing countries are projected to do even better at 6.1 per cent, with China expected to grow at the rate of 9.6 per cent, per annum. This implies that while the U.S. will continue to be the biggest economy in the world for some time, its relative share of global output will see a marked decline.

[29] See the discussion in Chinn and Frankel (2007). There is also some evidence of this from Frieden (2000).

[30] See Chinn and Frankel (2007).

[31] However, see Eichengreen and Flandreau (2008) for a contrary view.

[32] Figures are derived from the IMF's World Economic Outlook database. http://www.imf.org/external/pubs/ft/weo/2009/02/weodata/download.aspx

92. In the face of large future U.S. fiscal deficits and the incipient threat of inflation from monetary expansion, confidence in the future value of the dollar may erode. A number of central banks with large holdings of U.S. dollars have already expressed such fears. The origins of the crisis in U.S. financial markets may further contribute to this undermining of confidence.

93. However, given the presence of network externalities changes in these determinants will not necessarily bring about a corresponding change in the international role of a currency, at least not in the short run. The tipping point at which a currency suddenly loses its dominant position may occur only after a long lag. Applying this insight to the current financial crisis, although there are secular forces that may have been working against the dominant role of the U.S. dollar and which may be accentuated by the current crisis, the dollar need not immediately lose its vehicle role.

94. What does all this portend for the future of international trade? One possible answer is that an international monetary system with multiple major currencies rather a single dominant one will mean higher transaction costs and more uncertainty in conducting international trade. This may reduce the scope for more international exchanges.

95. To sum up, while it is possible to describe the various ways in which the crisis may have done collateral damage to the international role of the dollar, it is difficult to say, given the existence of network externalities, whether this will lead to a tipping point equivalent to the dethroning of sterling in the 20th century.

## D. FRAGMENTATION OF PRODUCTION

96. The progressive unbundling of the production process[33] has played an important role in the evolution of international trade in the last half century. Goods are increasingly made in two or more sequential stages and firms increasingly rely on imported goods. More recent developments have seen firms not only source input goods from foreign countries, but also offshore office tasks. This trend explains a large part of the growth in trade in parts and components and of the growth in trade/GDP ratio for the last half century as well as the more recent growth in offshored services.[34]

97. The increasing importance of offshoring[35] in international trade is one important channel through which the financial crisis has been propagated to the real economy and it is an important element in explaining the contemporaneous collapse in trade. This subsection first explains how international fragmentation of production may have contributed to the collapse in trade flows. Then, it addresses the issue of whether business practices may change as a consequence of the financial crisis and whether this may lead to a reversal of the process of international fragmentation of production.

98. There are two ways in which international fragmentation of production may have contributed to the propagation of the financial crisis to the real economy. One is through the so-called magnification effect; the other is through a change in business practices.

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[33] International fragmentation of production, international production sharing or vertical specialisation are all terms that have alternatively been used to describe this process.

[34] Hummels, David. 2001."Time as a Trade Barrier." GTAP Working Papers 1152.

[35] There is no agreed definition of the term offshoring. In the context of this subsection we refer to offshoring as the sourcing of input goods or services from a foreign country. This definition includes both sourcing from a foreign affiliate through foreign direct investment (FDI) and sourcing from a foreign non-affiliate through arm's length contracts (Helpman, 2006).

### 1. The magnification effect

99. Research on the relationship between trade and GDP growth has showed that the elasticity of trade to income[36] has increased over time from around 2 in 1960s and 1970s to 3.4 in the 1990s and to 3.7 in the 2000s.[37] This implies that trade grows more than three times as fast as GDP. Assuming that crises are not special, this helps to explain why trade has fallen so sharply in the current global slump.

100. The increased responsiveness of trade to income has been attributed to the increased fragmentation of production. Trade grows faster in a world with offshoring than in a world without offshoring because parts and components have to cross national borders several times. In addition, international trade declines in a more synchronised way than in a world without vertical specialization because the reduction in imports of cars, say following a negative demand shock in country A, is reflected immediately in the reduction of exported parts and components that are produced by country A. Finally, the decline in trade flows is a multiple of the decline in income, simply because trade is measured in gross value whereas GDP is measured in value added. That is, imported tyres embodied in a car that is than exported are counted twice in trade statistics. The first time as imports, the second time as exports included in the value of the car.

101. However, as Figure 5 shows, trade has been more volatile than GDP during the whole period between 1964 and 2008. In addition, much in the same way as periods of economic recessions have been accompanied by faster drops in trade, periods of economic boom have been associated with faster trade recovery.

102. To the extent that the severe collapse in trade that we have observed in the first half of 2009 simply reflects the increased responsiveness of trade to income attributed to fragmentation of production, there is no reason to believe that the financial crisis will have permanent effects on the level of worldwide trade. On the contrary we should simply expect that as the global economy exits the recession, trade will bounce back to pre-crisis levels. The relevant aspect of the relationship between the present economic recession and offshoring is rather whether there are reasons to believe that the attitude toward offshoring will change as a consequence of the crisis, and whether economic activity will become *permanently* less geographically dispersed.

### 2. Change in business practices

103. In order to understand how the financial crisis may change firms' attitude toward offshoring, it is important in the first place to understand what determines the decision to offshore and what factors explain the increasing international fragmentation of production over the last half century.

