

WORKING PAPERS IN  
INTERNATIONAL ECONOMICS  
OCTOBER 2003 • No. 2.03

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**ARE AUSTRALIAN POLICYMAKERS  
OPERATING IN A NEW GLOBAL  
ECONOMY?**

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## **Are Australian policymakers operating in a new global economy?**

### ABSTRACT

Developments including the rise of vertically specialised trade and the growing internationalisation of production, broader and deeper goods and financial market integration, the extension of international trade to the previously “non-tradeable” services sector, and the spread of international trade and finance to incorporate a growing number of countries suggest that in many respects Australian policymakers are now operating in a “new global economy”.

JEL classification: F2, F13

Key words: Globalisation, international trade

## **Are Australian policymakers operating in a new global economy?**

An important area of research interest for the Lowy Institute is the emerging debate on whether we are living through a fundamental change in Australian foreign policy and whether this change has been driven by a marked shift in how the world functions.

This paper seeks to provide some background to that debate by asking to what extent Australian policymakers are operating in a “new global economy”. This is a potentially important question since if today’s international economic environment is strikingly different from the one that prevailed in the past, then old policy models and assumptions may no longer apply, and new ways of analysing and dealing with the world may need to be developed.

The paper is divided into six sections. It begins by describing how some commentators have proclaimed the birth of a new global economy, and then relates this claim to the recent experience of rapid international economic integration. The next two sections ask to what extent the current international environment is really “new”, and to what extent it is truly “global”. Section five looks at changes in the international business cycle prompted by recent trends in international integration, and section six offers some conclusions.

On the question of whether there is a new global economy, the paper concedes that to some extent recent economic developments can be described in terms of a re-integration of the international economy following the disintegration caused by the two World Wars. However, the paper goes on to describe some important differences between the nature of economic integration today and in the previous era of global capitalism in 1870-1913. Features such as the rise of vertically specialised trade, the extension of international trade to the previously “non-tradeable” services sector, and the spread of international trade and finance to incorporate a growing number of countries all establish the current international economy as being significantly different from the earlier period. This suggests that in many respects policymakers are facing a new international economic environment.

The paper assesses the “global” nature of the present international economy both in terms of the geographical spread of international economic relations and against the kind of economic relations that would be expected to prevail in a perfectly integrated global economy. Here the balance of evidence suggests that there has been an increase in the geographical span of the international economy, even through trade and financial flows continue to be dominated by the advanced economies. In addition, while the current economic environment is still quite some way from looking like the type of borderless world that would prevail in a completely integrated international economy, there is evidence from goods and asset prices that trade and financial developments have led to a greater degree of integration and continue to do so. In this sense, the international economy is starting to take on a global nature.

Finally, while the paper finds that there is as yet no strong empirical evidence indicating a marked increase in the importance of the international business cycle – no truly “global” business cycle has yet emerged – there are signs that some of the recent changes in the international economy will have important implications for the transmission of economic shocks between countries. Thus the growing internationalisation of production implies that world trade will become more sensitive to shifts in global economic activity, and the increasing importance of vertical specialisation may mean that the international transmission of industry- and product-specific shocks could be much faster than it has been in the past. In addition, the recent growth in financial market integration indicates that cross-border wealth effects may also become increasingly important in the future.

The evidence therefore supports the view that there have been major changes in the nature of the international economy. International economic integration today encompasses more countries and has led to deeper trade and financial market linkages than ever before. Australian policymakers do indeed face a new global economy and the challenges that come with it.

## Are Australian policymakers operating in a new global economy?

*“Australia, like most other countries, is more and more integrated into the global economy.”*  
Department of Foreign Affairs and Trade<sup>1</sup>

### 1. The birth of a new global economy?

Several commentators have claimed that the end of the twentieth century witnessed the birth (or in some versions, rebirth) of an integrated global economy. For example, Yergin and Stanislaw describe “a world that is . . . increasingly conjoined in a global market place” where an erosion of borders is leading to “globality – a highly integrated world economy”. They argue that the period between 1989 and 1991 – which saw the fall of the Berlin Wall and the subsequent disintegration of the former Soviet Union – prompted a “relinking” of the formerly closed economies of the communist bloc into the international economy that “made, for the first time since the First World War, the world economy truly global.”<sup>2</sup> Similarly, in the introduction to his paean to globalisation, *The Lexus and the olive tree*, Friedman highlights an October 1998 advertisement by US bank Merrill Lynch in which Merrill wishes a happy tenth birthday to what it describes as the world’s youngest economy – the global economy – which it says was born with the fall of the Berlin Wall in 1989.<sup>3</sup>

The proposition that we are living in a new global economy has been prompted by the rapid pace and broad extent of international economic integration experienced in recent years.<sup>4</sup> Writing at the turn of the millennium, one economist noted that “with the exception of human migration, global economic integration today is greater than it ever has been and is likely to deepen going forward”.<sup>5</sup> Integration has been fuelled by technology-driven falls in transport and communication costs and been supported by economic policies that have emphasised trade and, more recently, financial liberalisation. In a history of the world since 1945, Reynolds notes that “[t]he whole period is, on one trajectory, the story of a growing web of interconnectedness in travel and trade, ideas and information”<sup>6</sup>

While there has undoubtedly been an increase in the degree of international economic integration, does it necessarily follow that the present international economy can be accurately described as “a new global economy”? This raises two further questions. Firstly, to what extent does the current international economic environment look different from the way it has in the past (is there really a “new” global economy?). Secondly, to what extent has international economic integration led to the elimination of barriers to international trade and investment (is it truly a “global” economy?).

Economists have tended to describe the history of international economic integration over the past century in terms of a phase of international economic integration that came to an end with World War I and was followed by a period of economic disintegration that lasted until the start of reconstruction after the Second World War. The succeeding period is then characterised in terms of a gradual return to economic integration prompted by the liberalisation of trade and capital flows, followed in recent decades by a new and deeper version of integration.<sup>7</sup>

The period between 1870 and 1914 has been described as the first era of global capitalism, an era of “rapid globalization: capital and labor flowed across national frontiers in unprecedented quantities, and commodity trade boomed”.<sup>8</sup> Indeed, several economists have concluded that “in some ways, the world of 1914 was more tightly integrated than ours is today.”<sup>9</sup> To some extent, therefore, the current period of international economic integration is not entirely new. That said, however, there are significant differences between the current era of global capitalism and its predecessor. These look large enough to conclude that the current international economy is substantially different from what has gone before.

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<sup>1</sup>Department of Foreign Affairs and Trade (2003a)

<sup>2</sup>Yergin and Stanislaw (2002)

<sup>3</sup>Friedman (1999)

<sup>4</sup>This paper follows Rodrik (2000) in preferring the phrase “international economic integration” to the term “globalisation”. Using the former helps keep the focus on economic factors and so avoids some of the ambiguity associated with the latter term, where “its meanings are as varied as its users.” Reynolds (2001)

<sup>5</sup>Mussa (2000)

<sup>6</sup>Reynolds (2001)

<sup>7</sup>Crafts (2000)

<sup>8</sup>O'Rourke and Williamson (1999)

<sup>9</sup>Baldwin and Martin (1999)

Have these changes been large enough to lead to the creation of a truly global economy – a borderless world? It is certainly the case that the geographical spread of the international economy has widened, with an increasing number of countries involved in international trade and investment, even though the share of the advanced economies in these transactions remains dominant. There is also persuasive evidence of continuing trade and financial market integration. But when judged against the benchmark of what a perfectly integrated global economy would look like, the current international economy falls short. National borders still have a significant impact on flows of goods and finance, and consumers and investors continue to demonstrate a large degree of “home bias” in their economic decisions.

Finally, the data show that synchronisation of growth and recessions across countries – the idea of an international business cycle – is not a new feature of the international environment. However, there is some indication that the recent rise in international economic integration is starting to have an additional effect on the cross-border correlation of output.

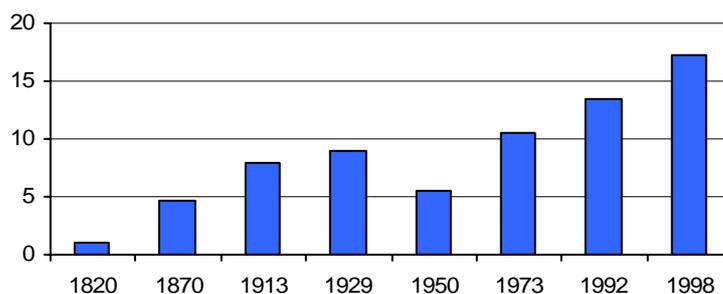
## 2. Tracking growing international economic integration

As noted above, the proposition that we are now living in a new global economy has been motivated in large part by a marked increase in international economic integration. As emphasised in the recent White Paper on trade and foreign policy, “[b]y most measures, the countries of the world are now more deeply integrated than ever before.”<sup>10</sup> Integration – as measured by trade in goods and services and by the mobility of factors of production – has been on a rising trend since the end of the Second World War. The importance of international trade in goods and services has risen significantly over the past fifty years and that of international capital flows over the past thirty.<sup>11</sup> Moreover, the pace of that integration appears to have accelerated markedly over the past decade, possibly in part due to positive feedback effects between goods and capital market developments, since “trade and financial integration typically go hand in hand”.<sup>12</sup>

The growing international integration of goods markets is visible in an increase in the importance of world trade relative to world output. Thus the ratio of world merchandise exports to world GDP roughly tripled between 1950 and 1998, lifting it to an unprecedented level by the close of the twentieth century.<sup>13</sup>

### International economic integration: trade

*World merchandise exports, % of GDP*



Source: Table 1.3 in Findlay and O'Rourke (2003)

Similarly, growing financial market integration has been visible in a pronounced rise in the ratio of (gross) foreign assets to GDP. Gross foreign assets had increased from just 6% of world GDP in 1960 to more than 60% by 1995. Once again, the levels reached at the end of the twentieth century are significantly above previous historic highs. The data also show that financial integration gathered pace in the 1980s and 1990s, relative to the earlier rise in trade openness.

<sup>10</sup> Department of Foreign Affairs and Trade (2003a)

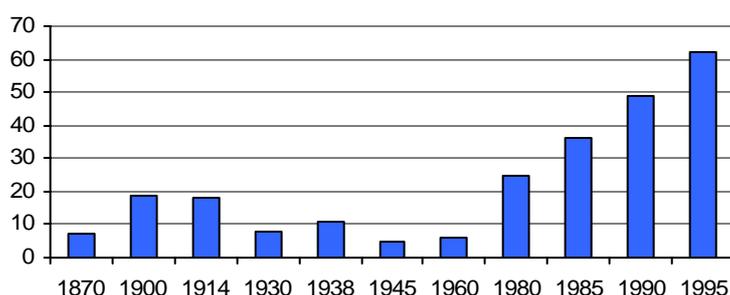
<sup>11</sup> Frankel (2000), Crafts (2000)

<sup>12</sup> International Monetary Fund (2002c)

<sup>13</sup> Findlay and O'Rourke (2003)

## International economic integration: investment

Foreign assets, % of world GDP

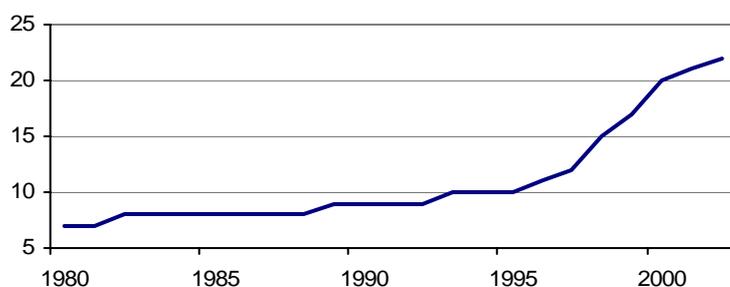


Source: Table 3.2 in Obstfeld and Taylor (2003)

Growing trade and financial market integration – and the links between them – have also been reflected in a rise in the stock of foreign direct investment (FDI) relative to global output. FDI as a share of world GDP has more than tripled between 1980 and 2002.

## International integration of production: FDI

World stock of FDI as % of GDP

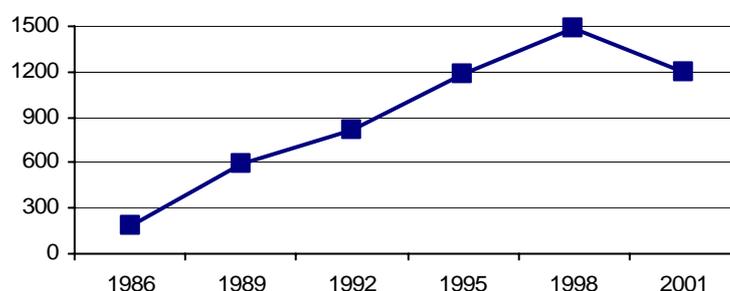


Source: United Nations Commission on Trade and Development (2003b)

Another frequently cited indicator of capital market integration is the huge increase in the *volume* of international transactions, especially since the late 1980s.<sup>14</sup> For example, daily global foreign exchange turnover has exploded, rising from around US\$188b in 1986 (equivalent to less than 40% of total world foreign exchange reserves excluding gold) to US\$1,490b in 1998 (equivalent to more than 80% of world foreign exchange reserves), before falling back somewhat in 2001.<sup>15</sup>

## Global foreign exchange market turnover

daily averages in April, billions of US\$



Source: Bank for International Settlements (2002) and International Monetary Fund (1997)

This process of trade and financial market integration has also been increasingly apparent in the Australian economy in recent decades. Thus the relative importance of merchandise trade to output in

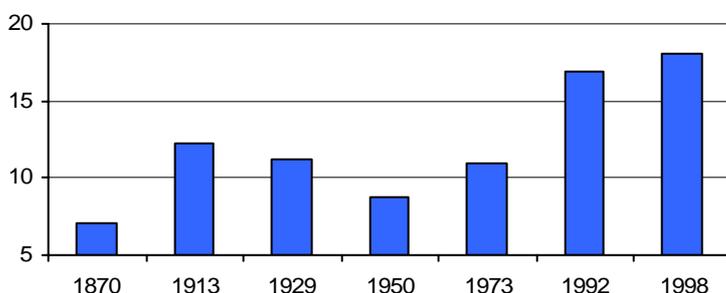
<sup>14</sup> International Monetary Fund (1997)

<sup>15</sup> The Bank for International Settlements thinks that the decline in turnover between 1998 and 2001 reflects several factors including the introduction of the euro, the rising role of electronic broking, banking industry consolidation and international corporate sector consolidation. Bank for International Settlements (2002)

Australia shows a similar pattern to that displayed by the global economy. One result of this is that it has been estimated that roughly 1 in 5 Australian jobs now rely either directly or indirectly on exports.

