6. **Integration versus Interdependence and Complexity in Global Trade and Finance in the Post-War Period**

*Adrian Blundell-Wignall, Paul Atkinson and Caroline Roulet*

6.1. **Introduction**

The focus of this study is an assessment of the trends in economic integration and rising financial interdependence during the post-War period – where the pressures came from, where they are taking the world economy and with what implications for economic performance.

When thinking about the openness of goods and financial markets, it is important to distinguish between integration and interdependence. Greater market integration carries with it the connotation of the opening up and expansion of trade in goods and services, with gains from trade likely to enhance economic welfare. Greater interdependence, however, is more ambiguous. More interdependent financial institutions and markets carry increased risk for financial instability, particularly with respect to counterparty positions in derivatives and repurchase (repo) agreements between global systemically important financial institutions (GSIFIs). Greater interdependence also increases the difficulty of responding to financial crises and economic imbalances through national policy making. Where appropriate and effective policy coordination is not feasible in the face of such events, the risk of winding back openness through regulations and controls becomes more likely.

A low degree of integration in goods and financial markets is usually associated with the presence of trade barriers and capital controls, supported by the suppression of financial markets. Historically such controls and regulations have been associated with attempts to fix or manage exchange rates. In the early post-war years this resulted in a considerable degree of economic autarky, where national saving and investment were highly correlated, and current account imbalances largely absent. Real interest and exchange rates became distorted in the process of bringing this about, and arbitrage did not drive interest rates into covered parity. At the opposite extreme, a highly integrated world in which all goods are traded, transport and transactions costs are minimal, financial markets are rational and capital is perfectly mobile, covered interest parity (CIP) holds and

---

1 All of the views expressed in this paper are those of the authors, and do not purport to represent the views of the OECD or its member governments.
national saving and investment need not be correlated. While policy makers debate the right sequencing of reform towards more integration, openness and less distorted markets, usually the freeing up of any one increases the pressure to free up the others. These pressures certainly became apparent during the post-War period in the West, but curiously have been resisted by many emerging markets to this day.

The apparent presence or absence of capital mobility can also be affected by factors other than official controls:

Foreign aid, government borrowing and the official recycling of global surpluses may also allow savings to diverge from investment for a time, and for current account imbalances to emerge – even where private capital flows are controlled by regulations; and

A sharp rise in risk aversion in response to financial crisis or a recession may actually reduce capital mobility even in the absence of trade barriers and capital controls: (a) risk premia may periodically drive a wedge into the CIP relationship, particularly where financial intermediary defaults may be a realistic possibility; (b) governments may impose prudential policies which act in the end as de facto capital controls; and (c) banks themselves may ring-fence domestic assets and liabilities and pull back from international activities.

Consequently, the interpretations of various indicators and/or tests of integration and openness have to be treated with extreme caution, given the complex interactions between policies, structural changes, geopolitical events (such as OPEC 1973-74), risk sentiment, and the greater or lesser openness of markets. Section 6.2. looks at goods and capital market integration trends in the post-War period. It looks at the main historical factors and uses analytical techniques to measure openness and deviations from it. The growing financial interdependence issues are examined in Section 6.3., which includes a new measure of financial firm linkages to the international macro/market cycle based on individual stock data – a global banking beta. This interdependence is linked with trends in derivatives and counterparty risk. Finally some concluding remarks are made in Section 6.4.

6.2. GOODS AND CAPITAL MARKET INTEGRATION TRENDS

6.2.1. Brief Summary of the Post-War Pre-1960s Period

The retreat from the European empires had begun by 1947 (with independence declarations in Indonesia and Indochina, and the announcements of British retreats from Palestine and India). With the exception for Portugal, this was substantially complete by the mid-1960s. These parts of the world were at a very
different stage of development, and began to form their own approaches to eco-
nomic organisation. Within the West and the Soviet sphere, the War was a major
influence. The question of what to do with Germany was discussed at Tehran and
in subsequent diplomatic jockeying. The main questions were whether to leave
Germany unified; break it up; allow it to re-industrialise; or de-industrialise it. In
the end, Germany was broken up and Stalin integrated East Germany with other
Soviet bloc countries under Russian hegemony, following the central-planned
non-market system. West Germany was allowed to re-industrialise while main-
taining its heavy industry with a non-military focus under the market system.
Japan, too, was allowed to re-industrialise in non-military production lines under
American occupation and the Western market-based system.