(a) Firms' decision to offshore

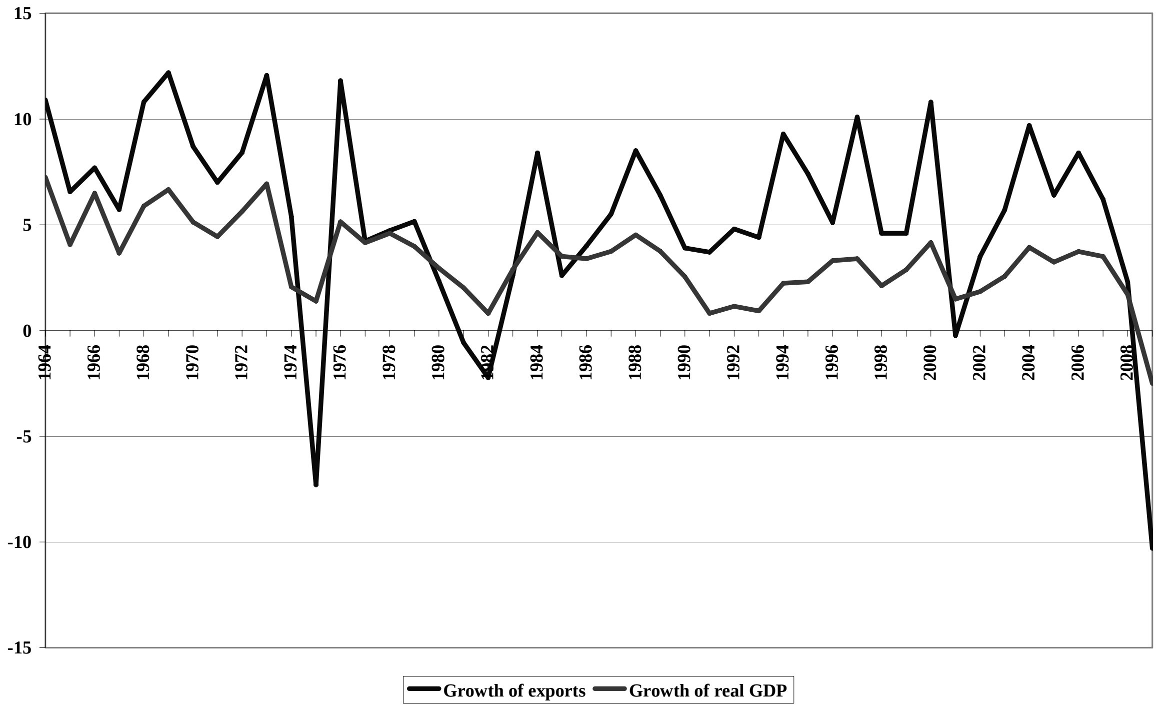
104. Firms decide to offshore to take advantage of the benefits of fragmentation. It might be the case that the various stages of production require different types of technology and skills or they may require inputs in different proportions. Under these conditions, the benefit of fragmenting production across countries is that the firm can locate different stages of the production process in the country where there is a relative abundance of the type of skill or input used relatively more intensively in that

[36] This elasticity is the percentage change in trade corresponding to a one per cent change in income.

[37] Freund, Catherine. 2009. "The Trade Response to Global Crises: Historical Evidence." World Bank Working Paper 5015.

stage of production. In so doing, the firm can lower costs of production.[38] Offshoring also allows firms to smoothen the workload of the regular workforce by contracting-out some tasks in peak periods as well as exploiting economies of scale.

**Figure 5**
**Growth in the volume of world exports and real GDP, 1964-2009 est.**
(Annual percentage change)




*Source*: WTO Secretariat.

105. However, fragmentation of production also carries costs. First, there are costs of searching for the appropriate supplier and negotiating costs to set up a business relationship between the offshoring firm and the source firm. Second, separate production stages need to be coordinated and monitored. Therefore, an offshoring firm will incur transportation and communication costs and other connecting services costs to keep the relationship running.

106. Third, trade costs are magnified. When the different stages of firms' production process are geographically spread, producers need to pay for moving goods at each stage of the production process. At a given level of trade costs, the more fragmented the production is, the higher the incidence of trade costs on the value of the final product. For example, if the value-added in each intermediate production stage is assumed to be infinitesimally small, a 1 per cent tariff increase worldwide augments the cost of producing a good by N per cent, with N being the number of production stages, since between every production stage the intermediate good crosses a border and incurs a tariff.[39]

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[38] Jones, R., and Kierzkowski, Henryk. 2001. "Globalization and Consequences of International Fragmentation." In Money, Factor Mobility and Trade: Festchrift in Honor of Robert A. Mundell, ed. R. Dornbusch, G. Calvo and M. Obstfeld. Cambridge, MA: MIT Press.

[39] Empirical evidence shows that this magnification effect is significant and explains the non-linear impact of tariff reduction on trade growth. In particular, using data for the United States, Yi (2003) shows that tariff reductions can explain over 50 per cent of U.S. growth of world trade between 1962 and 1999.

107. Fourth, there are risks associated with trade-related uncertainty, such as uncertainty of timely delivery or institutional uncertainty. For example, the variability of delivery time has an important bearing on the decision to offshore. The more variable the delivery time, the greater the buffer stocks needed to face demand. High variability of delivery time would make it very hard to organize "just-in-time" delivery, where inventories are kept to a bare minimum and inputs arrive at the factory only when they enter the production process. "When just-in-time technology is introduced, delayed delivery of a component can hold up the entire production and cause costs that are much higher than the market price of the delayed component. Therefore, no discount can compensate the customer for unreliable delivery time, and firms with high variability of lead time will not be short-listed for contracts that require just-in-time delivery".[40]

108. Finally, fragmentation entails a lower degree of flexibility of the production structure. Offshoring requires shipping container-size minimum orders and months-long order cycle times, thereby reducing the flexibility and responsiveness of companies' supply chains to changes in economic circumstances.

109. The decision of whether to offshore and where, is driven by the trade-off between the advantage of lower production costs due to the exploitation of comparative advantage and the disadvantage of incurring the additional fragmentation costs.