### Australian economic integration: trade

*Australian merchandise exports, % of GDP*



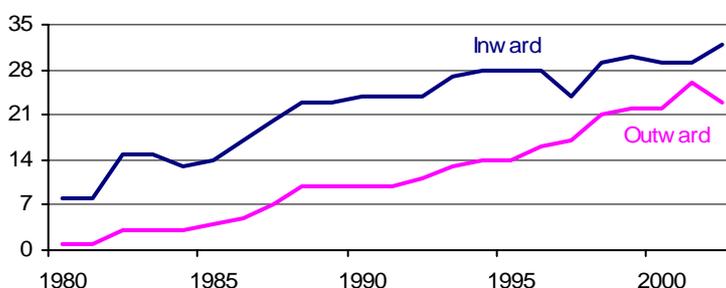
Source: Table 1.3 in Findlay and O'Rourke (2003)

Australia has also become more integrated into global capital markets. The A\$ is now the seventh most traded currency in the world and the Australian foreign exchange market the eighth largest in the world by turnover.<sup>16</sup>

There has also been a marked increase in FDI flows into and out of Australia and a concomitant increase in the internationalisation of Australian firms. Australia's top 100 enterprises now derive almost one quarter of their combined revenues from offshore activity, for example.<sup>17</sup> At the same time, one in five jobs in manufacturing are now in firms with majority foreign ownership and one in four jobs in the mining industry are in enterprises that are substantially foreign owned. Indeed, on some measures "Australia has become one of the most open economies in the world."<sup>18</sup>

### Australian FDI

*Inward and outward stocks of FDI as % of GDP*



Source: United Nations Commission on Trade and Development (2003b)

### *Two key drivers of international economic integration: technology and policy*

One important factor driving the rise in international economic integration has been technological innovation. This has produced falling transport and communications costs that have in turn contributed to a "death of distance".<sup>19</sup> For example, by the end of the twentieth century, the real cost of ocean shipping was about one-sixth of the level of the early nineteenth century, with the period between 1830 and 1910 seeing the most substantial decreases.<sup>20</sup> There have also been significant falls in land transport costs over the same period.

<sup>16</sup> Department of Foreign Affairs and Trade (2003a)

<sup>17</sup> Department of Foreign Affairs and Trade (2002)

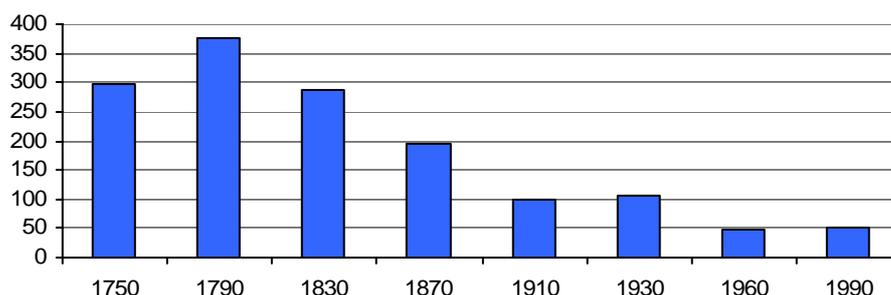
<sup>18</sup> Department of Foreign Affairs and Trade (2003b)

<sup>19</sup> Cairncross (1997). Cairncross identifies three great transport revolutions: the first, a nineteenth century revolution in the transport of goods (based on the steamship and the railway); the second, a twentieth century revolution in the transportation of people (cars and aircraft); the third, a revolution in the transport of ideas and information (computers and the internet).

<sup>20</sup> Crafts and Venables (2003)

### Declining transport costs in historical perspective

Real costs of ocean shipping, 1910=100



Source: Table 7.1 in Crafts and Venables (2003)

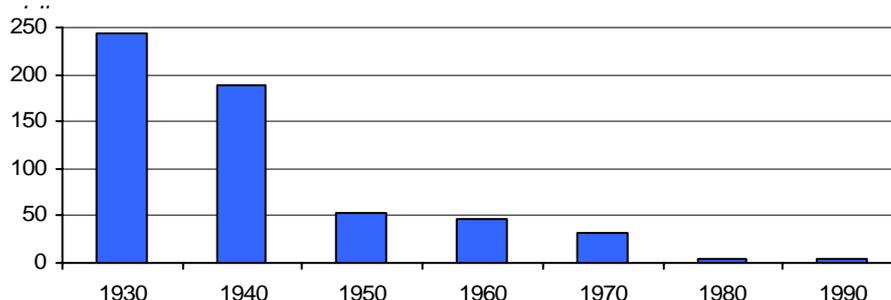
Another important change has been the development of air freight. Just “[e]ighty years after the first flight by a man-carrying, powered, heavier-than-air machine, the value of goods imported and exported through Heathrow, London’s biggest airport, was greater than through any seaport in the country.”<sup>21</sup> Similarly, while 7% of US imports arrived by air in 1965, that share had risen to 30% by 1998.<sup>22</sup> The cost of this mode of transport has also fallen: by 1980 the cost of air freight was about 25% of its pre-World War II level.<sup>23</sup>

The qualitative improvement in transport has also had an important economic effect, in particular in terms of timeliness. For example, one estimate suggests that the advent of faster transportation (in the form of air freight and faster ocean vessels) has had an effect on trade equivalent to a reduction of tariffs on manufactured goods from 32% to 9% between 1950 and 1998.<sup>24</sup>

Communications costs have also fallen sharply, and while “the continuing communications revolution has been one of the most outstanding features of the last 200 years” the decline has been particularly pronounced in recent years.<sup>25</sup> Indeed, the fall in communications costs has outpaced the fall in transport costs during the current period of integration, and this divergence is set to continue since while the decline in transport costs may now be approaching its limits, there remains significant scope for further falls in the price of the transfer of information.<sup>26</sup>

### Declining communications costs in historical perspective

Cost of 3 minute phone call, New York to London, in 1990 US



Source: Hufbauer (1991)

Technology is only part of the explanation for growing integration.<sup>27</sup> Changes in economic policy have been the second key factor, as governments have lowered barriers to trade and capital flows and pushed ahead with economic deregulation and liberalisation. Under the auspices of first the GATT,

<sup>21</sup> Roberts (2000)

<sup>22</sup> World Bank (2001)

<sup>23</sup> Crafts and Venables (2003)

<sup>24</sup> Hummels (2001)

<sup>25</sup> Crafts and Venables (2003)

<sup>26</sup> Mussa (2000)

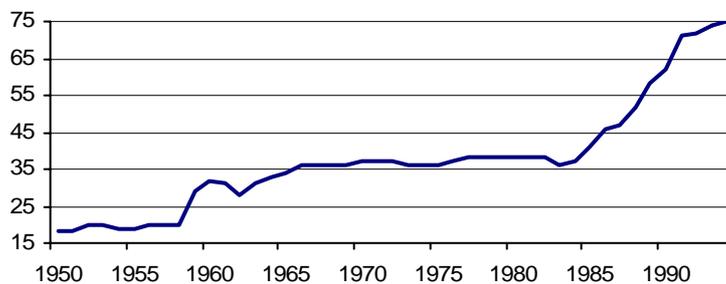
<sup>27</sup> Krugman makes a telling point about the limits of ascribing growing integration purely to improvements in technology. The level of technological development was much higher in 1950 than in 1913, but the level of international integration was significantly greater in 1913. Krugman (1995)

and then the WTO, industrialised countries in particular have achieved a sharp reduction in tariff barriers to trade in manufactured goods since the Second World War.<sup>28</sup> Financial market liberalisation in the advanced economies has been underway since the 1970s when the US dismantled its capital controls in 1974, followed by the UK in 1979 and Western Europe in the 1980s. Economic liberalisation in emerging markets has a more recent history.

Sachs and Warner have tracked this worldwide shift to a more open orientation in economic policy by constructing an index of economic openness based on several indicators including tariff rates, non-tariff barriers, the size of any black market exchange rate premium, and the presence of a “socialist system”.<sup>29</sup> They find that while the international economy “was in a shambles” in the years following the Second World War – as of 1950 only half a dozen countries had fully convertible currencies – the period after 1970 “witnessed the most remarkable institutional harmonisation and economic integration among nations in world history” as a result of which “one dominant global economic system is emerging.” By 1994 they estimate that 75 countries out of their sample of 111 (about 68%) could be classed as “open” economies.<sup>30</sup>

### International economic integration: openness

*Number of countries classified as "open" by Sachs and Warner*

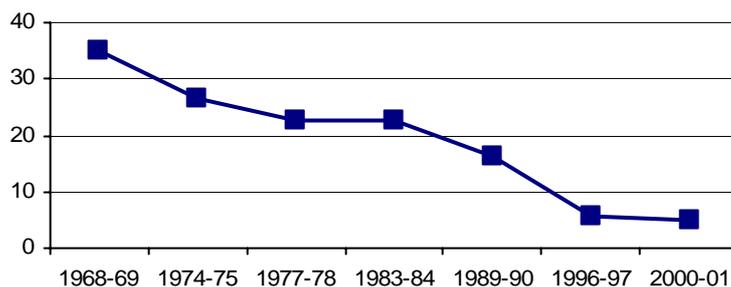


Source: Derived from table 14 in Sachs and Warner (1995)

Economic liberalisation and deregulation have played an important role in Australian economic integration into the international economy. The authorities removed exchange controls and floated the A\$ in 1983 and a series of reforms in the 1980s and 1990s saw Australia cut tariff protection and government assistance to the manufacturing sector, and liberalise FDI rules.

### Assistance to Australian manufacturing

*effective rates, tariffs and certain non-tariff measures, %*



Source: Table 2.5 in Productivity Commission (2000)

<sup>28</sup> For a discussion of trade liberalisation see Thirlwell (2003)

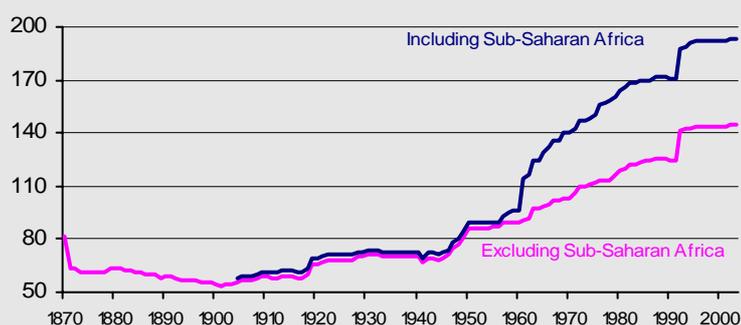
<sup>29</sup> Sachs and Warner (1995)

<sup>30</sup> They categorise Australia as an open economy since 1964, based on the gradual relaxation of quantitative trade restrictions and import licensing. Sachs and Warner concede that Australian tariffs at this time were high by OECD standards, but note that the mean tariff was below their chosen cut-off level.

## Is international economic integration prompting political disintegration?

Rapid economic integration has occurred against the backdrop of a surge in the number of countries: the number of independent states had risen from 74 in 1946 to 193 by the end of last year. In recent years “national borders have been redrawn to an extent that is rather exceptional for modern peacetime history.”<sup>31</sup> This has led one historian to note that “the striking feature of recent decades has been the dialectical process of greater integration and greater fragmentation – the two being interrelated.”<sup>32</sup> While democratisation and decolonisation have been important contributory factors to the trend increase in the number of countries, some economists argue that growing economic integration has also contributed. For example, Alesina, Spolaore et al have pointed to a close correlation after 1870 between the number of countries in the world and measures of trade openness. They argue that “trade openness and political separatism go hand in hand: economic integration leads to political disintegration.”<sup>33</sup>

### Number of independent states in the world



Source: data for 1870-1996 kindly provided by Professor Romain Wacziarg and updated from *Independent States in the World* by the Office of the Geographer and Global Issues

The political economy literature on the size distribution of nations focuses on a trade-off between returns to scale in the provision of public goods (put crudely, the bigger the country, the more taxpayers there are over which to spread the burden of paying for items such as national defence) and a reduction in the ability of voters to select their preferred choice of public goods as country size increases (the greater the number of voters, the greater the “distance” of outlying voters from the policy-clinching median voter).<sup>34</sup> International economic integration enters this picture because trade within countries has lower transactions costs than trade between them, so that national boundaries set limits on the size of markets. Hence an increase in country size can reduce transactions costs and increase market size, producing economic benefits that offset the political costs associated with greater country size. Greater economic integration, specifically in the form of freer trade, will tend to reduce the importance of national boundaries in determining market size. As a result the net incentive to be part of a large country will decrease, leading to an increase in the equilibrium number of (smaller) countries.<sup>35</sup>

While these models conclude that increased economic integration will lead to greater political fragmentation (by increasing the relative benefits of secession), the causality runs in both directions. Thus smaller countries will require a greater degree of international integration to remain economically viable. It is therefore possible that over the longer term economic integration may not be able to continue independently of political integration, since smaller nations may only be able to benefit to the extent that there is some form of “international policeman” able to enforce rules across countries.<sup>36</sup>

<sup>31</sup> Alesina and Spolaore (1997)

<sup>32</sup> Reynolds (2001)

<sup>33</sup> Alesina, Spolaore and Wacziarg (2000)

<sup>34</sup> Bolton, Roland and Spolaore (1996)

<sup>35</sup> Alesina, Spolaore and Wacziarg (2000)

<sup>36</sup> Bolton, Roland and Spolaore (1996)

The work by Sachs and Warner discussed above also points to the importance of political developments in the rise in international economic integration. Their chosen measure of openness depicts a surge in the number of “open” countries in the late 1980s, prompting the authors to note that “the extent of integration has come sharply into focus only since the collapse of communism in 1989.”<sup>37</sup> Similarly, the international spread of capital markets in the 1990s was possible “only because much of the developing world and the old Soviet bloc had allowed currencies to float and had relaxed their capital controls.”<sup>38</sup> This point is echoed by Gilpin, who notes that, along with falling transport and communications costs and facilitative international economic policy, the collapse of the communist economies and the increasing influence of “conservative ideology” played an important role in facilitating international economic integration.<sup>39</sup>

### 3. Is the global economy really “new”?

The previous sections have described how recent years have witnessed a process of increased economic integration that has prompted some commentators to claim that the international economy has been transformed into a new global economy. But there remains some debate over just how “new” the process of integration really is. For example, Sachs and Warner, after describing how a “global capitalist system is taking shape, drawing almost all regions of the world into arrangements of open trade and harmonized institutions” also conclude that “[t]he world economy at the end of the twentieth century looks much like the world economy at the end of the nineteenth century.”<sup>40</sup>

At a broad historical level, the general process of international economic integration is far from new. Arrighi for example has described a “long twentieth century” that reaches as far back as the 1600s and has been characterised by the formation of an increasingly global economy.<sup>41</sup> Similarly, after conducting a survey of the history of international economic integration from 1500 to the present, Taylor argues that the atypical part of modern economic history has been the economic *disintegration* that occurred between 1914 and 1945. In his view, “[c]ompared to the very long-run trends in globalisation, we can see what an historical aberration twentieth-century economic experience has been: the only sustained period in the last several centuries when trends in the growth of world trade, and globalisation more generally, were put into reverse.” In his view, the recent bout of integration means that as “the twenty-first century opens we seem close to rejoining, at least in some areas, the trend towards global integration that lasted for several centuries before 1913.”<sup>42</sup>

While international economic integration undoubtedly has a long history, however, it seems fair to say that the general consensus among economic historians is that it is premature to speak of the emergence of any kind of global economy before the nineteenth century. In particular, the period between 1870 and 1914 is often singled out as the first age of global capitalism, and it is this period of economic integration that is most frequently used as a benchmark for the current international economy.<sup>43</sup>

#### *Two eras of international economic integration*

Both trade and financial market integration display a U-shaped pattern over the past century, with rising integration during the first age of global capitalism followed by a retreat during 1914-45 after which integration resumes in the post-World War II era.