The work that led to the Bretton-Woods agreement had begun as early as 1942,
with Roosevelt, Churchill and their spokespersons White (who was in fact a
Soviet agent) and Keynes in the lead. The broad aim was an integrated trading
world with adjustable pegged exchange rates, repressed financial markets (capital
controls, exchange controls, credit and interest rate ceilings) to facilitate pegged
exchange rates, while domestic demand management assured full employment.

On the real side, the Marshall Plan engaged the US in a cooperative development
process, funding investment in Europe (catch-up capital broadening) often
involving the licensing of US technology. The European Coal and Steel
Community was the incarnation of the single market idea. The European
Payments Union was administered under the Marshall Plan, and it facilitated the
shift from bilateral trade agreements to a multilateral system. Imports had to be
licensed and the clearing system required dollars or gold for payment. This was
terminated in December 1958 with the restoration of current account
convertibility. The re-industrialisation of Europe and Japan saw a prolonged
boom in commodity prices, helping most of the developing countries, which were
frequently dependent on a narrow commodity export base.

With respect to the financial system, the early years saw a severe shortage of
dollars, as countries tried to rebuild their international liquidity (foreign
exchange reserves) for participation in the Bretton-Woods System, and the use of
dollars for the clearing of current accounts in Europe. In 1949 sterling was deval-
ued, and other countries followed suit, helping non-US current account surpluses
to emerge. The dollar shortage rapidly came to an end and, following the resolu-
tion of the Suez crisis of October 1956, which disrupted the oil market and
slowed the outflow of dollars for a time, a dollar glut began to emerge. From
1958 many European countries began converting their dollars into gold. This
period also saw the beginnings of the euro-dollar market, as the Russians (fearing
confiscation by the US after the invasion of Hungary in 1956) began to hold their
dollars in Britain in 1957 – that is, to hold euro-dollars in London.
The world by the 1960s had essentially split into three: the OECD integrated market (including Japan and West Germany); the centrally planned world led by Russia; and the third world countries that were not centrally planned, but which were significantly autarchic and did not rely on market arrangements due to high tariffs, border controls on trade, high levels of state-ownership of industry, and controls on foreign exchange and capital flows. This paper focuses mainly on the OECD and key emerging economies, notably China, India, South Africa, OPEC and some larger Latin American countries, which have become too important for any reasonable coverage of the issues to ignore. It does not try to analyse all the centrally planned economies over the longer time period considered here.

6.2.2. The 1960s to the 1980s: OECD Countries Open up

Within the OECD countries, there can be little doubt that Europe was the early mover in the trend towards greater integration. The Treaty of Rome in 1957/58 became the basic legal framework ultimately for the establishment of the E.U. single market. European current account convertibility came into effect in 1958 and the process of import licensing ended. By 1968 a full customs union was established, with tariffs and quotas on internal trade being abolished and a common external tariff on third countries coming into effect. This freeing up of trade within Europe should have contributed to a significant fall in the saving-investment (S-I) correlation from the late 1960s. However, trade liberalization proceeded much more slowly at the global level than it did in Europe. From 1948 the Global Agreement on Tariffs and Trade (GATT) led to more trade liberalization, mainly in the OECD area, with four “rounds” of multilateral negotiations completed by 1956 and a fifth by 1961. With the retreat of European empires, successive GATT rounds became more global, with participation rising from 26 countries in the Dillon Round to 62 in the Kennedy Round (starting in May 1964) and 123 in the Uruguay Round (the last to be completed in 1994). Major expansions of trade followed in each case. Capital account deregulation and the ending of financial repression of domestic financial markets were, on the other hand, notoriously much less rapid².