(b) Driving forces of increased fragmentation of production

110. What factors explain the increasing international fragmentation of the production process over the last half century?

111. Technological improvements and regulatory reform explain a significant fall in transport and communication costs. These trends together with tariff reduction have significantly reduced the costs of services links in vertically specialised production processes, thus fostering the process of international fragmentation of production.

112. In addition, reliability and timeliness of delivery has improved. Not only has the ten-fold decline in air shipping prices since 1950 significantly reduced air shipping costs, but it has also significantly reduced the cost of speed. This has had two major effects. First, shipping times have been falling over time, so has the time cost of trade. The average shipping time to the United States declined from 40 to 10 days between 1950 and 1998.[41] Evaluated at an average cost per day of 0.8 per cent *ad valorem*, the use of faster means of transport is equivalent to reducing tariffs by 24 per cent.[42] Second, costs related to the uncertainty of timely delivery have fallen. Improved infrastructures and logistic services are in this respect two additional factors explaining this trend.

113. Finally, IT advancements made it possible to separate geographically an increasing number of services tasks. An obvious pre-condition for offshoring (and, in general, for outsourcing) tasks is that the production of a particular input or a particular service task is separable and tradable. In this sense, technological innovation has been a driving force for the recent phenomenon of services offshoring. In fact, recent technological developments, especially in IT, have made it possible to separate geographically an increasing number of services tasks. Basically, services such as accounting, bookkeeping, payroll and others that relate to the collection, manipulation and organization of information can be codified, digitalized and separated from other activities within firms. The

[40] Nordas, H. K. 2007. "International Production Sharing: A Case for a Coherent Policy Framework." WTO discussion papers 11.

[41] The shipping time is the weighted average of ocean shipping and air freight. See Hummels (2001).

[42] Hummels, David. 2007. Transportation Costs and International Trade in the Second Era of Globalization. The Journal of Economic Perspectives, 21: 131-154.

possibility of transmitting information electronically via the internet, for example, has rendered these services tradable, thus making them candidates for offshoring. Similarly, automation has been a driving force in the development of a production network in the automotive industry because it has made it easy to transfer technology by standardizing a certain stage of production.

(c) Are these trends likely to change?

114. As discussed above, the increasing fragmentation of production is to a large extent driven by recent technological advancements that have reduced trade costs as well as made some services tradable and improved timeliness of delivery. It is hard to think of a reversal in technological know-how that would rollback these advances. Therefore, in this respect, it may confidently be argued that offshoring is here to stay.

115. There are however changes in the attitude of businessmen toward offshoring that may be expected in the future. Some of these changes may be related to the crisis. For example, when GDP falls, governments may be tempted to turn to protectionist policies in the attempt to shield their country from the crisis.[43] If the increase in tariffs and NTBs arising from the crisis persist even after it ends, higher trade costs will make offshoring less profitable, thus reducing vertical specialisation. Another example is that the experience of a crisis may change businessmen's perception of the risks related to offshoring. Producers may realise that they underestimated the risks of tariff increases, or risks associated with the lower flexibility of vertically specialised rather than integrated supply chains to changes in the economic environment.

116. Other factors not related to the crisis may also affect firms' propensity to offshore in the future. The business literature claims for example that "the offshoring cost advantage may have never really been that high and likely significantly less when 'all-in' costs are considered".[44] Manufacturing executives simply have been learning over time that offshoring costs (including costs of resolving quality problems, delivery delays, reduced flexibility of companies' supply chains, reduced ability to customise the product to local markets, etc.) are actually higher than firms had expected. As a consequence, they will reduce fragmentation of production.

117. Another important factor is the oil price. The increase in the oil price experienced between 2003 and 2008 has been reversed by the crisis, but when the global economy recovers the world may experience a permanent increase in oil prices. Given the importance of the oil price in transport costs as well as the importance of transport costs in the decision to offshore, a higher oil price may significantly undermine the benefits of offshoring.

118. Finally, environment-related policy changes or a changed sensitivity of consumers to environment-related problems may affect the decision to offshore. When production chains are geographically fragmented, goods travel long distances. Therefore, *ceteris paribus* internationally fragmented production is associated with higher negative environmental effects than local production. If environment-concerned consumers are willing to pay a higher price for locally produced goods, the benefits of offshoring will go down. Therefore, producers will choose to source their inputs or services locally.[45]

[43] See WTO Monitoring Reports.

[44] Ferreira J., and Len Prokopets. 2009. "Does Offshoring Still Make Sense?" Supply Chain Management Review. January 1. http://www.scmr.com/article/CA6628648.html.

[45] Producers will also choose to source inputs locally if they are made to pay the cost of the negative environmental effects of offshoring.

### 3. Implications for developing countries

119. The decision to offshore is intimately linked with the decision of where to offshore. There are country-specific costs that may hinder a country's participation in international production networks and services offshoring. The economic literature has highlighted - together with the traditional factors of comparative advantage, such as factor prices, skills availability and the tax regime - new sources of comparative advantage that determine where a firm chooses to offshore. These include the quality of the institutional framework in enforcing contracts, quality of infrastructure, the size of the market (which determines how easy it is to search for appropriate suppliers) and any other factor that reduces the cost of offshoring (e.g. a reduction in the time to start up a business).