The period before the outbreak of World War I saw a similar pattern to the post-World War II period described above in terms of an increase in the ratio of world merchandise trade to world GDP.<sup>44</sup> In addition, while the magnitude of the trade-to-GDP ratio in 1913 (around 8%) was significantly lower

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<sup>37</sup> Sachs and Warner (1995)

<sup>38</sup> Reynolds (2001)

<sup>39</sup> Gilpin (2002)

<sup>40</sup> Sachs and Warner (1995)

<sup>41</sup> Arrighi (1995)

<sup>42</sup> Taylor (2002)

<sup>43</sup> At this stage in the argument most economists are unable to resist citing a famous quote from Keynes extolling the integrated world economy “which came to an end in August 1914 . . . The inhabitant of London could order by telephone sipping his morning tea in bed, the various products of the whole earth . . . He could at the same moment and by the same means adventure his wealth in the natural resources and new enterprises of any quarter of the world . . . He could secure forthwith, if he wished it, cheap and comfortable means of transit to any country or climate without passport or other formality . . .” Keynes (1920) This paper is no exception.

<sup>44</sup> Crafts (2000)

than that prevailing in 1998 (about 17%), the rate of growth in the ratio of exports to GDP was more rapid in the earlier period, rising eightfold between 1820 and 1913.<sup>45</sup>

By the end of the nineteenth century the costs of shipping a ton of cargo across the Atlantic was probably less than 20% of what it had been by the end of the century. As a result, ocean shippings costs had declined to the point where they no longer represented a serious natural barrier to trade across the Atlantic.<sup>46</sup> The resultant surge in openness transformed the international economy, so that “[b]y the eve of the First World War steamships and railroads had created markets for standardized commodities, like wheat and wool, that were fully global in their reach.”<sup>47</sup>

The time path of capital market integration shares a similar – albeit slightly more elongated – profile. Thus the ratio of foreign assets to GDP stood at just 7% in 1870, but rose to about 20% by 1914. The ratio collapsed during the interwar period and only returned to its 1914 level by the 1980s, although this was followed by a period of extremely rapid increase. Obstfeld and Taylor describe how the use of new communications technology to transmit prices, the introduction of debt and equity instruments, the rise of insurance, the increased role of government bond markets, the use of forwards, futures and other derivatives, and the growth and development of banking systems led to the creation of “the first global marketplace in capital”.<sup>48</sup> For example, prior to the opening of the transatlantic cable – which came into operation in 1866 – it could take up to three weeks for information to travel from London to New York. The introduction of the cable initially cut this lag to one day, and by 1914 the time for a cable transmission was down to one minute. One result was a marked fall in the difference between the London and New York price of US bonds.<sup>49</sup>

The degree of financial market developments within national economies follows the same U-shaped pattern, with an increasing proportion of national and international economies becoming monetised and sensitive to financial market movements.<sup>50</sup>

Another similarity is that technology-driven falls in transport and communications costs played an important role in both periods. Thus the introduction of first canals and then railways cut the cost of land transportation, while the advent of the steamship reduced the cost of shipping during the first era of global capitalism.

The nineteenth century was also a period of significant labour mobility. Improvements in the cost, speed and safety of transport across the Atlantic – particularly with the replacement of wooden sailing vessels by iron-made steamships – contributed to a wave of European migration into the US.<sup>51</sup> According to Baldwin and Martin, “[m]assive labour migration, often teamed with massive capital inflows, was a hallmark of the 1880-1914 period.”<sup>52</sup> This pattern has been characterised as the “Kuznets cycle”, whereby falling transport costs open “frontier” areas to the production of staple goods, leading to a growth boom driven by migration, capital inflows and the export of primary products.

Taken overall, several economists have conceded that the novelty of the current era of economic integration is reduced when the nineteenth century experience is used as a benchmark. For example, Masson concludes that international economic integration in the current period “is in several respects less pronounced than the pre-World War I period”: net capital flows have been more modest, the fall in transport costs less dramatic and there have been more restrictions on (officially-sanctioned) migration.<sup>53</sup> Similarly, Frankel judges that nineteenth century economic integration was “at least as impressive as the current episode.”<sup>54</sup>

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<sup>45</sup> Findlay and O'Rourke (2003)

<sup>46</sup> Mussa (2000)

<sup>47</sup> Krugman (1995)

<sup>48</sup> Obstfeld and Taylor (2003)

<sup>49</sup> Bordo, Eichengreen and Irwin (1999)

<sup>50</sup> Rajan and Zingales (2000)

<sup>51</sup> Falling transport costs were only part of the story however. Once again a key role was played by shifts in public policy. Thus there were no formal US restrictions on immigration until the Chinese Exclusion Act of 1882, and no general restrictions on immigration until the National Origins Act of 1924. Mussa (2000)

<sup>52</sup> Baldwin and Martin (1999)

<sup>53</sup> Masson (2001)

<sup>54</sup> Frankel (2000)

### *Does the current era of international economic integration look different from the first?*

Despite the impressive level of economic integration attained in the 1870-1914 period, however, there are still strong grounds for concluding that the current era of international economic integration is more than just a re-run of its predecessor or a restoration of the nineteenth century international economy. The character of trade and financial market integration today is in many ways markedly different from that prevailing in the earlier period and there are also important differences in the nature of labour market integration, the role of multinational corporations (MNCs) and FDI, and in the nature of the international policy framework. Finally, the current period of integration has had very different implications for relations between the advanced industrialised economies and the rest of the world. Indeed, it is possible to conclude, along with Bordo, Eichengreen et al, that “our world is different: commercial and financial integration before World War I was more limited . . . integration is deeper and broader than a hundred years ago. . . the international integration of capital and commodity markets goes further and runs deeper than ever before”.<sup>55</sup>

### *The changing nature of international trade*

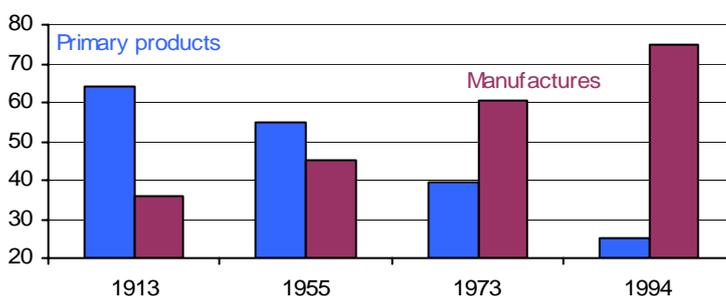
The trend in the broad ratio of merchandise exports to GDP highlighted above suggests that while international economic integration at the end of the twentieth century was greater than that prevailing at the height of the first era of global capitalism, the magnitude of the change has been limited. However, this aggregate measure fails to pick up the way in which several differences in the nature of trade make trade in today’s international economy significantly more important for national economies than it was in 1870-1914.

One major difference is that structural change has seen the share of traded goods (agriculture, mining and manufacturing) in total output in the advanced economies fall markedly over the past century, making the ratio of trade to output a biased indicator for comparing the two periods.<sup>56</sup> If instead the comparison between the two periods is made using the ratio of merchandise trade to merchandise output, the data show a significant rise in the importance of trade in the production of traded goods.<sup>57</sup> That process has continued to gain momentum in recent years with the IMF estimating that the ratio of merchandise trade to merchandise value-added has risen from 46.2% in 1980 to 76.3% in 2000 for the major industrial economies.<sup>58</sup>

A second distinction between the two periods is in the changing composition of merchandise trade. There has been a marked decline in the share of primary products and a rise in the share of manufactured goods in the international trade in goods during the current period of international integration.<sup>59</sup>

### **The changing composition of world merchandise trade**

*% of total merchandise trade*



Source: Table 2.2 in Crafts (2000)

<sup>55</sup> Bordo, Eichengreen and Irwin (1999)

<sup>56</sup> For example traded goods were about 40% of US GNP in 1899-1903, compared to 20% in 1997. Bordo, Eichengreen and Irwin (1999)

<sup>57</sup> Bordo, Eichengreen and Irwin (1999)

<sup>58</sup> For emerging market economies in Asia, the ratio has risen from 93.8% to 168.5% over the same period. International Monetary Fund (2002c)

<sup>59</sup> Crafts (2000)

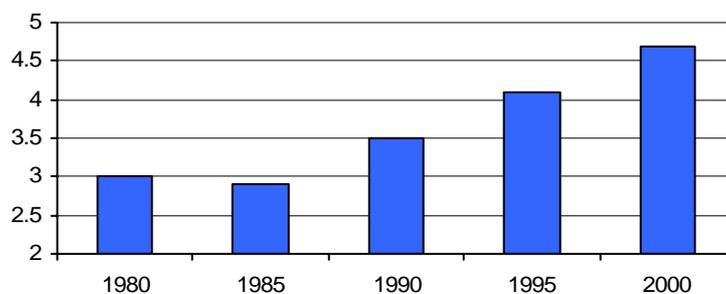
This changing composition of merchandise trade has been associated with the growing importance of intra-industry trade – defined by the OECD as the two-way exchange of goods within same standard industrial classifications – which tends to be particularly important for high-end manufactured goods.<sup>60</sup> Krugman points out that “manufactured goods today are more complex” than those traded in the first era of global capitalism.<sup>61</sup> He notes that in part this reflects the way in which manufacturing today involves the use of a greater variety of specialised intermediate inputs in the production process, and it is these goods that make up a significant proportion of intra-industry trade. The OECD estimates that the intra-industry share of manufacturing trade has increased significantly since the late 1980s across many economies. For example, in the US intra-industry trade accounted for almost 70% of total manufactured trade in 1996-2000.<sup>62</sup> Notably the increase in the importance of intra-industry trade has tended to be highest in those economies which have seen high and increasing flows of FDI, emphasising the linkage between trade and FDI.

This leads to a third, and closely related difference between the two periods: the way in which the “rising integration of world markets has brought with it a disintegration of the production process, in which manufacturing or services activities done abroad are combined with those performed at home.”<sup>63</sup> Similarly, Hummels, Rapoport et al report that a “deeper dimension” of the rising trade share in GDP described above is the increased importance of imported inputs in the production of goods that are subsequently exported; a phenomenon they characterise as “vertical specialization”.<sup>64</sup> They stress that this means that international economic integration “has gone beyond just ‘more trade’”. The nature of trade has changed to the point where countries increasingly specialize in producing particular stages of a good, rather than making a complete good from start to finish.” Moreover, this kind of vertical specialisation has grown markedly. For example, the Japan-Asia electronics trade – an example of vertical specialisation in action – is estimated to have increased by about 900% between 1986 and 1995.<sup>65</sup>

A final dissimilarity in the nature of trade between the two periods is the way in which services – which in the past have tended to be categorised as non-traded goods – have become an increasing part of international trade in the modern period. In contrast, services trade was significantly smaller in the nineteenth century.<sup>66</sup>

### The growing importance of trade in services

*World exports of services, % of GDP*



Source: Data on services exports from United Nations Commission on Trade and Development (2003a). GDP from International Monetary Fund (2003c)

<sup>60</sup> Organisation for Economic Co-operation and Development (2002b). The OECD notes that on this definition intra-industry trade will include horizontal trade in similar products with different varieties (for example cars), trade in vertically-differentiated products (for example Italy importing T-shirts and exporting suits) and finally the vertical specialisation of production discussed below (trade in similar goods at different stages of production).

<sup>61</sup> Krugman (1995)

<sup>62</sup> In contrast the OECD describes Australia as having “low and stable” intra-industry trade, accounting for about 30% of total manufactured trade. This lower ratio is also seen in other OECD economies where non-manufactures are at least 40% of total exports (about double the world average).

<sup>63</sup> Feenstra (1998) Feenstra uses the example of a Barbie doll to illustrate this process. The raw materials for the doll (plastic and hair) came from Taiwan and Japan; assembly took place in Indonesia, Malaysia and China; the molds came from the US; and the cotton cloth for the doll’s clothing came from China.

<sup>64</sup> Hummels, Rapoport and Yi (1998)

<sup>65</sup> International Monetary Fund (2002c)

<sup>66</sup> Crafts (2000)

### Communications and transport costs in the two eras of international integration

One factor behind some of the differences between the two periods is the changing relative importance of declines in transport and communications costs. The data suggest that in the more recent period of international economic integration the drop in communications costs has been much greater than the decline in transport costs, while in the earlier period falling transport costs were relatively more important. Baldwin and Martin argue that this difference has meant that the transfer of ideas has been a more important feature of the current wave of economic integration, and that this in turn has been reflected in several differences between the two periods.<sup>67</sup> For example, they note that in the modern period short term capital flows have been much more important, which they reckon in part reflects greater financial market arbitrage activity in response to rapid changes in the availability of information. In a similar vein, Mussa has emphasised the role of lower communications costs in driving recent financial integration, noting that ‘[i]nformation and communications costs are a natural barrier to integration of capital markets and financial services – just as transportation costs are for trade in physical goods. As these costs come down, integration should increase.’<sup>68</sup>

Lower communications costs have also played an important facilitative role in the expansion of vertical specialisation by allowing the rapid communication of information and specifications between different parts of the value chain located in different economies.<sup>69</sup> Similarly, modern communications technology has had a key role to play in making services more tradeable by allowing the separation of production and use. For example, it is now relatively easy to have software written in India and then transferred back to the US.<sup>70</sup>

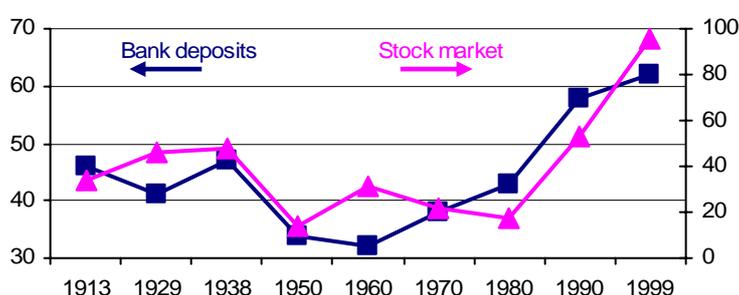
Finally, since communications costs are expected to continue to fall, it seems likely that the relative importance of the types of trade relying on communications is likely to continue to grow over time.<sup>71</sup>

### Differences in financial market integration

Financial market integration also looks different today from how it did in the pre-World War I period. True, Rajan and Zingales have shown that the average level of financial development in 1913 – as measured by indicators such as the ratio of stock market capitalisation and bank deposits to GDP – was quite high, and for several economies comparable to that prevailing in 1990.<sup>72</sup> Moreover, the period between 1913 and 1980 was arguably one of financial *regression*, marked by a decline in the same indicators. But since 1980 there has been a pronounced acceleration in financial market development, spurred on by deregulation. This has led to two significant changes (at least in the advanced economies). First, there has been a shift in the nature of assets held by households, with a fall in the relative importance of housing and a rebalancing of portfolios in favour of equities and other financial assets. Second, there has also been a rise in the proportion of households holding financial assets.<sup>73</sup>

### Indicators of financial market development

ratio to GDP, %



Source: Table 1 in Rajan and Zingales (2000)

<sup>67</sup> Baldwin and Martin (1999)

<sup>68</sup> Mussa (2000)

<sup>69</sup> Again however, the importance of policy should not be neglected. Since vertical specialisation involves the repeated shipping of goods across borders, falling tariff rates should have a particularly stimulative impact on this kind of trade.