Propping up fixed or managed exchange rate regimes was one primary reason for not promoting faster financial integration. Persistent dollar weakness during 1958 to 1973 (despite current account surpluses for most of the period) led to US controls such as the interest equalisation tax (IET, 1963) and its shoring up by the voluntary foreign credit restraint (VFCR, 1965), foreign direct investment (FDI) limitations and extensive diplomacy to support the dollar. At the same time surplus countries, and notably Germany and Switzerland, imposed restrictions to

limit inflows, in order to reconcile the exchange rate regime with domestic monetary control. While in the early 1970s the USA, the UK, Denmark, France, Italy and Sweden invoked some new measures to control outflows, other countries (Germany, Switzerland, Austria, Japan, Australia and Finland) imposed new measures designed to prevent inflows.

The fixed exchange rate system fell apart definitively in 1973, leading to the floating of the major exchange rates. This coincided with a rapid rise in inflation nearly everywhere and the oil price shock in 1973-74, with OPEC achieving a much greater share of the economic rent from its cheap production costs. Most developed countries found themselves wrestling with inflation, high unemployment, huge budget deficits and large external imbalances. Heavy use of euro-currency markets to “recycle” oil surpluses followed, and there was strong official support for “recycling”, notably through the IMF.

With the end of the commitment to fixed exchange rates the trend to financial repression and capital controls began to be reversed in the 1970s, a process which was accelerated in the 1980s by policy and structural changes that made regulations less effective. Central banks were formulating new approaches to monetary control, facilitated by separating their functions from the budget process and relying on market instruments. The extensive use of interest rate swaps, options, forwards and other derivatives separated the notion of exposure and capital flows across exchanges to which many controls applied. Institutional investors and international banks lobbied hard for deregulation to avail themselves of the increased range of products. Germany ended the repression of banks to prevent money from coming in by 1975 (see OECD (2002) and Dooley and Isard (1980)). The US removed capital controls in 1974, and the Depository Deregulation Act followed in 1980 (which phased out interest rate ceilings). The UK abolished all capital controls and foreign exchange restrictions in 1979. In 1980 Japan formally ended its capital controls in one move, after decades of deregulating slowly in small steps. By 1981-82 all of the four major currency countries liberalised exchange and capital controls and domestic financial markets. Other OECD countries soon followed.

From 1981 to 1983 the French under Mitterrand tried independently to stimulate via fiscal and monetary policy during the Volcker squeeze and restrictive German policies. This was followed by capital flight and the imposition of strict controls on outflows to defend the franc. However, recurrent crises in France forced them to change gear after 1983, and France moved to liberalise from 1983-84, completing the process by 1986. Jacques Delors left the French government around this time and went to the EU Commission to complete the single market

---

3 See OECD, (2002), for a full description of measures and dates.
Project. The Single European Act was signed in 1986, committing countries to remove all controls on goods and capital by 1992. The Second Banking Directive came into effect in 1992 – while recognising national regulatory approaches, countries could no longer restrict entry into their domestic market. Australia and New Zealand signed the Closer Economic Relations treaty in 1983, freeing up all trade and capital restrictions. The USA signed a free trade agreement with Canada in 1987 and the North American Free Trade Association (NAFTA) added Mexico in 1994.