120. Government responses to the present crisis have highlighted another issue that may in the future affect firms' decision of where to offshore: a country's ability and willingness to provide subsidies. The growth of global supply chains has made it more difficult for governments to raise tariffs without harming producers in their own country. When governments impose tariffs, global supply chains amplify their effects, because components and part-finished items have to cross the border several times. Similarly, the negative effects on trade of non-tariff barriers are amplified with offshoring. Grossman[46] cites the intensive use of subsidies by some countries during the crisis as evidence that international fragmentation of productions has changed the political economy of protection. Firms no longer lobby for direct protection because they import much of the components for their final output, they prefer to lobby for explicit subsidies. However, not all governments may respond to the pressure to use subsidies. The provision of subsidies is costly and governments need to have adequate resources to provide subsidies. This means that developed countries will be better able to provide financial support to their industry than developing countries. The concern with the asymmetric use of subsidies is that they could cause some stages of production to switch from developing countries back to developed countries. Anticipating that governments in rich countries are more likely to support the private sector using subsidies rather than tariffs in case of adverse economic circumstances, firms may choose to relocate some of their stages of production from poor to rich countries.

121. Another reason why firms may decide to relocate some of the stages of their production chain away from some developing countries may also be related to environmental considerations. First, access to environmentally friendly technology may be an important factor in a firm's choice of where to source inputs from. Second, distance to the final market may also play a role. If firms will be able charge higher prices for products that are produced in less efficient plants but are located closer to the final market, they will choose to source from near-shore. Consumers' preferences for goods produced in a way that minimize carbon footprint may not only affect the number of stages into which production will be fragmented (as mentioned above), but also the choice of the source country.

122. In addition, distance-related considerations may also matter in the perception of the risks associated with a reduced flexibility of the supply chain under offshoring. The risk for some developing countries may be that manufacturing and supply networks migrate back to near-shore, such as Canada and Mexico for U.S. manufacturers or Eastern Europe for European manufacturers.

### 4. Conclusions

123. International production sharing is explained by differential wage/productivity ratios in alternative production locations and made possible by technological improvements and regulatory reform. But the economic calculations about the attractiveness of alternative production sites can easily change as a result of shifts in underlying business relationships, increased protection, different

[46] As cited in the article by The Economist titled "The nuts and bolts come apart" (26th May 2009 issue).

perceptions of risk associated with alternative locations, and consumer preferences that shift towards national production. In addition, there may be a learning effect as a result of which producers discover unanticipated production or managerial costs associated with off-shoring. Some of these effects may be crisis-related, but some may be of a permanent nature. Therefore, the risk exists that in the future we may see a reversal of the process of international fragmentation. In particular, the changed political economy of protection for vertically specialised production networks may play a role in causing some stages of production to switch from developing countries back to developed countries.

## E. CHANGING PUBLIC ATTITUDES TOWARD GLOBALIZATION

### 1. Introduction

124. Changes in public attitudes may have long lasting effects on public policies and, therefore, on social welfare. An observer in 1875 would have thought that globalization was an unstoppable process led by technological progress. However, the process stopped because of a change in public sentiments towards international trade and cross-border migration which led to a political backlash.[47]

125. Individual attitudes are a primary determinant of final policy outcomes through voting or other forms of political participation. A worsening in public sentiments towards globalization in some countries may well lead to policy restrictions in those economies which, in turn, trigger protectionist responses by trading partners. In other words, a process of de-globalization may in principle be initiated by a switch in public attitudes in a part of the global economy. For this reason, what determines the perceptions (or change in perceptions) on international economic integration and how these sentiments will be affected by the current economic crisis are essential questions for policy makers.

### 2. Recent surveys on attitudes towards globalization

126. Several institutions have collected data over time on public attitudes towards trade and immigration. While there is some understandable heterogeneity in the findings based on these different sources, which generally reflect different methodologies, some common trends seem to emerge. First, attitudes towards trade are generally positive, but have worsened in recent years in several developed countries. Second, attitudes towards immigration appear to be more stable over time. Third, people tend to be more anti-immigration than anti-trade.

127. Figure 6 reports data from the Pew Global Attitudes Project. It shows that the percentage of people that believe that international trade is bad is low in most areas of the world. However, this percentage has increased between 2002 and 2007 in four out of six regions, most notably in North America.

128. It may be too early to infer the effect that the economic crisis has had on public attitudes and we lack world-wide surveys. However, some recent opinion polls in a number of advanced economies provide some preliminary insights. First, a Financial Times/Harris Poll of March 2009 (see Table 4) finds that in the United States and in the United Kingdom a higher percentage of respondents believe that trade protectionism can help their economy recover from the recession. The opposite is true in large continental European economies.[48]

[47] O'Rourke, K. H., and Jeffrey G. Williamson. 1999. Globalization and History: The Evolution of a 19th Century Atlantic Economy. Cambridge, MA: MIT Press.

[48] However, note that the question posed to European respondents does not distinguish between intra-European trade and trade with the rest of the world.