<sup>70</sup> Mussa (2000)

<sup>71</sup> International Monetary Fund (2002c)

<sup>72</sup> Rajan and Zingales (2000)

<sup>73</sup> Boone, Girouard and Wanner (2001)

There are also differences between the two periods in terms of the nature of capital flows. Bordo, Eichengreen et al note that for capital flows in the nineteenth century “the volume was large but the range of affected activities was small.”<sup>74</sup> Similarly, foreign borrowing in this period “meant almost exclusively borrowing by railways and borrowing by governments”. For example, almost 40% of British overseas investment in quoted securities before 1914 was in railways, 30% in government issues, and 10% in resource extracting industries. Similarly, they note that one study of nineteenth century investment into emerging markets (then comprising Argentina, Australia, Canada and the US) found that between 1885 and 1890 nine out of every ten pounds of British investment went into railroads and government bonds. In marked contrast, the current period has seen capital flows extended to a greater number of countries (with the arrival of the “emerging market” asset class) and sectors (with investment in the financial services sector and manufacturing).

Another major distinction between the two periods has been highlighted by Obstfeld and Taylor, who note that in the nineteenth century most capital flows were long-term investment capital and “virtually unidirectional”.<sup>75</sup> For example, by 1914 Britain held many Argentine assets, while Argentine holdings of British assets were trivial by comparison. In contrast, countries’ *net* foreign asset/foreign liability positions have been very low in the current period, and short term capital flows extremely important. Indeed, Obstfeld and Taylor think it possible that there has been a relative *decline* in the ratio of net capital stocks to GDP compared to the first period of international integration. Again, and in marked contrast to the role of international lender played by Britain in the nineteenth century, during the past decade the US has had both the largest stock of gross foreign assets *and* the largest stock of gross foreign liabilities. Obstfeld and Taylor conclude that a major dissimilarity between the two periods is that today’s foreign asset distribution is “much more about asset swapping by rich countries – diversification – than it is about the accumulation of large one-way positions” that characterised the earlier period.

#### ***The role of multinational corporations and foreign direct investment***

Another significant difference between the two eras has been the relative importance of MNCs and FDI in the current period. Bordo et al describe the importance of MNCs to the international economy as having undergone a “quantum leap” since the pre-World War I era.<sup>76</sup> Of course, MNCs are not a new feature of the international environment – their role in international trade dates back to the Hanseatic League and Italian banking houses in the fourteenth century, and the East India, Muscovy and Hudson Bay Companies in the seventeenth and eighteenth centuries – but they have become steadily more important. For example, UNCTAD has estimated that in 2002 the global stock of FDI generated sales worth an estimated US\$18 trillion, compared with world exports in the same year of around US\$8 trillion.<sup>77</sup>

Finally, the growing relative importance of MNCs and FDI is also intimately related to the growing phenomenon of international vertical specialisation discussed above.

#### ***Labour market integration then and now***

What about differences in labour market integration between the two eras? As Crafts notes, “there has been no comparable relaxation of immigration controls to accompany the liberalisation of trade and capital flows” in the post-World War II period.<sup>78</sup> Indeed, arguably the recent tendency has been for governments to tighten controls on migration even as they have liberalised other parts of their economies. But this is not to say that there has been no evidence of labour market integration in the modern period. Maddison for example describes a “resurgence in international migration” which saw Western Europe and what he calls the “Western Offshoots” (Australia, Canada, New Zealand and the US) absorb more than 54 million immigrants between 1950 and 1998.<sup>79,80</sup>

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<sup>74</sup> Bordo, Eichengreen and Irwin (1999)

<sup>75</sup> Obstfeld and Taylor (2003)

<sup>76</sup> Bordo, Eichengreen and Irwin (1999)

<sup>77</sup> United Nations Commission on Trade and Development (2003b)

<sup>78</sup> Crafts (2000)

<sup>79</sup> Maddison (2001)

<sup>80</sup> Of course, migration remains very significant in an Australian context. The Australian Bureau of Statistics estimates that in 2001–02, 54% of Australia’s population growth was from net overseas migration. In addition, Australia’s overseas-born residents comprised about 23% of the total estimated resident population as of June 2001. Australian Bureau of Statistics (2003)

### Terrorism and international economic integration<sup>81</sup>

In the immediate aftermath of the September 11 terrorist attacks, tighter security reportedly produced a slowdown in border crossings and a breakdown in supply chains that resulted in several factory shutdowns on both sides of the US-Canada border. In January 2002 the US introduced the Container Security Initiative (CSI) to conduct joint screening of containers (about 90% of all freight is shipped in containers). The CSI began with the world's 20 busiest ports and is expected to expand, but the World Bank has warned that some countries could struggle to meet the requirements, and there has been some concern that ports not covered by the CSI could suffer a loss of trade.<sup>82</sup> And the IMF has warned that the September 11 terrorist attacks are likely to lead to an increase in transport costs in the long run.<sup>83</sup>

Is there a risk that tighter government controls to combat international terrorism will result in a significant setback to the integration process? The previous discussion has repeatedly highlighted the important role played by falling transport and communications costs in boosting international economic integration. Indeed, transport costs continue to be an extremely important determinant of trade flows, with the World Bank noting for example that for 168 out of 216 US trading partners transport costs barriers are currently more significant than tariff barriers.<sup>84</sup> Moreover, recent academic work has estimated that the elasticity of trade flows with respect to transport costs is about three, indicating that a one percent increase in transport costs would reduce trade volumes by about three percent.<sup>85</sup>

The OECD has also emphasised how just-in-time supply chain management and the internationalisation of supply chains both rely heavily on the efficiency of border crossings. Thus one study has found that the daily cost of a supply delay is equal to about a 0.8 per cent ad-valorem tariff.<sup>86</sup>

Given this vulnerability of trade to increased delays and transactions costs, it has been estimated that new security-related costs in the US could increase the *ad valorem* cost of trade by between one and three percentage points.<sup>87</sup> The OECD notes that this would have a direct impact on trading costs of a similar scale to that of the Uruguay Round-inspired reduction in developed countries' bound tariffs on imports of industrial goods. However, subsequent work by the OECD among others has suggested that this estimate was biased upwards by the disruption following the attack. Walkenhorst and Dihel have since estimated that a one percent increase in trade costs due to the impact of September 11 related security measures – which they think is a sensible upper bound – could lead to an annual US\$75b fall in global welfare.<sup>88</sup>

Still, there is some good news. For example, the OECD has argued that while there will be some trade-off between security and the efficiency of border crossings in the short-term, the trade-off could be eliminated in the medium-term by carefully tailoring the new procedures to increase the general efficiency of border processes. Similarly, the World Bank judges that in the longer term, new security measures would also have the potential to streamline trade transactions and hence increase trade efficiency. The Bank highlights recent research that shows that automated customs processes could lower the direct costs of customs clearance by the equivalent of 0.2% of the value of traded goods. Once indirect benefits from reduced delays are taken into account, costs could be reduced by up to 1% of merchandise value.<sup>89</sup> Hence in the long run the Bank feels that international trade could benefit from efficiency gains, better information management and greater use of e-commerce.

Chiswick and Hatton describe the era between 1850 and 1913 as the era of mass migration, and contrast this with an era of “constrained” mass migration in the post-World War II period.<sup>90</sup> They point to three key structural shifts in the pattern of international migration between the two periods: the decline in Europe as a source of migrants; the shift of Latin America from being a destination to a source region for migration; and a rise in immigration from Asia. They also emphasise how the rise in trade integration has reduced the returns to low-skilled labour in the advanced economies. This in turn has produced a decline in the demand for unskilled labour in the economies that are the preferred destination for most migrants, a development that is in marked contrast to the situation in the first era of global capitalism, when the demand for unskilled labour in “frontier” economies was buoyed by

<sup>81</sup> This section draws on the discussion in Organisation for Economic Co-operation and Development (2002a) and World Bank (2003a)

<sup>82</sup> Australia has not yet signed up to the CSI scheme, although it is complying with another US customs requirement which requires 24 hours notice of cargoes loaded before departure.

<sup>83</sup> International Monetary Fund (2002c)

<sup>84</sup> World Bank (2001)

<sup>85</sup> Limao and Venables (2001)

<sup>86</sup> Hummels (2001)

<sup>87</sup> Leonard (2001)

<sup>88</sup> Walkenhorst and Dihel (2002)

<sup>89</sup> Hertel, Walmsley and Ikatura (2001)

<sup>90</sup> Chiswick and Hatton (2003)

opportunities in the industrial, mining and agricultural sectors. One result of this change is that advanced economies are now tending to focus increasingly on encouraging skilled migration.

### *The shifting policy framework*

Another important factor differentiating the two eras of global capitalism relates to the prevailing international policy framework. The first wave of international integration took place under the auspices of the *Pax Britannica* and the gold standard, but otherwise in the absence of formal rules or international economic institutions. In contrast, the current wave of integration has occurred against the backdrop of trade liberalisation driven by the GATT and the WTO and more recently financial market integration encouraged and supported by the Bretton Woods institutions (the IMF and the World Bank).<sup>91</sup>

In particular, the international monetary system prevailing in the two periods was markedly different. Between 1870 and 1914 an increasing proportion of the international economy operated under the gold standard. This arrangement demonstrated a “striking stability” as “the leading industrial and commercial powers remained on gold without interruption for fully a third of a century up to World War I.”<sup>92</sup> After 1914 however the credibility of this regime was fractured by the First World War and its aftermath as the “world economy went from globalized to almost autarkic in the space of a few decades.”<sup>93</sup> Then, between 1945 and 1971, the Bretton Woods era saw an attempt to reconstruct an international economy based on a combination of fixed exchange rates, trade liberalisation and restrictions on capital flows.<sup>94</sup> The eventual demise of the Bretton Woods framework in the 1970s – partly under the pressure of growing capital flows – has been followed by a period of floating exchange rates among the major currency areas, interspersed with attempts to “manage” particularly egregious currency misalignments, such as the Plaza (1985) and Louvre (1987) Accords.<sup>95</sup>

Obstfeld and Taylor argue that these changes in international monetary arrangements can best be understood in terms of changing responses to what they call the “macroeconomic policy trilemma for open economies”.<sup>96</sup> The trilemma (also known as the “impossible trinity” in the international macroeconomics literature) is the proposition that an open economy can only choose to have two out of the three following policy goals: capital mobility, a fixed exchange rate and an independent monetary policy.<sup>97</sup> Obstfeld and Taylor suggest that international capital mobility has tended to expand under circumstances where there has been political support either for subordinating monetary policy to exchange rate regime (as under the gold standard) or for gearing monetary policy to domestic considerations at the expense of exchange rate stability (the current period of floating exchange rates).

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#### **The impossible trinity and the history of the international monetary system**

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<u>Era</u>	<u>Active monetary policy?</u>	<u>Capital mobility?</u>	<u>Fixed exchange rate?</u>
Gold standard	No	Yes	Yes
Interwar (off gold)	Yes	Yes	No
Bretton Woods	Yes	No	Yes
Floating rates	Yes	Yes	No

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Source: Adapted from Table 3.1 in Obstfeld and Taylor (2003)

Some evidence that this trilemma has been operating in the current period is visible in the steady decline in the number of countries that operate fixed exchange rate systems.<sup>98</sup>

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<sup>91</sup> The different role of trade policy in the two periods is reviewed in Thirlwell (2003)

<sup>92</sup> Eichengreen and Sussman (2000)

<sup>93</sup> Obstfeld and Taylor (2003)

<sup>94</sup> For one view of the rise and fall of the Bretton Woods framework, see Glyn, Hughes et al. (1991)

<sup>95</sup> The recent Dubai Agreement among the G7 to press for more flexible exchange rates looks like a (somewhat feebler) echo of these earlier initiatives.

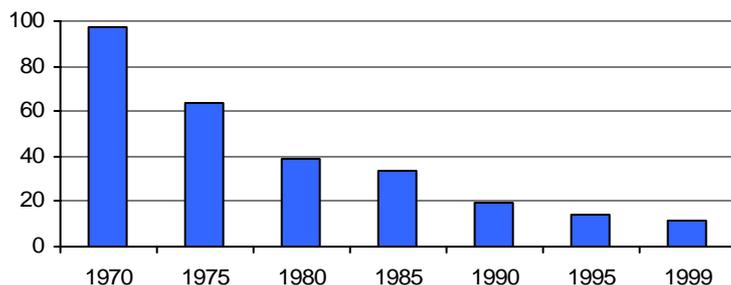
<sup>96</sup> Obstfeld and Taylor (2003)

<sup>97</sup> For example, if a country imposes capital controls, then it can operate an independent monetary policy and fix its exchange rate. If however it wants to allow free capital movement, it must choose either to sacrifice its ability to run an independent monetary policy or its ability to fix its exchange rate.

<sup>98</sup> Note however that Calvo and Reinhart have emphasised that many countries that claim to have floating exchange rates do not allow a clean float, but use interest rates and intervention to manage the level of the exchange rate. Calvo and Reinhart (2000)

## Exchange rate policy

% of IMF members classified as having pegged exchange rates



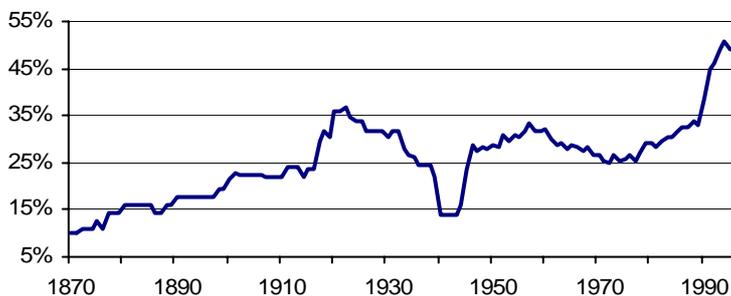
Source: Table 1 in Calvo and Reinhart (2000)

This still begs the question as to why the major economies in the first wave of global capitalism were able and/or willing to sacrifice domestic monetary policy independence in order to stay on the gold standard and maintain capital mobility. Eichengreen argues that the underlying factor that successfully reconciled capital mobility with exchange rate stability was a “social and political setting in which other potential goals of economic policy were subordinate to the maintenance of gold convertibility.” Thus in this period there was no widely-held theory linking monetary policy to economic activity, few competing policy targets, low unionisation, a limited franchise, and a modest size of government (and hence less pressure to monetise fiscal deficits). World War I undermined the political and social fundamentals of this system by widening the franchise, which in turn contributed to a rise in government spending on social programs and the transformation of unemployment into a political issue. In addition, Keynes linked monetary policy to unemployment, further contributing to the politicisation of monetary policy and therefore made it harder to subordinate it to external objectives.<sup>99</sup>

The growth in democratisation has been a particularly important feature of the modern era, and has arguably been one of the most important constraints on policy during much of the post-World War II period when compared with the previous era of international economic integration. The changes have been in terms of both depth (within countries) and breadth (across countries). For example, the expansion of the franchise can be seen in the rise in the size of the electorate as proportion of persons aged 20 or over. The average for this ratio for 11 West European countries was just 18% for 1869-1873, while it had risen to over 96% by 1972-75.<sup>100</sup> At the same time, there has been a marked increase in the number of countries with democratic political systems, with what Huntington has described as a “third wave” of newly democratising countries arriving in the second half of the twentieth century.<sup>101</sup>

## The spread of democracy

% of countries with Polity III score above 6 on scale of 0 (low)-10 (high)



Source: Niall Ferguson financial history database on Professor Richard Sylla’s website

Intriguingly, this increase in democracy could yet present further challenges to the process of international economic integration. For example, drawing a parallel with the “impossible trinity”, Rodrik has argued that countries will have to choose two options from the three choices of

<sup>99</sup> Eichengreen (1996) and Eichengreen and Sussman (2000)

<sup>100</sup> Maddison (1991)

<sup>101</sup> Huntington identifies the first two waves of democratisation as taking place in 1828-1926 and 1943-1962 respectively. Huntington (1991)

international economic integration, the nation state, and mass politics (in the sense of an unrestricted franchise and lots of political mobilisation).<sup>102</sup> If countries want to continue down the path of steadily greater international economic integration, then they will need to sacrifice one of the other two options. Seen in this light, the world of the gold standard was one in which the scope for mass politics was restricted to allow the other two options. Rodrik argues that in the current era one possibility is that the relative importance of mass politics will shrink through developments such as the introduction of independent central banks and the privatisation of social insurance – a process that he describes as “global Argentinization”. Alternatively, he proposes that countries could instead choose to pursue some form of global federalism in order to manage the process of continuing economic integration.