6.2.3. Measuring Integration via Interest Rate Parity

Closed interest parity states that capital flows in the absence of controls (transactions taxes, reserve requirements and withholding taxes) and country risk premia (associated with concerns about the solvency and/or the honouring of guarantees for financial institutions) will equalise (except for transactions costs) interest rates on comparable financial instruments issued in different countries but denominated in the national currency. Figure 6.1 shows closed interest parity for interbank deposits issued in the USA, United Kingdom, Germany, France, Japan and Switzerland versus the euro-deposit interbank rates in the national currencies of each. Closed parity for Germany was achieved by the mid-1970s, and sterling deposits immediately after the removal of controls in 1979. In the case of dollar deposits, closed interest parity came about after the phased removal of Regulation Q ceilings and further capital controls from the early 1980s. The deviations from parity during Mitterrand experiment in the early 1980s are very clear in the Figure. Japanese rates closed in towards parity from 1980, whereas Switzerland, while also removing securities restrictions in 1980, saw a move that reduced the gap, but which still saw Swiss banks having to bid significantly more offshore for deposits than onshore – a fact that may be related to a negative risk premium for onshore deposits for safe haven and tax reasons.

Covered interest parity shown in Figure 6.2 relates to the yields on comparable assets issued in different countries and denominated in different currencies but hedged to eliminate currency risk. Consequently, in addition to political/regulatory risk, currency risk is included. In efficient open markets, and to the extent that transaction costs are very small, the yield on the foreign asset hedged in the forward market should be in line with the domestic rate. This too is a measure of political risk, including the currency dimension. The interest parity condition is:

\[ \frac{f}{s} - \frac{(1 + r)}{(1 + r^*)} = 0, \]

where: \( f \) is the forward rate, \( s \) the spot rate, \( r \) the domestic rate and \( r^* \) is the

---

4 Regulation Q was removed by the Deregulation and Monetary Control Act, 1980.

LARCIER
foreign (dollar) rate. In Figure 6.2 this is shown as the forward premium (domestic currency per unit of foreign currency) less the interest differential in favour of the domestic currency.

A negative number indicates that the interest differential due to political risk (intervention, restrictions on the forward market, exchange controls, etc.) exceeds the forward premium. During the 1970s and 1980s there were consider-

Source: Datastream, Bloomberg, OECD
Figure 6.2: Covered Interest Parity, Major Currencies versus the US Dollar

Source: Datastream, Bloomberg, OECD.
able deviations from covered parity. By and large, the covered parity calculations also reflect the moves towards greater openness in the 1990s and the first half of the 2000s: covered parity moves towards zero for the euro, sterling, and the Canadian and Australian dollars. Japan stands out as persistently negative in this later period, and mostly larger in magnitude than these other currencies (reflecting perhaps intervention risk at this time).

6.2.4. The Savings Investment Correlation

The above interest parity indicators of integration relate to financial markets. An intuitively more appealing measure that considers financial and goods market openness is the correlation between national saving and investment. Chapter 2 of this volume focuses on global and European macroeconomic imbalances in more detail—in this section focuses on these issues insofar as goods market and capital markets interact and shed light on the capital market openness issue. Feldstein and Horioka (1980) interpret the high correlation between these variables in the 1970s and 1980s to imply that global savings are not sufficiently mobile to fund ex-ante demand for investment goods—or, alternatively, to absorb excess national savings. Numerous subsequent articles have mostly corroborated the findings and offered alternative explanations. For example, some argue that real productivity and terms of trade shocks, or a fall in the rate of time preference that acts to lift saving, may result in a high saving-investment (S-I) correlation in the presence of a non-traded goods sector. If the non-traded goods sector is labour-intensive, a rise in productivity would release factors of production, and proportionately more labour would be allocated to the traded-goods sector. This would result in a higher marginal product of capital in the traded-sector, thereby raising the desired capital stock, resulting in the co-movement of savings and investment. These and other arguments may have some application in developing countries, where interest parity does not hold, but this should not be the case for most OECD countries.

Within the borders of countries free trade does apply and capital can be assumed to be perfectly mobile so that the S-I correlation should be zero. Helliwell (1998), using regional data, shows there is little correlation between savings and investment in the Canadian provinces, just as theory would predict, regardless of the presence of traded and non-traded goods. This latter finding is quite

---

5 The correlation itself is not due to econometric anomalies, such as the treatment of the endogeneity via instrumental variables. Feldstein and Bacchetta (1991) respond to criticisms of an econometric nature, such as omitted variables (e.g., Obstfeld (1986), economic growth), and dynamic effects such as Summers and Carroll (1987) that governments adjust their budgets to ”fill in” for private investment savings gaps rather than see capital inflows or outflows.