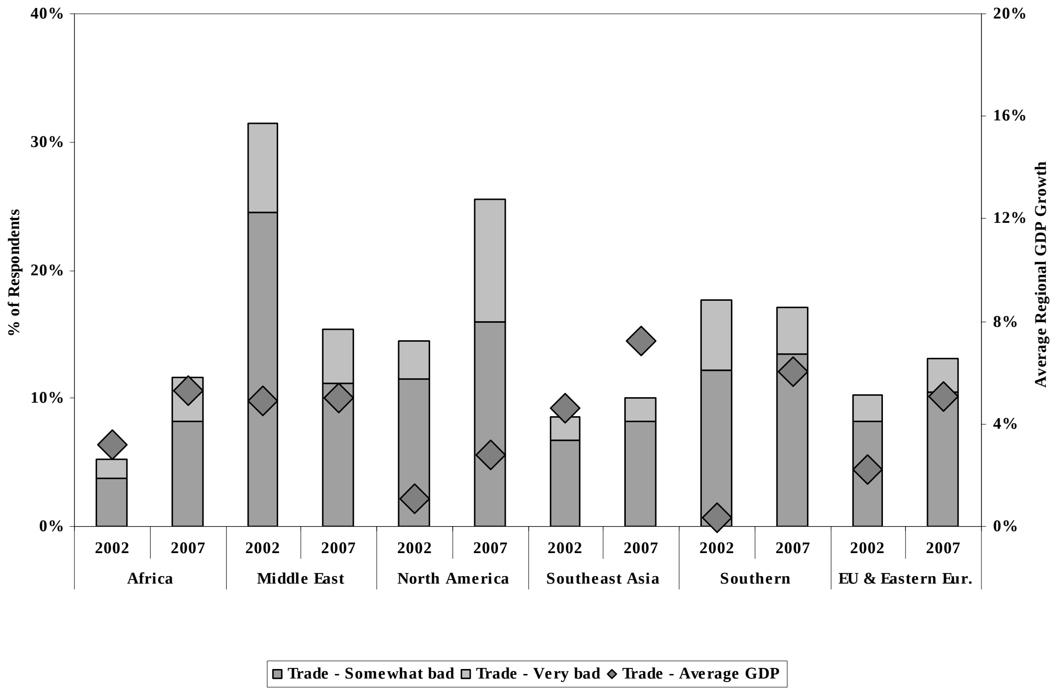
**Table 4**
**Would protectionism help end the recession?**

| Percentage of respondents who: | United States | Germany | Spain | France | United Kingdom | Italy |
|---|---|---|---|---|---|---|
| Agree | 30 | 16 | 22 | 23 | 28 | 53 |
| Disagree | 24 | 30 | 30 | 36 | 23 | 34 |

*Source*: Financial Times/Harris Poll, Harris Interactive, March 19, 2009

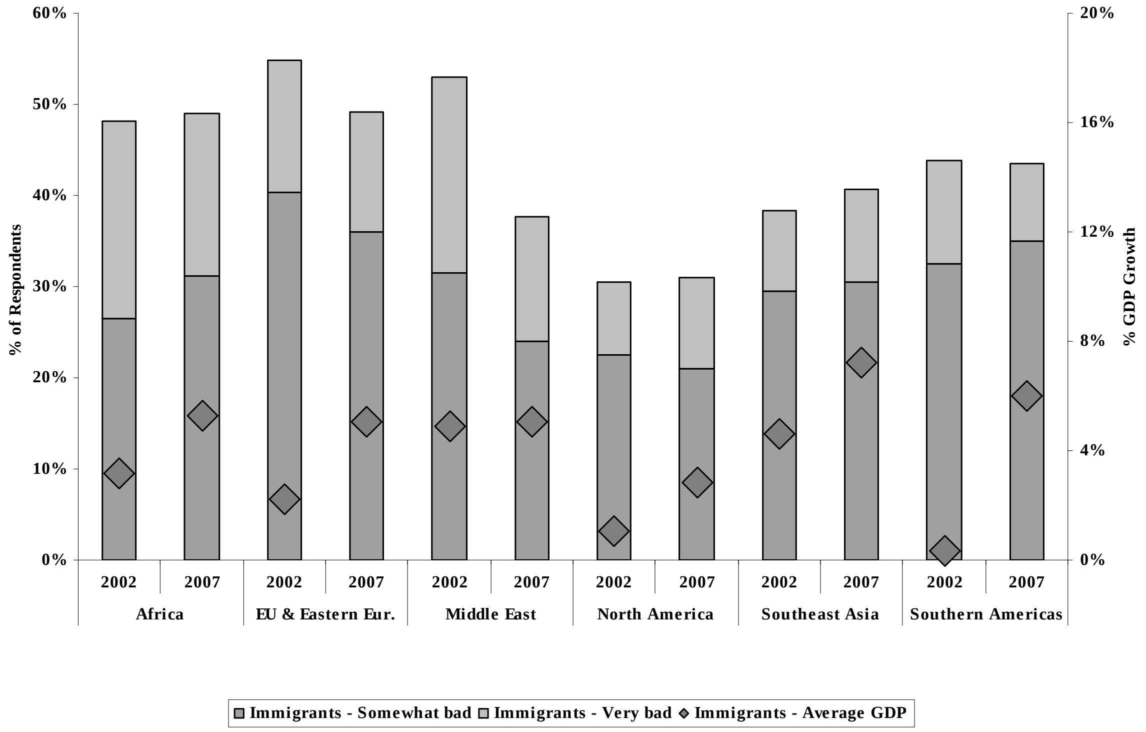
129. Figure 7 shows for the same regions and the same years the percentages of respondents who have a negative perception of immigration. Attitudes towards immigration are consistently more stable and more negative than attitudes to trade.

**Figure 6**
**Average percentage of people believing growing trade and business ties with other countries is somewhat or very bad**




*Source:* Pew Global Attitude Project,"World Publics Welcome Global Trade--But Not Immigration," 4 October, 2007.

**Figure 7**
**Average percentage of respondents believing immigrants have a somewhat or very bad influence on their country**




*Source*: Pew Global Attitudes Project, "World Publics Welcome Global Trade--But Not Immigration," 4 October 2007.

130. A second poll by the Pew Research Center seems to have a more positive outlook for the United States. They find that, despite the economic crisis, in April 2009 the percentage of respondents that believe that international trade (i.e. trade agreements such as NAFTA and the policies of the WTO) are bad for the country is 35 per cent, down from 48 per cent in April 2008. While this finding may seem reassuring, one has to keep in mind that 2008 was an election year where trade issues were an important part of a heated political debate. As shown in Table 5, also from Pew, between 1997 and 2009 there is a clear positive long-run trend in the percentage of people in the United States that have anti-trade sentiments.