### *The scope of international economic integration: the West and the Rest*

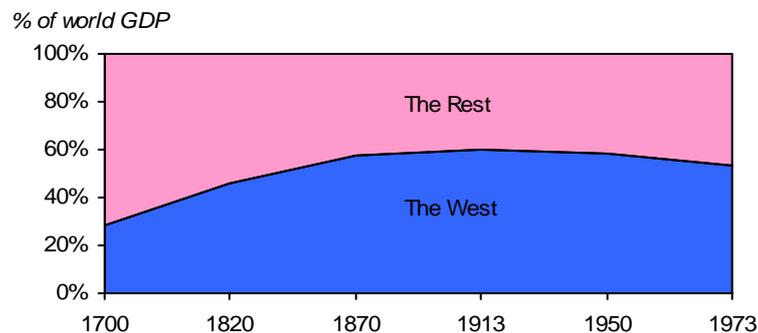
A final important distinction between the current period of international economic integration and its predecessor is the very different experience in terms of relative economic performance in the advanced and developing economies.

Baldwin and Martin for example have stressed that while the first wave of international economic integration was associated with industrialisation in the advanced economies and deindustrialisation in developing economies, the reverse appears to have been the case in the current period.<sup>103</sup> According to Bairoch, while the third world produced around 70% of the world’s manufactures in 1750, this share had fallen to less than 10% by 1913. Over the same period the level of industrialisation in the third world (as measured by manufacturing per capita) fell to less than one-third of its original level.<sup>104</sup> As a result, by the late nineteenth century a “stark distinction” had emerged between industrial and primary producing economies, manifested in a huge change in the industrial division of labour between the advanced and emerging economies.<sup>105</sup>

In marked contrast, the current period of international economic integration has seen most high income economies undergo a process of deindustrialisation (a fall in the share of employment in the manufacturing sector) at the same time as industrial production has surged in East Asia and some other developing countries.

While the deindustrialisation of the advanced economies has taken place at the same time as the industrialisation of (parts of) the developing world, Rowthorn and Ramaswamy have estimated that deindustrialisation has mainly been caused by factors internal to the advanced economies themselves: specifically the combined effects of changes in the pattern of demand between manufactures and services, the faster rate of growth of productivity in manufacturing relative to services, and the associated fall in the relative price of the former. They find that trade between advanced and emerging economies has on average contributed less than 20% to the relative decline of manufacturing employment in the advanced economies.<sup>106</sup>

### **The West and the Rest**



Source: derived from table 3-1c in Maddison (2001)

<sup>102</sup> Rodrik (2000)

<sup>103</sup> Baldwin and Martin (1999)

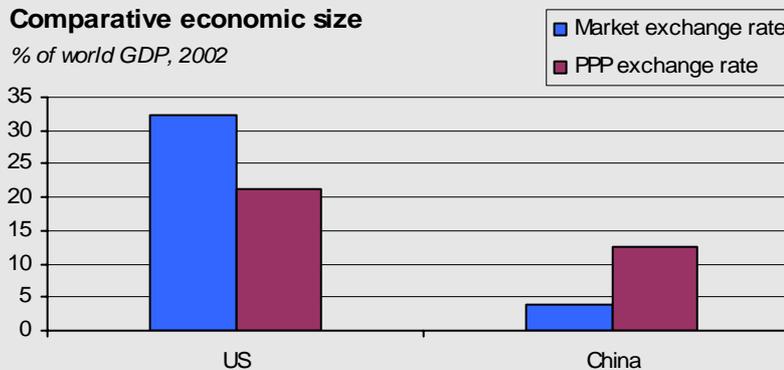
<sup>104</sup> Bairoch (1993)

<sup>105</sup> Findlay and O'Rourke (2003)

<sup>106</sup> Rowthorn and Ramaswamy (1999)

### A note on measuring output shares

The charts and data in the text describing the changing distribution of world output report GDP estimates constructed using purchasing power parity (PPP) exchange rates. These provide significantly different results from GDP that is calculated using market exchange rates. For example, an IMF GDP estimate based on PPP exchange rates shows China accounting for about 12.7% of world GDP in 2002, while a World Bank estimate using market exchange rate puts China's share of world GDP at below 4%.



Source: PPP measures from International Monetary Fund (2003c) Market rate measures from World Bank (2003b)

PPP exchange rates equate the cost of a typical basket of goods across countries while market based exchange rate measures use the rate at which transactions occur in exchange markets. The big difference in results arises because of differences in the price of non-traded goods, which tend to be much cheaper in poorer countries than in richer ones (on average, a haircut in China will cost less than a haircut in the US). Hence market exchange rates will value the non-traded portion of GDP in poorer countries at a much lower level than in rich countries. In contrast, PPP exchange rates attempt to “correct” for this difference and hence give more relative importance to poorer economies.

Which is the better measure? Typically PPP-based measures are used to compare economic well-being across countries while market weights are used if the focus is on variables that are closely linked to the current exchange rate such as the ratio of current accounts to GDP. PPP exchange rates also have the advantage of being much less variable over time.<sup>107</sup> Market exchange rates may be more appropriate for geopolitical and geo-economic comparisons, as it is the market exchange rate that determines the effective weight of an economy in world trade and payments.<sup>108</sup>

This changing pattern of industrialisation has also been associated with a shift in the distribution of global output. Maddison notes that for much of the twentieth century, economists divided the world into three regions; the advanced capitalist economies (the developed world), the communist bloc and the third world. But since the collapse of communism it has become easier to divide the world into two camps: the advanced capitalist economies (the West) and the Rest.<sup>109</sup> Using this broad distinction, in 1820 the West accounted for around 30% of global GDP and the Rest for 70%. By the end of the first era of global capitalism, the West's share of world output had rocketed to around 58% while the Rest's had plummeted to about 42%. While this imbalance in economic weight has persisted through the post-World War II period, recent years have seen a recovery in the relative importance of the Rest. In 1998, for example, the West's share of global GDP had eased to about 53% while the Rest's had increased to around 47%.<sup>110</sup>

A big part of the trend in shifting shares of global output is accounted for by the changing relative importance of Asia. In 1820 Asia excluding Japan accounted for 56% of world GDP (and China alone 33%). By 1913 Asia's share had fallen to 22% (China 9%), and was down to a little over 15% by 1950. The post-war era has seen Asia's share of world GDP roughly double to around 30%. However, while the countries of a “resurgent Asia” have achieved a “significant catch-up” to the advanced

<sup>107</sup> See Box 1.2 in International Monetary Fund (2003a)

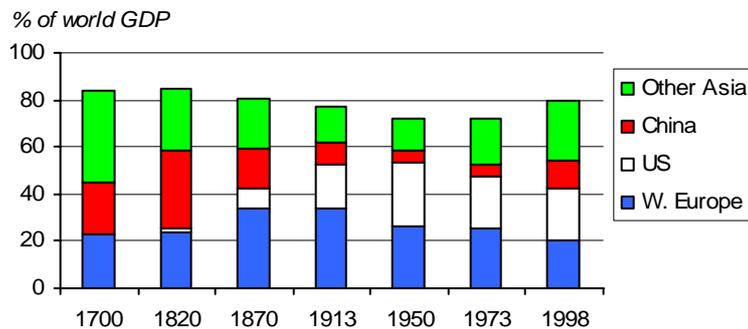
<sup>108</sup> Cooper (2001)

<sup>109</sup> Maddison (2003)

<sup>110</sup> Maddison (2001)

capitalist economies, around 168 countries with about one-third of the world's population have undergone a marked deterioration in economic performance that has been “alarming”.<sup>111</sup>

### Changing shares



Source: Maddison (2001)

Dowrick and DeLong have compared the two periods of international economic integration in terms of the scope allowed for convergence by less advanced economies on the economic leaders of each period.<sup>112</sup> They find that the pre-World War I era did little to spread the possibility of economic catch-up or convergence beyond the “narrow North Atlantic” and conclude that “outside the charmed circle made up of the western European economies plus the temperate economies of European settlement, the first era of globalization in 1870-1914 did not bring convergence.” In contrast, the second era of global capitalism has brought an “expansion in size but also shift in location of the world’s convergence club”. The industrialised economies effectively completed convergence and were followed by East Asia. But large parts of the rest of the world failed to catch up (especially Africa, mixed for Latin America), a result that has been described as “divergence, big time”.<sup>113</sup>

#### 4. Is there really a “global” economy?

The preceding discussion has highlighted two issues. Firstly, that the present era of international economic integration is not entirely unprecedented, with a previous period of integration – the first era of global capitalism – sharing some significant features with the current period. Secondly, however, there are marked differences between the two periods, with the changes arguably large enough to justify the claim that the current international economic environment is at least to some extent a “new” one.

But if we have a “new” international economy, do we have a truly “global” one? There are two ways to judge this issue. Firstly, by looking at the spread of international integration in geographical terms, and secondly by comparing the current international economic environment with what a perfectly integrated global economy might look like.

#### *Gauging the geographic spread of economic integration*

As noted in the first section of this paper, the current period of integration has seen the expansion of international economic relations to countries that were formerly members of the communist world as well as to significant sections of the developing world. But does this qualify as the emergence of a “global” economy? Hirst and Thompson for example have argued that “the world economy is far from being genuinely ‘global’. Rather, trade, investment and financial flows are concentrated in the Triad of Europe, Japan and North America”.<sup>114</sup>

A look at the data confirms Hirst and Thompson’s contention that the advanced economies do tend to trade more and engage in more FDI than developing economies. But the data also show that increasing numbers of developing economies are involved in international trade and investment. The result is a

<sup>111</sup> Maddison (2001)

<sup>112</sup> Dowrick and DeLong (2003)

<sup>113</sup> Pritchett (1997)

<sup>114</sup> Hirst and Thompson (1996)

mixed picture in which, for example, “international production has spread more widely than ever before” and yet also shows signs of remaining “spatially concentrated.”<sup>115</sup>

In 1998-99 developed countries accounted for the vast majority of world trade as the source of almost 70% of world exports and imports. This was only modestly changed from 1955, when developed economies accounted for around 65% of world exports and imports. Developing countries’ share of trade meanwhile has stayed at around the 27% mark.

<b>Geographical distribution of FDI and trade</b>						
	FDI inflows <u>1998-2000</u>	FDI outflows <u>1998-2000</u>	FDI inward <u>stock 2000</u>	FDI outward <u>stock 2000</u>	Exports <u>1998-99</u>	Imports <u>1998-99</u>
<b><u>Developed</u></b>	<b>76.3</b>	<b>92.9</b>	<b>66.7</b>	<b>87.8</b>	<b>68.4</b>	<b>69.7</b>
W. Europe	45.8	71.5	39.6	56.7	41.8	40.4
Japan	0.8	2.8	0.9	4.7	6.3	5.5
US	24.7	14.4	19.6	20.8	14.2	17.5
Other	5.0	4.0	6.6	5.6	6.1	6.2
<b><u>Developing</u></b>	<b>21.4</b>	<b>6.8</b>	<b>31.3</b>	<b>11.9</b>	<b>27.5</b>	<b>26.2</b>
Africa	0.8	0.1	1.5	0.3	1.6	1.5
Lat. America	9.2	1.5	9.6	1.9	5.1	5.7
Asia Pacific	11.2	5.2	20.0	9.7	20.4	18.5
<b><u>E. Europe</u></b>	<b>2.3</b>	<b>0.3</b>	<b>2.0</b>	<b>0.3</b>	<b>4.1</b>	<b>4.2</b>

Source: Table II.5 in United Nations Commission on Trade and Development (2001)

The table shows that the share of developing countries in total world FDI stocks also remains relatively low, at 31% for inward stocks and 12% for outward stocks. In contrast, the Triad of Western Europe, Japan and the US account for more than 60% of the stock of total inward FDI and more than 80% of the stock of outward FDI.

Still, the number of developing countries that have become major recipients or sources of FDI has risen from 7 in 1985 to 24 in 2000 in the case of inward FDI stocks and from zero to 12 in the case of outward stocks. In addition, several major emerging economies have become important destinations for FDI. For example, in 2002 China received US\$53b of inward FDI (an average of US\$144m a day) allowing China to overtake the US (US\$30b of inward FDI) to become the world’s second largest recipient (after Luxembourg).<sup>116</sup> Still, FDI remains concentrated, with 50 countries accounting for roughly 90% of total FDI inflows in 2002.<sup>117</sup>

### *How close are we to a “borderless world”?*

Several commentators have suggested that in a truly global economy, national political borders will cease to matter in economic terms. For example, Ohmae has argued that recent years have seen the emergence of a “genuinely interlinked economy” which in turn has created “a world where economic borders are progressively disappearing.”<sup>118</sup> The empirical evidence however suggests that national boundaries continue to have a significant impact on international commerce.

Much of the work on the economic importance of borders has focused on the Canada-US border where the degree of geographic, cultural and linguistic proximity between the two countries suggests that any distortionary impact of the border is likely to be at the low end of the spectrum in terms of international comparisons. Several studies have found evidence of a significant home bias in trade flows, along with persistent differences in the prices of identical goods on either side of the border. For example, McCallum found that trade among individual Canadian provinces was 20 times greater than trade between individual Canadian provinces and individual US states separated by the same geographic distance.<sup>119</sup> Subsequent work by Helliwell found that even after the Canada-US free trade agreement was signed, Canadian provinces were still about 12 times more likely to trade with each other than with

<sup>115</sup> United Nations Commission on Trade and Development (2001)

<sup>116</sup> Luxembourg received US\$126b of inflows and was the source of US\$154b of outflows in 2002. Part of this reflected a series of large cross-border mergers and acquisitions. The presence of large financial holding companies also played an important role.

<sup>117</sup> United Nations Commission on Trade and Development (2003b)

<sup>118</sup> Ohmae (1994) and Ohmae (1995)

<sup>119</sup> McCallum (1995)

a US state.<sup>120</sup> Similarly, Engel and Rogers found that crossing the Canadian-US border added more to the relative price variability between two cities than travelling a distance of 2,500 miles within either country.<sup>121</sup> After reviewing work on the economic effects of the US-Canadian border Ceglowski reaches the conclusion that “estimates of the border’s effects are substantial.”<sup>122</sup>

Other tests of the relative importance of national borders have focused on the European Union. Helliwell for example finds that EU membership reduces the scale of border effects from a factor of about ten (meaning that trade within countries is ten times greater than trade between countries) to a factor of about 6.6, while the presence of a common language reduces the factor to 3.7.<sup>123</sup> Work by Nitsch concludes that economic borders matter less in Europe than across other OECD economies, and that the importance of borders has fallen over time.<sup>124</sup> Serres, Hoeller et al find that for a given distance, national boundaries add significantly to price differentials across European cities.<sup>125</sup> They also find that this border effect is significantly smaller than previous estimates of border effects in Europe and North America, although they conclude that the degree of integration in Europe remains significantly below that observed between regions within countries.