6 (Murphy (1986) and Engel and Kletzer (1989), Wong (1990)).

7 Obstfeld and Rogoff (2001) show that in a world with transport and transactions costs, combined with inter-temporal consumption smoothing, the S-I correlation can be positive.
interesting, and implies that the freeing up of international trade and capital flows should also see something similar occurring in countries and regional groupings, particularly where closed and covered parity holds. Of course, what is true about individual countries and groupings of countries cannot be true of the full global economy. Were it possible to have high quality data for all countries in the world, then savings and investment must be co-integrated. It is not possible for the whole world to violate the budget constraint that savings equals investment. It is well known however that individual countries or sub-groupings of countries can violate the budget constraints over very long periods of time. Countries may choose inter-temporally to allow foreign debt to rise as a share of GDP if future growth is perceived strong enough to warrant it, and vice versa. Furthermore, the S-I relationship may vary with the domestic growth and inflation cycles versus the international cost of capital. Countries which open up to foreign private participation in domestic investment opportunities for technology transfer, synergies in the global supply chain, or resources development reasons will see S-I correlations decline over time as this opening up occurs. Countries that are not open, or which are excessively selective in their openness, should see higher more stable S-I correlations.

To explore this proposition, revised and internationally consistent quarterly data for a constant sample of 23 OECD countries\textsuperscript{8} savings and investment from 1960 are compiled. Panel regressions are run for the OECD as a group, for Europe (including the United Kingdom and Switzerland) and for the periphery (Spain, Italy, Ireland, Portugal and Greece). To explore the changing degree of openness, the following empirical model is specified in equation (1), where the subscripts \textit{i} and \textit{t} denote the country and the period, respectively:

\begin{equation}
GFCF_{i,t} = \alpha_{i,t} + \beta SAV_{i,t} + \epsilon_{i,t}
\end{equation}

where \(GFCF_{i,t}\) is national gross capital formation and \(SAV_{i,t}\) is national gross saving. Both variables are expressed in per cent of national gross domestic product. \(\beta\) corresponds to the coefficient of openness. This equation is estimated using ordinary least squares (OLS). From 1960, the panel regressions are run alternately in extending and rolling sample period formats.

Figure 6.3 shows the S-I correlation as an extending sample: each point is the recalculation of the coefficient that arises by adding another quarter of observations for the respective group. This is a fairly straightforward exercise, but the use of OECD data reflecting revised national accounts methodology may alter earlier findings in the literature. The overall trend in the correlation is down, with the

\textsuperscript{8} The countries included in this study are: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, United Kingdom, United States.
opening up of trade and capital accounts of the 1960s, 1970s and early 1980s, which were quite momentous events. There is some evidence of a pause from the early 1980s to the early 2000s, followed by a further downward move. The Feldstein-Bacchetta (1991) results, which show little decline in the correlation, are not reproduced in Figure 6.3, suggesting some differences with the data used by those authors and/or because of subsequent data revisions. This of course makes eminent sense, given the above outline of the sequence of trade and capital account reforms in the OECD generally and in Europe in particular (the countries of which dominate the OECD at this time). The great macro ‘puzzle’ was at least to some extent related to the quality of the data.

The coefficients reported in that study for the dates 1960 to 1969, 1973 and 1986 can be identified in Figure 6.3: they are lower overall and unlike the earlier study they do drift down as the mid 1980s is approached. There have been major revisions to international accounting standards and GDP methodology. The years when complete revisions were implemented (mostly in the 2000s) can be found in: OECD (2012), p. 203. The OECD data used here are fully revised and entirely consistent.

See Obstfeld and Rogoff (2001).
relations move down more quickly, while the periphery countries are flatter and closer to the full OECD coefficients.