**Table 5**
**In general, do you think that free trade agreements like NAFTA, and the policies of the World Trade Organization, have been a good thing or a bad thing for the United States?**

| Percentage of respondents who find Free Trade Agreements and WTO a: | Sept 1997 | Sept 2001 | Dec 2003 | July 2004 | Oct 2005 | Dec 2006 | Nov 2007 | April 2008 | April 2009 |
|---|---|---|---|---|---|---|---|---|---|
| Good thing | 47 | 49 | 34 | 47 | 44 | 44 | 40 | 35 | 44 |
| Bad thing | 30 | 29 | 33 | 34 | 34 | 35 | 40 | 48 | 35 |
| Don't know | 23 | 22 | 33 | 19 | 22 | 21 | 20 | 17 | 21 |

*Source*: The Pew Research Center, NEWS Release, April, 28, 2009

131. We do not have surveys that compare the opinions on immigration before and after the economic crisis. However, Boeri (2009) compares a question asked by the European Social Survey in 2002 that closely resembles a question of the FT/Harris poll of March 2009. Both surveys essentially inquired whether immigrants should be made to leave the country if they lose their job. As reported

in Table 6, the percentage of respondents that agree with the statement has increased in all large European countries (on average an increase of 27 per cent).

**Table 6**
**Should unemployed immigrants be made to leave?**

| Percentage of respondents agreeing with the statement | Germany | Spain | France | United Kingdom | Italy |
|---|---|---|---|---|---|
| ESS 2002 | 50 | 25 | 32 | 53 | 49 |
| Harris 2009 | 67 | 71 | 51 | 78 | 79 |
| **2002-2009** | **+17** | **+46** | **+19** | **+25** | **+30** |

*Source*: European Social Survey, 2002, and Financial Times/Harris Poll, Harris Interactive, March 19, 2009.

## 3. Determinants of attitudes to trade

132. Opinion polls and surveys such as the ones discussed in the previous section provide a useful picture of current trends in public sentiments on globalization. However, while one can speculate on the determinants of changing trends, a rigorous econometric analysis is necessary to disentangle the different effects. This and the next section review the key findings of a recent economic literature that studies the factors that affect public perceptions to trade and immigration.

133. What determines public attitudes to trade? Recent studies show that a combination of economic and non-economic factors influences individual perceptions.

134. Among the economic determinants, trade prominently affects attitudes through its effects on labour markets. The well known Heckscher-Ohlin model of international trade predicts that countries with different labour endowments gain from opening their economies, but trade will affect income distribution. In particular, in countries where the labour force is mostly low-skilled the better educated will see a decline in their relative wage, while the opposite is true for the less skilled workers. Similarly, in countries that are abundant in high-skilled workers, less educated workers will experience a decline in their relative wage and the high-skilled an increase (Stolper-Samuelson theorem).

135. Consistently with this basic insight, recent econometric analysis finds that in low skill-abundant countries, the better educated tend to be anti-trade, while the less educated are pro-trade. Public perceptions are the opposite in high-skill abundant countries, where the better educated are pro-trade and low-skill workers oppose trade. These effects continue to be large and statistically significant when a number of non-economic control variables (such as age, gender, nationalistic political sentiments) are included in the econometric analysis.

136. An important question is how economic uncertainty affects trade sentiments. A recent study finds that job uncertainty has a strong and positive effect on anti-trade attitudes.[49] That is, all things being equal, if workers fear that they might lose their jobs, they will be more likely to oppose international integration. Interestingly, this study also finds that domestic policies that reduce economic uncertainty, such as social safety nets, welfare programs or government spending that increases public employment, improve pro-trade attitudes.

[49] Mayda, A. M., Kevin H. O'Rourke, and Richard Sinnott. 2007. "Risk, Government and Globalization: International Survey Evidence." NBER Working Papers 13037.

## 4. Determinants of attitudes to immigration

137. The previous section discussed the factors that influence public opinions on trade. In this section, we look at the other side of international integration: the cross-border movements of people. What determines public attitudes to immigration in receiving economies?

138. Economic theory predicts that movements of people (as well as other factors in production) across national borders have effects very similar to international trade. Overall freer immigration increases national welfare, as labour moves where rewards are larger (i.e. where it is most needed). However, this affects the distribution of income within countries. Consistently, studies that analyze attitudinal responses in survey data sets find that in countries where natives are more skilled than immigrants, the skill level is positively correlated with pro-immigration attitudes. The opposite is true in countries where the native labour force is predominantly low-skilled.

139. A second result that emerges from the literature on immigration is that the size of welfare programmes is an important determinant of public sentiments in receiving economies. In countries with larger welfare states and proportional taxation, low-skilled immigrants contribute to the government budget less than what they receive in terms of services (e.g. health, schooling for children) and transfers (e.g. unemployment benefits). As a result, immigration is expected to increase the cost of welfare programs. Due to proportional tax systems, this cost is paid to a larger extent by wealthier native citizens. Consistently with the theory, recent studies find that income is negatively correlated with pro-immigration preferences in countries where natives are more skilled than immigrants (i.e. in advanced economies).

140. As discussed above, individuals across the world are more anti-immigration than anti-trade (compare Figure 6 and Figure 7). There are three complementary explanations that have emerged in the literature.[50] First, while labour market effects are similar as discussed above, there is an important element of divergence. Workers in the non-traded sectors feel shielded from foreign competition that works through trade, but not from the competition in the labour market coming from immigrants. Second, trade and immigration affect public finances in very different ways. The (potentially large) effects of low-skilled immigration on welfare systems may contribute to explaining the weaker opposition to trade. Finally, similarly to attitudes to trade, a large number of non-economic individual characteristics influence the perceptions that respondents have of immigration. These cultural and social factors, however, seem to be consistently more pronounced in shaping immigration attitudes relative to trade.