### *The benchmark of perfect international economic integration*

Another way of judging how “global” the current international economic environment is involves comparing the present situation to what economic theory suggests “truly perfect global economic integration” would look like.<sup>126</sup> For example, Rodrik argues that a “natural benchmark for thinking about international economic integration is to consider a world in which markets for goods, services, and factors of production are perfectly integrated” and concludes that on this basis, “international economic integration remains remarkably limited.”<sup>127</sup>

Rodrik argues that “international markets for goods, services and capital are not nearly as ‘thick’ as they would be under complete integration” implying that some trade in goods and capital has “gone missing.”<sup>128</sup> Frankel suggests a simple thought experiment that illustrates this point and indicates how far the current international economy is from being integrated.<sup>129</sup> He notes that the average country in the world constitutes about 0.5% of world output. If consumers were as willing and able to buy goods and services from foreign producers as from domestic ones, then in a truly “global” world the average country would be expected to buy or sell about 99.5% of its output abroad. With the exception of a handful of small states, no countries come close to fitting this pattern. Instead, there continues to be a pronounced “home bias” in trade, with consumers and producers happier to trade with entities within the same country.

Another way to gauge the degree of international commodity market integration is to look at the difference in prices for identical goods in different markets.<sup>130</sup> The evidence for price differentials between identical goods in the US and Canada indicates a substantial persistence in gaps, even in the longer term, as has already been noted. Similarly, tests of purchasing power parity have tended to find only weak evidence of international price arbitrage, with international price differentials proving relatively persistent.<sup>131</sup> That said there is evidence that international price differentials are continuing to fall over time. Thus a study by Parsley and Wei looking at the price of 95 traded goods across 83 cities between 1990 and 2000 finds a downward trend in the standard deviation of price differences for each pair of cities for each year.<sup>132</sup> Similarly, Rogers, Hufbauer et al find that between 1990 and 1999 price divergence has declined in the Euro area, especially for traded goods.<sup>133</sup>

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<sup>120</sup> Helliwell (1998)

<sup>121</sup> Engel and Rogers (1996)

<sup>122</sup> Ceglowski (1998)

<sup>123</sup> Helliwell (1998)

<sup>124</sup> Nitsch (2000)

<sup>125</sup> Serres, Hoeller and Maisonneuve (2001)

<sup>126</sup> Frankel (2000)

<sup>127</sup> Rodrik (2000)

<sup>128</sup> Rodrik (2000)

<sup>129</sup> Frankel (2000)

<sup>130</sup> Findlay and O'Rourke (2003)

<sup>131</sup> Purchasing Power Parity (PPP) is the proposition that national prices levels should be equal when converted into a common currency. Rogoff (1996)

<sup>132</sup> Parsley and Wei (2001)

<sup>133</sup> Rogers, Hufbauer and Wada (2001)

What about financial market integration? The IMF has proposed a series of tests relating to asset price convergence.<sup>134</sup> As a first pass, financial market integration should ensure that onshore and offshore yields on the same instrument in the same currency should be equalised and the Fund confirms that increased financial market integration can be seen in a rapid decline in interest differentials between onshore and offshore rates, with the gap now “miniscule” for the advanced economies. Successive tests for the depth of financial market integration would then involve testing for covered interest rate parity (CIP), uncovered interest rate parity (UIP), and real interest rate parity.<sup>135</sup> The IMF finds a trend towards increased integration visible in a decline in deviations from CIP – it judges that such deviations “have on average become much smaller” – but notes that tests of UIP have “generally concluded that UIP does not hold and that assets denominated in different currencies are imperfect substitutes.” The IMF also judges that the international economy is still some way from the equalisation of real interest rates between countries. The Fund concludes that “financial markets have become increasingly integrated but they are far from forming a single global market.”

There is additional evidence that we are still some distance from a perfectly integrated economy. For example, Feldstein and Horioka have shown that national savings rates across OECD economies have been highly correlated with domestic investment rates, suggesting that investment remains constrained by the supply of domestic funds.<sup>136</sup> Feldstein and Horioka’s cross-country regression of domestic investment on national savings (interpreted as the effect on savings rate on investment rate) found a coefficient close to unity. Obstfeld and Rogoff note that subsequent work has shown that this coefficient has fallen over time, but that it is still “large and significant”, and certainly larger than one would expect to see in a world of fully integrated capital markets, where global savings would be expected to flow to regions offering the highest rate of return on investments.<sup>137</sup>

Another sign of the limits to current capital market integration is the home bias evident in investors’ portfolios. Despite the emergence of what has been described as a “global market for equities”, stock market investors have continued to demonstrate a strong preference for home country assets. This preference was first highlighted for the US by French and Poterba, who found that Americans held over 90% of their wealth in the US stock market.<sup>138</sup> Again, recent evidence suggests that this bias has declined over time, but Obstfeld and Rogoff note that “equity investors still have not diversified internationally nearly as much as they should” when judged against the predictions of economists’ models of international portfolio diversification.<sup>139</sup>

A final indication that the current system is some way from perfect economic integration is provided by the evidence that cross-country correlations in consumption are smaller than cross-country output correlations, implying a limited degree of international risk sharing.<sup>140</sup> Country-specific shocks should limit output correlations, but in a perfectly integrated global market individuals in any given economy should be able to purchase claims on the output of other countries, and therefore reduce the risk associated with domestic output fluctuations. This proposition implies much higher consumption correlations than are actually to be found in the data. Crucini and Hess show that for Canadian provinces, US states and Japanese prefectures a bigger proportion of consumers pool risk across regions within a country than across countries.<sup>141</sup>

## 5. What has happened to the international business cycle?

The previous two sections have suggested that while the current era of international economic integration is not entirely unprecedented, it is significantly different from its predecessor and that while the international economy is certainly not perfectly integrated, nevertheless it has moved closer to being a truly “global” economy. Is there any evidence that these changes have led to an increase in the degree of correlation between economic activity across countries and created a stronger international

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<sup>134</sup> International Monetary Fund (1997)

<sup>135</sup> CIP is the proposition that differences in interest rates on similar instruments denominated in different currencies should be equal to the cost forward cover. UIP says that the expected return on investments in different currencies will be equal when measured in the same currency. Real interest rate parity says real interest rates will be equalised across countries.

<sup>136</sup> Feldstein and Horioka (1980)

<sup>137</sup> Obstfeld and Rogoff (2000)

<sup>138</sup> French and Poterba (1991)

<sup>139</sup> Obstfeld and Rogoff (2000)

<sup>140</sup> Serres, Hoeller and Maisonnette (2001)

<sup>141</sup> Crucini and Hess (2000)

business cycle?<sup>142</sup> In 2001 the IMF noted the apparent “paradox that while economic and financial interdependence has increased with rapid globalization in recent years, there has been scepticism as to the importance of these linkages.”<sup>143</sup> The Fund reckoned that this largely reflected the international economic experience of the early 1990s, which was marked by “remarkable asymmetries in economic fluctuations in the major currency areas” that suggested relatively weak international economic linkages. As a result, the IMF concluded that while there has in fact been “a rapid increase in cross-border links, especially in the financial domain, over the past decade . . . their importance was obscured in the early 1990s by two unusually large and idiosyncratic shocks – German reunification . . . and the rise and fall of the asset bubble in Japan.”<sup>144</sup>

One consequence of the atypical experience of the early 1990s was that when in 2000-01 the major economies experienced their first synchronised slowdown since the early 1980s, the breadth of synchronisation evident in the downturn prompted surprise among some commentators. Yet “synchronised slowdowns have been the norm rather than the exception since 1973”.<sup>145</sup> Indeed, the synchronisation of business cycles across countries is nothing new. The IMF notes that “[f]rom the 1980s, the mounting evidence on strong and systematic positive co-movements led to the notion of a world business cycle or an international business cycle.”<sup>146</sup> And a recent IMF review of the business cycle experience for 16 countries over 1881-2000 finds that “the tendency of recessions in one country to occur at the same time as recessions in other countries – synchronization – has been a persistent feature of the historical record. Since the late nineteenth century, most recessions have been synchronized.”<sup>147</sup>

#### The business cycle in historical perspective: recessions and expansions

16 country sample	Pre-war 1881-1913	Interwar 1919-1938	Bretton Woods 1950-1972	Post-Bretton Woods 1973-2000
Average length of recession (years)	1.3	1.8	1.1	1.5
Average decline in output in recession (%)	-4.3	-8.1	-2.1	-2.5
Proportion of years in recession (%)	24.7	29.4	5.2	13.4
Average length of expansion (years)	3.6	3.7	10.3	6.9
Average increase in output in expansion (%)	19.8	34.6	102.9	26.9
Proportion of years in expansion (%)	75.3	70.6	94.8	86.6

Source: Table 3.1 in International Monetary Fund (2002b)

The IMF has also examined business cycles in the post-Bretton Woods era in more depth, looking at 21 industrial economies over 1973-2000. Again, the Fund finds that “recessions tend to be synchronized”, with half of all recession in this period synchronised in the sense that one-half of the other countries in the sample were also in recession at the same time.

#### *Has synchronisation increased?*

While there is therefore strong evidence that activity across economies is *correlated* – that is, that there is an international business cycle of some sort – the evidence that this correlation has *increased* in recent years is less clear-cut. True, the IMF study just discussed finds that “if anything, synchronization has in fact increased over time.”<sup>148</sup> And another study of business cycles by the OECD examining 13 OECD economies over 1960-2000 finds that business cycles have gradually become less divergent over time, as measured by a decline in the standard deviation of output gaps across

<sup>142</sup> In other words, is a recession in one country now more likely to occur at the same time as recessions in other countries, and are recoveries similarly likely to be more co-ordinated across countries? Note that this kind of co-ordination could be due not only to the nature of trade and financial linkages between countries, but also because of changes in the relative importance of common external shocks.

<sup>143</sup> International Monetary Fund (2001)

<sup>144</sup> The IMF points out that the linkages between some economies appear to have been less affected by asymmetric shocks than others. For example, the US, Canadian and UK cycles remained closely linked during the 1990s, while business cycle linkages in the euro area economies also remained strong.

<sup>145</sup> Helbling and Bayoumi (2003)

<sup>146</sup> International Monetary Fund (2001)

<sup>147</sup> International Monetary Fund (2002b)

<sup>148</sup> International Monetary Fund (2002b)

countries.<sup>149</sup> But the OECD finds that this mainly seems to reflect the fact that output gaps on average have become smaller over time, rather than being the result of business cycles becoming increasingly synchronised. The only strong evidence for an increase in synchronisation is for the Euro area economies, where the OECD reckons that there may now be a closer alignment in the timing of cycles among member states.

Like the IMF, the OECD concedes that this apparent lack of support for an increase in synchronisation could reflect the impact of the two large country-specific events in the early 1990s (German reunification and the bursting of the Japanese asset price bubble). Looking at the more recent past, the OECD concludes that “recent experience suggests that some aspects of synchronisation may have increased.” In particular, while the OECD thinks that the synchronisation of the 2000-01 global slowdown was partly due to common shocks (the global information technology (IT) slump and higher world oil prices) it also reckons that the synchronised nature of that slowdown reflects the emergence of new financial and product market linkages that have channelled international shocks across countries.<sup>150</sup>

A similar theme emerges in recent work by Stock and Watson.<sup>151</sup> They compare two periods – 1960-83 and 1984-2002 – and find no evidence of increased synchronisation of national business cycles across the major economies in the second period, reporting that correlations between four-quarter GDP growth rates among the G7 economies have remained “essentially unchanged” over time. Their explanation for this finding is that common international shocks became smaller in magnitude during the 1980s and 1990s even as they increased in importance as a determinant of fluctuations in output. The net effect of these two offsetting trends was that observed international correlations remained constant. However, it follows that any increase in the size of shocks hitting the world economy would see those correlations increase. Stock and Watson note that if common international shocks became as large as they were in 1970s, say, then volatility would increase and G7 business cycles would become more synchronised.<sup>152</sup>

Kose, Prasad et al have reviewed the impact of increased trade and financial integration on international business cycle co-movements.<sup>153</sup> They examine 76 countries (industrial and developing) over the 1960-99 period and find “at best limited support” for the view that increased international economic integration has increased synchronisation, although they find that the evidence for this proposition is stronger for industrial countries.

### *Trade integration and the international business cycle*

At first glance, there appears to be something of a dichotomy between the strong evidence of growing international economic integration and the rather weaker evidence of an increase in the strength of the global business cycle. Shouldn't the growth in trade integration of recent years have led to an increase in the synchronisation of economic cycles across countries? In fact, economic theory suggests that the impact of increased economic integration on the degree of correlation between cross-country cycles will be ambiguous.<sup>154</sup>

On the one hand, an increase in the degree of trade integration between countries increases the scope for positive and negative spillover effects from demand shocks in a way that is likely to increase cross-country correlations. For example, a fall in US government spending will lead to a fall in domestic demand, but will also reduce US demand for exports from trading partners. Similarly, a rise in US government spending could boost domestic activity and suck in more imports and so raise activity in trading partners' economies.

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<sup>149</sup> Organisation for Economic Co-operation and Development (2002c). The IMF and OECD studies use different methodologies to identify cycles. The Fund defines cycles as recurrent sequences of expansions and contractions in the level of economic activity, while the OECD defines them as cyclical fluctuations in economic activity around a trend. For more on the differences between the two approaches and on their advantages and disadvantages, see Box 3.1 in International Monetary Fund (2002b)

<sup>150</sup> Organisation for Economic Co-operation and Development (2002c)

<sup>151</sup> Stock and Watson (2003)

<sup>152</sup> In his comments on Stock and Long's paper DeLong argues that it is not clear that shocks *have* been significantly smaller. Thus pre-1984 shocks included the Vietnam War, OPEC I and OPEC II. Since 1984 shocks have included the 1987 stock market crash, the 1998 LTCM panic, the dot-com boom and bust, and September 11. DeLong (2003)

<sup>153</sup> Kose, Prasad and Terrones (2003)

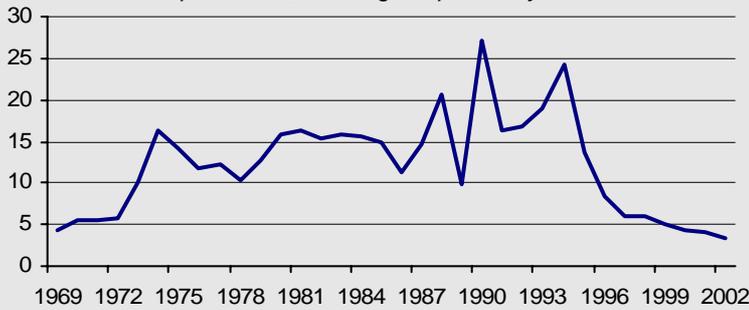
<sup>154</sup> See Stock and Watson (2003), Kose, Prasad and Terrones (2003) and Imbs (2003)

### Has international economic integration led to global disinflation?

One corollary of the gold standard framework operating during the first era of global capitalism was a reasonable degree of inflation stability. While the current international monetary system looks very different to the gold standard era, Eichengreen has noted that “we currently appear to be witnessing a ‘return to the past’ with declining inflation . . .”.<sup>155</sup> Over the past ten years global inflation has fallen from around 30% to about 4%.<sup>156</sup> CPI inflation in Australia averaged 2.3% in the 1990s, the lowest average of any of the five post-war decades.<sup>157</sup>

#### Global disinflation

World consumer price index, % change on previous year



Source: International Monetary Fund (2003b)

Several factors have been advanced to explain this fall in inflation, including smaller supply shocks (such as oil price rises) and institutional changes (the move to independent central banks). Romer and Romer, for example, have argued that low inflation is a product of the “evolution of economic understanding” on the part of policymakers. As they have better understood how economic policy affects the economy, so policymakers have been more successful in using monetary policy to control inflation.<sup>158</sup>

A recent paper by Rogoff argues that the most important explanation for the current bout of disinflation is a “mutually reinforcing mix of deregulation and globalisation.”<sup>159</sup> Rogoff bases his case on the way in which monopolistic competition opens up a wedge between the competitive and monopoly levels of employment. This market imperfection creates an incentive for a central bank to try to use “inflationary surprises” to drive employment above its (monopolistic) market rate. As the size of the wedge between the monopolistic and competitive level of employment declines, so does the central bank’s incentive to manipulate inflation. This change in incentives works to enhance central bank credibility and as a result – through the beneficial impact on inflationary expectations – leads to a fall in the average equilibrium rate of inflation.

Rogoff therefore proposes that greater economic integration has helped reduce inflation by increasing the scope for international competition, reducing the degree of monopoly power, and hence reducing the employment wedge and the incentive to inflate. At the same time, increased economic competition has also boosted price flexibility, which reduces the scope of monetary policy to influence activity. This further lowers the incentive to create inflationary surprises and provides a reinforcing disinflationary mechanism. Rogoff concludes that “[t]he recent era of deregulation and globalisation has made increased competition a universal factor in the disinflation process internationally.”

On the other hand, theory suggests that increased trade integration is likely to lead to increased (horizontal) specialisation across countries. Horizontal specialisation or inter-industry trade means that industry-specific shocks will initially be concentrated across a smaller number of economies and hence tend to lead to a *fall* in the correlation of cycles across countries. In contrast, vertical specialisation or intra-industry trade will tend to accelerate the propagation of shocks, since industry-specific shocks will then be transmitted across countries along production lines.<sup>160</sup>

<sup>155</sup> Eichengreen and Sussman (2000)

<sup>156</sup> Rogoff (2003)

<sup>157</sup> Gruen and Stevens (2000)

<sup>158</sup> The focus in their paper is on the US, but they argue that beliefs about how the economy works tend to be correlated across countries, giving their story an international aspect. Romer and Romer (2002)

<sup>159</sup> Rogoff (2003)

<sup>160</sup> Organisation for Economic Co-operation and Development (2002b)

Whether greater trade integration will increase or decrease synchronisation therefore becomes an empirical question, and will depend on the relative magnitude of demand and industry-specific shocks, and the relative importance of inter-industry and intra-industry trade.<sup>161</sup>

If a country's trade is dominated by goods that are part of a vertically-integrated production chain, then exports and imports are likely to be closely correlated.<sup>162</sup> This will complicate the transmission of demand spillovers outlined above. For example, a fall in US demand will dent (say) Mexican exports to the US, and so lead to weaker Mexican demand. But there will be an offsetting effect from falling Mexican imports of components from the US. Moreover, there will be second round effects in terms of US FDI flows into Mexico and employment in US-owned firms in Mexico.

More generally, the internationalisation of production means "that world trade at global level is likely to be more responsive to the state of the world economy than in past."<sup>163</sup> At the same time, the concentration of intra-industry and intra-firm trade in particular products means that the international transmission of industry or product specific shocks may now be very rapid. A good example of this phenomenon is the collapse in trade in IT products in the aftermath of the bursting of the US IT share price bubble.

What does the empirical evidence say about the impact of trade on the synchronisation of activity? Frankel and Rose look at 20 industrialised economies over a 30 year time span and find that "closer international trade links result in more closely correlated business cycles across countries."<sup>164</sup> They argue therefore that for international trade the "ambiguity is theoretical rather than empirical . . . greater [trade] integration historically has resulted in more highly synchronized cycles." Imbs has confirmed these results in a paper that combines cross-country evidence with data on US states.<sup>165</sup> He finds that overall impact of trade on business cycle synchronisation is strong and positive, with a substantial share of these effects operating through intra-industry trade, concluding that economies sharing similar structures tend to trade substantially more, and are more synchronised as a result.

While this empirical evidence suggests that trade links are important however, there are other factors at work. The IMF has noted that while the increase in trade integration – as measured by the rising share of exports and imports in GDP – has increased the scope for trade-related spillovers, standard income and price elasticities imply that the observed increase in trade shares in recent years is unlikely to have been large enough to generate a substantial increase in the correlation of cycles across countries.<sup>166</sup> Indeed, the IMF thinks that trade linkages alone are unlikely to have been large enough to generate the output correlations found in the data. This has prompted economists to look at financial sector linkages as an additional source of cross-country correlations.

### *Financial integration and the international business cycle*

Economic theory is also ambiguous in its predictions about the impact of greater financial linkages on business cycle synchronisation. As with trade linkages, financial linkages could increase correlations via the transmission of significant demand-side effects. For example, if a significant number of consumers from different countries had a large share of their wealth invested in the US stock market, then a sharp decline in that market could trigger a negative wealth effect across those economies. In addition, contagion effects – in the form of investor "herding" – transmitted through financial linkages could lead to spillovers that see activity track across different economies as experienced during the 1997-98 financial crisis in Asia.

Against this, however, financial integration could also have effects contributing to the desynchronisation of cycles. For example, financial market integration should allow capital to move to economies experiencing positive shocks and away from economies suffering negative shocks, reinforcing the initial effects of the shock on activity and hence reducing the degree of synchronisation.

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<sup>161</sup> Another way to look at this is since intra-industry trade occurs mainly between similar economies, if most trade is intra-industry, the impact of the specialisation effect will be smaller.

<sup>162</sup> Organisation for Economic Co-operation and Development (2002b)

<sup>163</sup> Organisation for Economic Co-operation and Development (2002b)

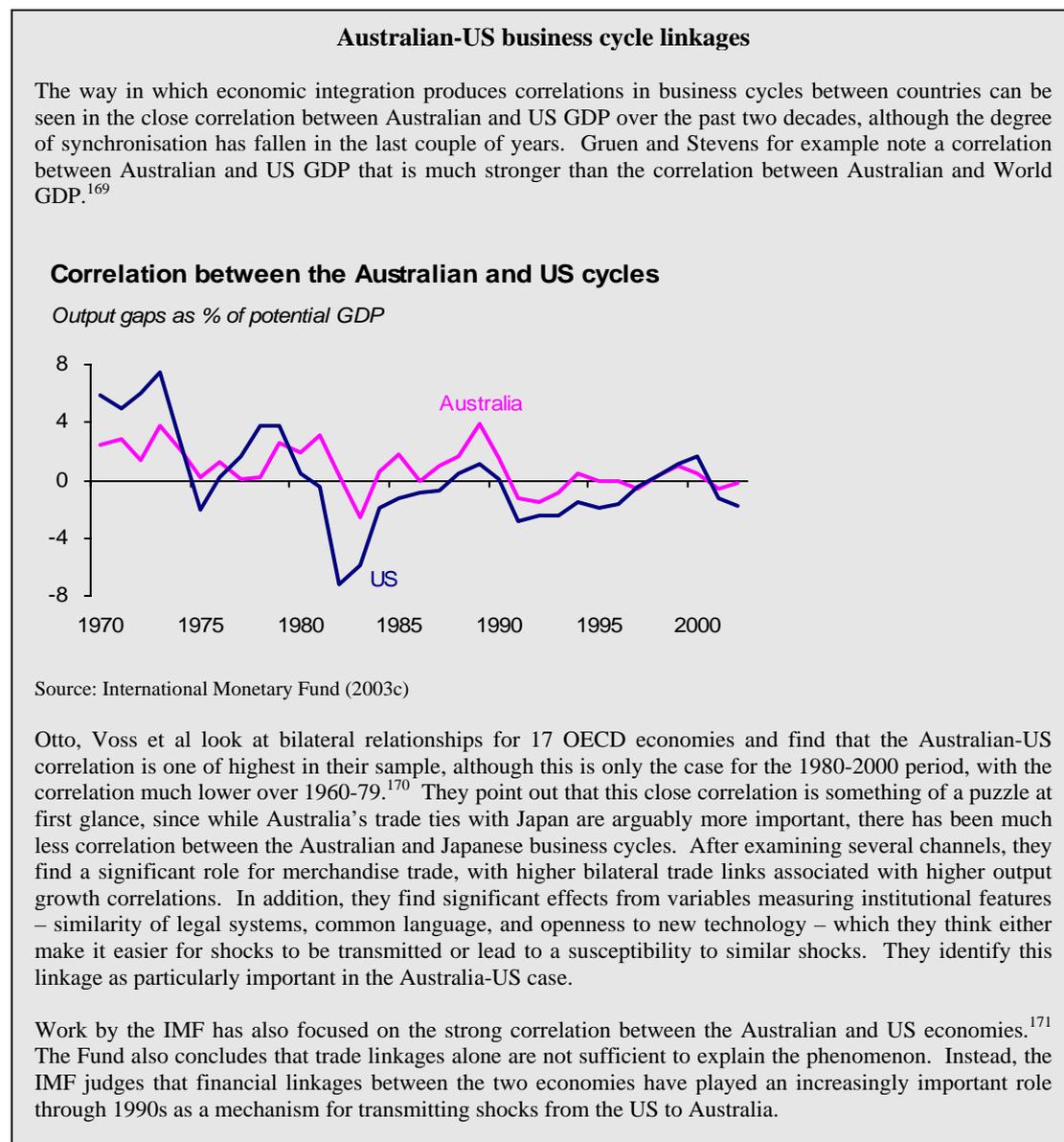
<sup>164</sup> Frankel and Rose (1998)

<sup>165</sup> Imbs (2003)

<sup>166</sup> International Monetary Fund (2001)

Work by McKibbin and Wilcoxon using their global macroeconomic models suggests that greater economic integration need not necessarily create tighter synchronisation of national business cycles, since a more integrated world may also be one in which there are more automatic stabilizers and hence more asymmetries in economic activity. One example of this is the way in which the 1997-98 financial crisis in Asia did not significantly disrupt growth elsewhere in the global economy thanks in part to the stabilising effects of international capital flows on global economic activity, even though capital flows had just demonstrated their disruptive implications for regional economies.<sup>167</sup>

In addition, it is possible that financial integration will also lead to increased (horizontal) specialisation and therefore idiosyncratic cycles.<sup>168</sup>



The OECD has highlighted the role of wealth effects of equity price correlations across countries as an important transmission channel for cross-country shocks, arguing that its importance is likely to rise over time given the increasing degree of share ownership in households in the advanced economies.<sup>172</sup>

<sup>167</sup> McKibbin (2000)

<sup>168</sup> For example, by increasing access to state-contingent securities, financial integration could de-link domestic consumption from domestic production, and so allow the latter to specialise along lines suggested by comparative advantage. Imbs (2003)

<sup>169</sup> Gruen and Stevens (2000)

<sup>170</sup> Otto, Voss and Willard (2001)

<sup>171</sup> International Monetary Fund (2002a)

The IMF also thinks that financial market linkages could be an important channel for transmitting disturbances across economies.<sup>173</sup> It notes that the cross-border diversification of assets and liabilities in the major economies has “greatly increased” over the past two decades. At the same time, the empirical evidence suggests that equity market linkages – as measured by correlations between equity returns – are generally strong and positive, with correlations rising between 1974 and 2000 for the G7 (except Japan). Moreover, interest rate linkages appear to be even stronger, with strong correlations between total returns on large bond portfolios. As a result, financial sector linkages are likely to be growing in importance. However, since asset market interdependence – especially cross-border wealth diversification – only really began to accelerate in the 1990s as yet the empirical evidence on the effects of growing financial market linkages is relatively limited. Still, the IMF judges that the speed with which disturbances are transmitted between countries is to increase in the future, since financial market prices tend to be “more reactive” to news and events than goods prices or trade flows. One implication is that sentiment about economic prospects in one country could affect sentiment elsewhere. This is consistent with observed recent correlations between confidence measures across major economies, which the IMF thinks could be interpreted as “information cascades” as firms and households pay attention to cross-border measures of confidence.<sup>174</sup>

## **6. Summing up: Are Australian policymakers operating in a new global economy?**

This paper has asked whether there are features of the current international economy that mean it can be usefully characterised as a “new global economy”.

The paper began by describing the marked increase in international economic integration that has taken place in recent years and by highlighting the important roles played by technological change and economic policy in that process.

Section three of the paper then discussed some of the similarities and differences between the current period of integration and that experienced during what has been called the first era of global capitalism. A review of both periods suggests that to some extent recent economic developments can be described in terms of a re-integration of the international economy following the disintegration experienced during 1914-1945. In this limited sense, therefore, the current international economy is not completely new. That said, however, there are significant differences between the nature of economic integration today and in the previous era of global capitalism. Several important developments, including the rise of vertically specialised trade, the extension of international trade to the previously “non-tradeable” services sector, the rise in the relative importance of short-term capital movements, shifts in the international monetary policy framework and the supporting political environment, and the spread of international trade and finance to incorporate a growing number of countries all mark the current international economy as being significantly different from the 1870-1913 period. This suggests that in many respects policymakers are facing a new international economic environment.

The next section of the paper asked whether the present international economy can be accurately characterised as a global economy both in terms of the geographical spread of international economic relations and when benchmarked against the kind of economic relations that would be expected to prevail in a perfectly integrated global economy. Here the balance of evidence suggests that there has been an increase in the geographical span of the international economy, even though trade and financial flows continue to be dominated by the advanced economies. In addition, while the current economic environment is still quite some way from looking like the type of “borderless” world that would prevail in a completely integrated international economy, there is evidence from goods and asset prices that trade and financial market developments have led to a greater degree of integration and continue to do so. Overall, therefore, the international economy is starting to assume a global nature.

Section five of the paper reviewed recent developments in the international business cycle. While there is as yet no strong empirical evidence for an increase in the importance of the international business cycle there are signs that some of the recent changes in the international economy will have important implications for the transmission of economic shocks between countries. Thus the growing internationalisation of production implies that world trade is likely to respond more quickly to changes in global economic activity, and the increasing importance of vertical specialisation indicates that the

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<sup>172</sup> Organisation for Economic Co-operation and Development (2002c)

<sup>173</sup> International Monetary Fund (2001)

<sup>174</sup> Box 2.1 in International Monetary Fund (2001)

international transmission of industry- and product-specific shocks could be much faster than it has been in the past. In addition, the recent growth in financial market integration means that cross-border wealth effects may also become increasingly important.

The evidence therefore supports the view that there have been major changes in the nature of the international economy. International economic integration today encompasses more countries and has led to deeper trade and financial market linkages than ever before. Australian policymakers do indeed face a new global economy and the challenges that come with it.