## 5. Public perceptions on globalization and the crisis

141. The empirical evidence discussed in the previous two sections highlights the role of economic determinants of public sentiments towards trade and immigration. Interestingly, these empirical findings support the idea that globalization implies a *policy trilemma*, that is a form of "impossible trinity". Open trade, open immigration and a welfare system are hard to reconcile, notably in advanced economies.

142. Sustaining positive attitudes to open trade requires safety nets and welfare programs that lower the negative consequences of economic uncertainty. However, a welfare system raises the fiscal costs of (low-skilled) immigration and worsens anti-immigration sentiments of natives in receiving economies. If, on the other hand, public spending in welfare programs is low, the hostility to immigration is lower but the lack of protection in the face of growing uncertainty induces voters to oppose trade openness.

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[50] Mayda, A. M. 2006. "Who is Against Immigration? A Cross-country Investigation of Individual Attitudes Toward Immigrants." The Review of Economics and Statistics, 88(3): 510-530.

143. How will the economic crisis affect public attitudes towards globalization? While we do not have a definitive answer, we can attempt some speculation based on the findings discussed above. The response of attitudes to the crisis will likely depend on what side of the policy trilemma countries are located. An economic downturn is associated with an increase in uncertainty, such as the rise in the probability of becoming unemployed or the surge in other forms of economic risks, which may drive up negative perceptions of globalization. This, however, could take place in an asymmetric form: voters may turn more protectionist in countries with "smaller" welfare systems, while anti-immigration sentiments may rise in economies with "larger" welfare programs.

144. A final issue deserves further attention: the effect that the economic crisis has on policy restrictions through a change in public attitudes. As voters' perceptions are a key determinant of policy outcomes, worsening negative attitudes may lead to policy restrictions. Will these restrictions be structural or cyclical? The answer is not obvious. As uncertainty declines, perceptions on globalization may improve and trade and immigration barriers will be reduced. However, restrictions and negative attitudes may be persistent as they both are sticky downward, that is they tend to be hard to undo once they are imposed.[51]

## 6. Conclusions

145. This part of the report has investigated how the economic crisis may affect voters' attitudes to international integration. The data shows that anti-immigration sentiments are high everywhere and generally stabilize over time. On the other hand, trade attitudes are more positive, showing an improvement in developing countries, but gradually worsening in more advanced economies.

146. A recent empirical literature shows that globalization influences public perceptions through its effects on income distribution and uncertainty. These effects may be responsible for the gradual rise in anti-trade attitudes in some countries, particularly where welfare programs (that redistribute the gains from trade and lower the economic risks associated with trade opening) are weaker.

147. The crisis has introduced greater uncertainty and is likely to worsen attitudes towards globalization. In countries where welfare systems are less developed, the changing mood may take the form of anti-trade sentiments, while voters' opposition to immigration may rise in economies with larger governments. If more negative attitudes lead to trade policy restrictions, these barriers may be difficult to reverse once in place.

148. Finally, governments have responded to the economic crisis by boosting public spending and revitalizing welfare programmes. In the immediate term, these interventions save jobs and reduce economic uncertainty. In the longer term, they create confidence that open markets do not necessarily mean more risk, and therefore help fortify voters' support for trade opening.

## F. Other long-term challenges

149. Beyond these factors, there are also other long-term challenges such as climate change, scarcities in food, energy and natural resources, and new private standards that are likely to confront the global economy and the multilateral trading system.

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[51] Fernandez and Rodrik (1991) show that policy may suffer from a status quo bias. Once barriers go up, trade opening may be difficult as people are uncertain about how they will be affected by it. Giordani and Ruta (2009) argue that negative attitudes may be self-fulfilling and that it will be difficult to revert to the initial state as restrictions may lock in the economy to an inefficient equilibrium. (See Fernandez, R., Dani Rodrik. 1991. "Resistance to Reform: Status Quo Bias in the Presence of Individual- Specific Uncertainty." The American Economic Review, 81(5): 1146-1155.)

150. One development that may become more important in the future is the use of private standards. They are partly a response by firms to changing consumer preferences and partly a way to make their production more efficient. Private standards are a way for firms to appeal to consumer concerns about the environment (organic foods), equity ("fair trade") and health (genetically modified foods). Private standards are also a way for producers to manage the globalization of production, with supply chains that straddle countries or even continents, and long complex distribution systems. Standards form part of producers' quality control systems. However, the proliferation of private standards and, in the end, of many competing standards for the very same products, could reduce economic efficiency. This could end up hampering the attainment of the environmental, safety, and other regulatory goals that these standards may be designed to achieve. In addition, private standards may occasionally arise from a desire to restrict competition and trade. While WTO rules have focused on government mandated product standards (technical regulations), most new standards are likely to be generated by private firms and industries. What this portends is that an increasingly larger part of international trade will be subject to standards that are only imperfectly disciplined by international trade rules.

151. A sudden spike in food prices in 2008 focused the world's attention on the markets for primary commodities. Since 2003, there has been a robust upswing in the prices of food, energy and natural resources. This rise is explained by variety of different factors, such as the rising price of energy, droughts, the increased production of biofuels from foods, and rising demand for food in some emerging economies. High energy prices have made agricultural production more expensive by raising the cost of inputs like fertilizers, pesticides, and transportation services. As energy prices rose, concerns about energy security prompted governments to encourage the production and use of bio-fuels. This has led to a shift in cultivation away from commodities which have predominantly been used as food towards bio-fuel feedstock.

152. Rising primary commodity prices have benefited many developing countries who are primary commodity exporters. But a number of food-importing developing countries have also been severely affected by the spike in food prices. One concern has been the use of export restrictions which may occasionally have exacerbated scarcities in world markets. For the moment, the financial and economic crisis has put a stop to rising primary commodity prices. But once the global economy recovers, and given the projected return of emerging economies to robust growth, we may swiftly see the world reverting back to the trend of rising food, energy and natural resource prices.