## References

- Alesina, A. and E. Spolaore (1997). On the number and size of nations. *Quarterly Journal of Economics* 112(4): 1027-1056.
- Alesina, A., E. Spolaore and R. Wacziarg (2000). Economic integration and political disintegration. *American Economic Review* 90(5): 1276-1296.
- Arrighi, G. (1995). *The long twentieth century: money, power, and the origins of our times*. London, Verso.
- Australian Bureau of Statistics (2003). *Migration, 2000-01 and 2001-02, Catalogue No. 3412*. Canberra, Australian Bureau of Statistics.
- Bairoch, P. (1993). *Economics and world history: myths and paradoxes*. Chicago, University of Chicago Press.
- Baldwin, R.E. and P. Martin (1999). *Two waves of globalization: superficial similarities, fundamental differences*. NBER working paper no. 6904. Cambridge, MA, National Bureau of Economic Research.
- Bank for International Settlements (2002). *Triennial central bank survey: foreign exchange and derivatives market activity in 2001*. Geneva, Bank for International Settlements.
- Bolton, P., G. Roland and E. Spolaore (1996). Economic theories of the break-up and integration of nations. *European Economic Review* 40: 697-705.
- Boone, L., N. Girouard and I. Wanner (2001). *Financial market liberalisation, wealth and consumption*. Economics Department working paper no. 308. Paris, Organisation for Economic Co-operation and Development.
- Bordo, M.D., B. Eichengreen and D.A. Irwin (1999). *Is globalization today really different than globalization a hundred years ago?* NBER working paper no. 7195. Cambridge, MA, National Bureau of Economic Research.
- Cairncross, F. (1997). *The death of distance: how the communications revolution will change our lives*. London, Orion.
- Calvo, G.A. and C.M. Reinhart (2000). *Fear of floating*. NBER working paper no. 7993. Cambridge, MA, National Bureau of Economic Research.
- Ceglowski, J. (1998). Has globalization created a borderless world? *Business Review (Federal Reserve Bank of Philadelphia)*: 17-27.
- Chiswick, B.R. and T.J. Hatton (2003). *International migration and the integration of labour markets*. In Bordo, M.D., A.M. Taylor and J.G. Williamson (Eds.) *Globalization in historical perspective*. Chicago, University of Chicago Press.
- Cooper, R.N. (2001). *Public Hearing on Chinese Budget Issues and the Role of the PLA in the Economy, Friday, December 7, 2001. Testimony on Chinese economic and budgetary prospects* [Online]. U.S.-China Economic and Security Review Commission. Available: <http://www.uscc.gov/tescpr.htm> Accessed: 19 September, 2003.
- Crafts, N. (2000). *Globalization and growth in the twentieth century*. In Prasad, E.S. (Ed.) *Supporting studies for the World Economic Outlook*. IMF working paper. WP/00/44. Washington, DC, International Monetary Fund.
- Crafts, N. and A.J. Venables (2003). *Globalization in history: a geographical perspective*. In Bordo, M.D., A.M. Taylor and J.G. Williamson (Eds.) *Globalization in historical perspective*. Chicago, University of Chicago Press.
- Crucini, M. and G.D. Hess (2000). *International and intranational risk sharing*. In Hess, G.D. and E. van Wincoop (Eds.) *Intranational macroeconomics*. Cambridge, Cambridge University Press.

- DeLong, J.B. (2003). *Comment on Stock and Watson*. Monetary policy and uncertainty: adapting to a changing economy. A symposium sponsored by the Federal Reserve Bank of Kansas City. Jackson Hole, Wyoming.
- Department of Foreign Affairs and Trade (2002). *The big end of town and Australia's trading interests*. Canberra, Department of Foreign Affairs and Trade, Commonwealth of Australia.
- Department of Foreign Affairs and Trade (2003a). *Advancing the national interest: Australia's foreign and trade policy White Paper*. Canberra, Department of Foreign Affairs and Trade, Commonwealth of Australia.
- Department of Foreign Affairs and Trade (2003b). *Globalisation: keeping the gains*. Canberra, Economic Analytical Unit, Department of Foreign Affairs and Trade, Commonwealth of Australia.
- Dowrick, S. and J.B. DeLong (2003). *Globalization and convergence*. In Bordo, M.D., A.M. Taylor and J.G. Williamson (Eds.) *Globalization in historical perspective*. Chicago, Chicago University Press.
- Eichengreen, B. (1996). *Globalizing Capital: a history of the international monetary system*. Princeton, Princeton University Press.
- Eichengreen, B. and N. Sussman (2000). *The international monetary system in the (very) long run*. IMF working paper WP/00/43. Washington, DC, International Monetary System.
- Engel, C. and J. Rogers (1996). How wide is the border? *American Economic Review* 86(5): 1112-1125.
- Feenstra, R.C. (1998). Integration of trade and disintegration of production in the global economy. *Journal of Economic Perspectives* 12(4): 31-50.
- Feldstein, M.S. and C. Horioka (1980). Domestic saving and international capital flows. *Economic Journal* 90(358): 314-29.
- Findlay, R. and K.H. O'Rourke (2003). *Commodity market integration, 1500-2000*. In Bordo, M.D., A.M. Taylor and J.G. Williamson (Eds.) *Globalization in historical perspective*. Chicago, University of Chicago Press.
- Frankel, J.A. (2000). *Globalization of the economy*. NBER working paper no. 7858. Cambridge, MA, National Bureau of Economic Research.
- Frankel, J.A. and A. Rose (1998). The endogeneity of the optimum currency area criteria. *Economic Journal* 108(449): 1009-25.
- French, K. and J. Poterba (1991). Investor diversification and international equity markets. *American Economic Review* 81(2): 222-226.
- Friedman, T.L. (1999). *The Lexus and the olive tree*. London, HarperCollins.
- Gilpin, R. (2002). *The challenge of global capitalism: the world economy in the 21st century*. Princeton, Princeton University Press.
- Glyn, A., A. Hughes, et al. (1991). *The rise and fall of the golden age*. In Margolin, S.A. and J.B. Schor (Eds.) *The golden age of capitalism: reinterpreting the postwar experience*. Oxford, Clarendon Press.
- Gruen, D. and G. Stevens (2000). *Australian macroeconomic performance and policies in the 1990s*. Reserve Bank of Australia 2000 conference: the Australian economy in the 1990s. Sydney.
- Helbling, T. and T. Bayoumi (2003). *Are they all in the same boat? The 2000-2001 growth slowdown and the G-7 business cycle linkages*. IMF working paper WP/03/46. Washington, DC, International Monetary Fund.

- Helliwell, J.F. (1998). *How much do national borders matter?* Washington, DC, Brookings Institution Press.
- Hertel, T., T. Walmsley and K. Iktura (2001). Dynamic effects of the 'new age' free trade agreement between Japan and Singapore. *Journal of Economic Integration* 16(4): 446-484.
- Hirst, P. and G. Thompson (1996). *Globalization in question: the international economy and the possibilities of governance*. Cambridge, Polity Press.
- Hufbauer, G.C. (1991). World economic integration: the long view. *International Economic Insights* 2(3): 26-27.
- Hummels, D. (2001). *Time as a trade barrier* [Online]. Purdue University. Available: <http://www.unc.edu/depts/econ/seminars/hummels.pdf> Accessed: 19 September, 2003.
- Hummels, D., D. Rapoport and K.-M. Yi (1998). Vertical specialization and the changing nature of world trade. *Economic Policy Review (Federal Reserve Bank of New York)* 4(2): 79-99.
- Huntington, S.P. (1991). *The third wave: democratization in the late twentieth century*. Norman, University of Oklahoma Press.
- Imbs, J. (2003). *Trade, finance, specialization and synchronization*. IMF working paper WP/03/81. Washington, DC, International Monetary Fund.
- International Monetary Fund (1997). *Meeting the challenges of globalization in the advanced economies*. In World Economic Outlook May 1997. Washington, DC, International Monetary Fund.
- International Monetary Fund (2001). *International linkages: three perspectives*. In World Economic Outlook October 2001. Washington, DC, International Monetary Fund.
- International Monetary Fund (2002a). *Australia: selected issues*. IMF country report 02/215. Washington, DC, International Monetary Fund.
- International Monetary Fund (2002b). *Recessions and recoveries*. In World Economic Outlook April 2002. Washington DC, International Monetary Fund.
- International Monetary Fund (2002c). *Trade and financial integration*. In World Economic Outlook September 2002. Washington DC, International Monetary Fund.
- International Monetary Fund (2003a). *Economic prospects and policy issues*. In World Economic Outlook September 2003. Washington DC, International Monetary Fund.
- International Monetary Fund (2003b). *International Financial Statistics Online* [Online] Accessed: 19th September, 2003.
- International Monetary Fund (2003c). *World Economic Outlook database* [Online] Accessed: 19th September, 2003.
- Keynes, J.M. (1920). *The economic consequences of the peace*. New York, Harcourt, Brace and Howe.
- Kose, M.A., E.S. Prasad and M.E. Terrones (2003). *How does globalization affect the synchronization of business cycles?* IMF working paper WP/03/27. Washington, DC, International Monetary Fund.
- Krugman, P.R. (1995). Growing world trade: causes and consequences. *Brookings Papers on Economic Activity* 1: 327-362.
- Leonard, J. (2001). *Impact of the September 11, 2001 terrorist attacks on North American trade flows*. MAPI e-Alert. Arlington, VA, Manufacturers Alliance.
- Limao, N. and A.J. Venables (2001). Infrastructure, geographical disadvantage, transport costs, and trade. *World Bank Economic Review* 15(3): 451-479.

- Maddison, A. (1991). *Dynamic forces in capitalist development: a long-run comparative view*. Oxford, Oxford University Press.
- Maddison, A. (2001). *The world economy: a millennial perspective*. Paris, Development Centre of the Organisation for Economic Co-operation and Development.
- Maddison, A. (2003). The West and the Rest in the international economic order. *OECD Observer* May 2003.
- Masson, P. (2001). *Globalization: facts and figures*. IMF policy discussion paper PDP/01/4. Washington, DC, International Monetary Fund.
- McCallum, J. (1995). National borders matter: Canada-US regional trade patterns. *American Economic Review* 85(3): 615-623.
- McKibbin, W.J. (2000). *Globalization: what does it mean?* [Online] Available: <http://www.sensiblepolicy.com/msgpl/download/coal4.pdf>
- Mussa, M. (2000). *Factors driving global economic integration*. Global economic integration: opportunities and challenges. A symposium sponsored by the Federal Reserve Bank of Kansas City. Jackson Hole, Wyoming.
- Nitsch, V. (2000). National borders and international trade: evidence from the European Union. *Canadian Journal of Economics* 33(4): 1091-1105.
- Obstfeld, M. and K. Rogoff (2000). *The six major puzzles in international macroeconomics: is there a common cause?* NBER working paper no. 7777. Cambridge, MA, National Bureau of Economic Research.
- Obstfeld, M. and A.M. Taylor (2003). *Globalization and capital markets*. In Bordo, M.D., A.M. Taylor and J.G. Williamson (Eds.) *Globalization in historical perspective*. Chicago, University of Chicago Press.
- Ohmae, K. (1994). *The borderless world: power and strategy in the interlinked economy*. London, HarperCollins.
- Ohmae, K. (1995). *The end of the nation state: the rise of regional economies*. London, HarperCollins.
- Organisation for Economic Co-operation and Development (2002a). *Economic consequences of terrorism*. In OECD Economic Outlook No. 71. Paris, Organisation for Economic Co-operation and Development.
- Organisation for Economic Co-operation and Development (2002b). *Intra-industry and intra-firm trade and the internationalisation of production*. In OECD Economic Outlook No. 71. Paris, Organisation for Economic Co-operation and Development.
- Organisation for Economic Co-operation and Development (2002c). *Ongoing changes in the business cycle*. In OECD Economic Outlook No. 71. Paris, Organisation for Economic Co-operation and Development.
- O'Rourke, K.H. and J.G. Williamson (1999). *Globalization and history: the evolution of a nineteenth-century Atlantic economy*. Cambridge, MA, MIT Press.
- Otto, G., G. Voss and L. Willard (2001). *Understanding OECD output correlations*. RBA research discussion paper RDP 2001-05. Sydney, Reserve Bank of Australia.
- Parsley, D.C. and S.-J. Wei (2001). *Limiting currency volatility to stimulate goods market integration: a price-based approach*. NBER working paper no. 8468. Cambridge, MA, National Bureau of Economic Research.
- Pritchett, L. (1997). Divergence, big time. *Journal of Economic Perspectives* 11(3): 3-17.

- Productivity Commission (2000). *Trade & assistance review 1999-2000*. Annual report series 1999-2000. Canberra, AusInfo.
- Rajan, R.G. and L. Zingales (2000). *The great reversals: the politics of financial development in the 20th century*. OECD Economics Department working paper no. 265. Paris, Organisation for Economic Co-operation and Development.
- Reynolds, D. (2001). *One world divisible: a global history since 1945*. The global century series. London, Penguin Books.
- Roberts, J.M. (2000). *The Penguin history of the twentieth century: the history of the world 1901-present*. London, Penguin.
- Rodrik, D. (2000). How far will international economic integration go? *Journal of Economic Perspectives* 14(1): 177-186.
- Rogers, J.H., G.C. Hufbauer and E. Wada (2001). *Price level convergence and inflation in Europe*. IIE working paper no. 01-1. Washington, DC, Institute for International Economics.
- Rogoff, K. (1996). The purchasing power parity puzzle. *Journal of Economic Literature* 34(2): 647-668.
- Rogoff, K. (2003). *Globalization and global disinflation*. Monetary policy and uncertainty: adapting to a changing economy. A symposium sponsored by the Federal Reserve Bank of Kansas City. Jackson Hole, Wyoming.
- Romer, C.D. and D. Romer (2002). *The evolution of economic understanding and postwar stabilization policy*. Rethinking stabilization policy. A symposium sponsored by the Federal Reserve Bank of Kansas City. Jackson Hole, Wyoming.
- Rowthorn, R. and R. Ramaswamy (1999). Growth, trade, and deindustrialization. *IMF Staff Papers* 46(1).
- Sachs, J.D. and A. Warner (1995). Economic reform and the process of global integration. *Brookings Papers on Economic Activity* 1: 1-118.
- Serres, A.d., P. Hoeller and C.d.I. Maisonneuve (2001). *The width of the intra-European economic borders*. OECD Economics Department Working Paper 304.
- Stock, J.H. and M.W. Watson (2003). *Has the business cycle changed? Evidence and explanations*. Monetary policy and uncertainty: adapting to a changing economy. A symposium sponsored by the Federal Reserve Bank of Kansas City. Jackson Hole, Wyoming.
- Taylor, A.M. (2002). *Globalization, trade and development: some lessons from history*. NBER working paper no. 9326. Cambridge, MA, National Bureau of Economic Research.
- Thirlwell, M.P. (2003). *Is the international trading system fragmenting? Challenges for Australian trade policy*. Lowy Institute for International Policy research paper 1.03. Sydney, Lowy Institute for International Policy.
- United Nations Commission on Trade and Development (2001). *The geography of international production*. In World investment report 2001: promoting linkages. New York, United Nations.
- United Nations Commission on Trade and Development (2003a). *UNCTAD handbook of statistics online database* [Online] Accessed: 19th September, 2003.
- United Nations Commission on Trade and Development (2003b). *World investment report 2003: FDI policies for development: national and international perspectives*. New York, United Nations.
- Walkenhorst, P. and N. Dihel (2002). *Trade impacts of the terrorist attacks of 11 September 2001: a quantitative assessment*. DIW Workshop on the economic consequences of global terrorism. Berlin.

World Bank (2001). *Global economic prospects and the developing countries 2002: making trade work for the world's poor*. Washington, DC, World Bank.

World Bank (2003a). *Reducing trading costs in a new era of security*. In *Global economic prospects 2004: realizing the development promise of the Doha Agenda*. Washington, DC, World Bank.

World Bank (2003b). *World development indicators online* [Online] Accessed: 19th September, 2003.

Yergin, D. and J. Stanislaw (2002). *The commanding heights: the battle for the world economy*. New York, Simon & Schuster.