153. Finally, with the possible exception of the economic crisis, there is no bigger issue on the international agenda than climate change. The consequences for humankind of rising global temperatures have been amply described and analysed in the most recent report of the Intergovernmental Panel on Climate Change.[52] One notable point that is not emphasized often enough in the discussions is that climate change can affect the pattern and volume of international trade flows. Climate change can increase the vulnerability of the supply, transport and distribution chains upon which trade depends thereby increasing the cost of international trade. Rising average temperatures and increasing frequency of extreme weather events can lead to shifts in the geographical pattern of production and hence in the direction and volume of international trade flows. This effect will be stronger in those countries whose comparative advantage stems from climatic or geophysical factors. Countries that are unprepared for these climatic changes, which most likely will be the poorest countries, may face enormous trade adjustments.

154. However, it is vital not to lose sight of the positive role that international trade can play to both mitigate climate change and to help countries adapt to its consequences. Trade serves as a channel for spreading goods, services and technologies that reduce greenhouse gas emissions. This is

[52] IPCC. 2007. Climate Change 2007: Impacts, Adaptation and Vulnerability. Cambridge: Cambridge University Press.

the contribution that the liberalisation of environmental goods and services in the Doha Round can make to the effort to mitigate climate change. In addition, trade can help bridge differences in demand and supply conditions that may arise as a result of changes to the geographical patterns of production from climate change.

155. One key worry would be a failure by governments to achieve international agreement on how to tackle climate change. This can have serious repercussions on international cooperation in other fields, including trade. It can lead countries to the unilateral use of trade measures as a way to alleviate their domestic industries' concerns about the effect of climate change mitigation measures on competitiveness or as a way to strategically influence the environmental policy pursued by their trade partners. In effect, the absence of an international environmental solution may spill over into the trade arena, creating trade tensions and reducing the potential growth of international trade.

## IV. CONCLUSIONS

156. The report has examined a number of shaping factors that are likely to affect the future evolution of international trade. A number of these shaping factors are going to continue to provide forward momentum to trade. The technological changes that made possible the economic integration of nations will not be reversed and is likely to continue to reduce the cost of conducting international trade. Regulatory reform that reduces systemic risk in the global financial system and makes it more robust will improve the allocation of savings and the rate of economic growth. But other factors are likely to weaken the forces of economic integration. The wealth effect from the massive destruction of financial and home values will be a big drag on global consumption. The empirical literature indicates that the magnitude of this wealth effect will be significant. Some of this reduction in consumption demand is manifesting itself in part in smaller current account imbalances. The rebalancing of demand and production in emerging countries may not be sufficient to fill the gap left by households in rich countries. Furthermore, the crisis has introduced greater economic uncertainty and is likely to worsen public attitudes towards globalization. The impact of other shaping factors is more difficult to predict. The economic calculations about the benefits and costs of offshoring can easily change because of increased protection, different perceptions of risk associated with alternative locations, and consumer preferences towards national output. The changed political economy of protection that has favoured the use of subsidies may cause some stages of production to switch from developing countries back to developed countries. While the current crisis and the anticipated higher fiscal deficits may lead to a desire to shift away from the U.S. dollar, network externalities could preclude such a shift in the short to medium term.

157. But whether cyclical or secular forces are at work, there are certain steps governments could take now that could help revive international trade flows and strengthen the international trading system.

158. Macroeconomic policies would need to be supportive given the current weakness in private demand. They also need to dovetail with the effort to revive international trade. This means that existing and future policies must be designed so that they are non-discriminatory and do not favour home suppliers relative to foreign suppliers. As global imbalances are unwound, export-oriented emerging economies will need to depend more on domestic sources of growth. Although it is easier said than done, policymakers must be ready to withdraw stimulus and liquidity in an orderly fashion once the recovery gains solid footing.

159. Regulatory changes in the financial sector should be applied in a non-discriminatory manner. Countries that have provided support to their financial sector during the crisis must ensure that as part of their exit strategy it does not leave an uneven level-playing field between national and foreign-owned institutions.

160. Given the expected huge shortfalls in private capital flows to developing countries, multilateral, regional and bilateral donors must step up their efforts to deliver and expand aid for trade. By providing resources to build the trade-related skills and infrastructure that are vital to the integration of the poorest countries into the international trading system, aid for trade will help these countries recover from an economic crisis that they had no hand in creating.

161. With unemployment likely to continue to rise until at least next year, increasing social spending would help avert a looming social crisis. In developed countries that have been hard hit by the financial crisis, social protection systems are a valuable mechanism for underpinning public support for open trade. It is also valuable in another context as a mechanism to assist rebalancing of global demand since the lack of social protection systems in emerging economies has been raised as one of the reasons for why households there have high precautionary savings.

162. While one cannot rule out worsening employment conditions triggering more demand for trade restrictions, on the whole, the system of WTO rules have held up well in the midst of the crisis. There has been no systemic breakdown in the international trading system and WTO members have resisted the allure of protectionism. As the worst effects of the crisis recede, WTO members must begin to remove whatever trade-restrictive measures they have been taken, in response to the economic downturn, including subsidies and other forms of state assistance.

163. Whether it is in the context of exiting the crisis, or facing up to future scarcity in food, energy and natural resources, or dealing with climate change, open markets provide the best way for the international trading system to contribute to a solution. Beyond quickly dismantling protectionist measures, WTO Members need to push for greater market opening. The Seventh WTO Ministerial Meeting provides an opportunity for members to commit to concluding the Doha Round by 2010.