Figure 6.4: 5-Year Average Current Accounts in Key OECD Countries

Source: OECD

Figure 6.5 shows the results of panel S-I correlation regressions for a 5-year rolling window: each time a new quarter is added the quarter from 5 years before is removed.

Figure 6.5: Saving Investment Correlation, OECD Groups, 5 year Rolling Window

Source: OECD.
This rolling window approach provides a focus on the cycle in the openness coefficient $\beta$, allowing it to be discussed more easily with reference to historical events.

- The early leadership of Europe in opening trade is reflected clearly in the early sharp declines in the coefficient.
- While the longer-term trend is downwards, there is a tendency for the S-I correlation to rise in crises, such as the major recessions of the early 1980s, the early 1990s and the more recent global crisis.
- The French experiment in the mid 1980s, and the major structural shift in the run up to the single market program in the mid-to-late 1980s appear to have been associated with the some ‘stickiness’ of S-I correlation.
- The rise in financial interdependence (discussed below) and the completing of the euro project see a sharp drop in the rolling coefficient in the 2000s, until the crisis leads to a reversal.
- This reversal is earlier and more marked in the OECD periphery countries, which have been at the centre of problems within Europe, and hence a greater reluctance for private capital flows to fund external imbalances of the periphery.

6.2.5. The Emerging Economies

Some emerging market countries also embarked on attempts to open markets in the 1980s and 1990s, but progress was limited as periodic crises emerged. Many countries were largely ‘autarchic’ at this time, other than for the fairly common feature of relying on exports from a narrow commodity base: Mexico was dependent on oil; Chile was dominated by copper exports; and others too were dependent on oil, coffee, and other commodities. Such countries often worked on an ‘import substitution model’ of development, to diversify away from commod-

ities and this was not conducive to the opening up of their markets.

The collapse in commodity prices from during the early 1980s led to the first emerging markets crisis, and in 1982 Mexico defaulted on its debt. Mexico had used expansionary fiscal policies funded via oil revenue and borrowing (ironically encouraged by the IMF) on international markets – the 1973 oil price rise allowed it to borrow in order to diversify into petrochemicals, other basic industries and to build up a transportation system. Mexico raised tariffs to encourage import substitution in this process. However, the Volcker squeeze from 1979 to fight inflation saw interest rates and the US dollar (from late 1980) rise sharply, and prices of oil and other commodities fell soon afterwards. Dollar denominated debtors’ positions soon became unsustainable. For the best part of a decade a general Latin American debt crisis was the result. This effectively removed the incentive to open trade and capital accounts. The flow of capital to emerging
markets essentially ceased for the rest of the decade, foreign direct investment (FDI) declined sharply, and a severe recession was followed by poor macroeconomic performance (see Figure 6.8 below). Governments and the IMF dealt with the crisis by trying to ensure debtor countries were able to continue to service their debts rather than forgiving that debt.

Asia, which was more export-oriented and had a more diversified industrial base than Latin America, did somewhat better, particularly in the 1990s. Net private capital portfolio flows to emerging markets soared at this time, despite the second Mexico crisis in 1994-95, and FDI managed to stabilise and then recover. The huge Mexican current account deficit with a fixed exchange rate was financed by issuing Tesobonos, denominated in pesos but indexed to dollars. As borrowing risks rose, securities were sold by international investors, dollar foreign exchange reserves ran out and the exchange rate in the end collapsed. The US (with Robert Rubin of Goldman Sachs as Treasury Secretary) and the IMF mobilised enough funds to bail out the US banks and other creditors entirely. Rubin used the Treasury’s Exchange Stabilisation Fund, so that President Clinton did not have to obtain Congressional approval. The US Treasury/IMF was becoming a vehicle to bail out Wall Street to an even greater extent than in the 1980s, essentially guaranteeing banks, which contributed to reinforcing a too-big-to-fail problem (TBTF) perception which would come back to haunt policy in 2008, in both the USA and Europe, with even greater needs to support financial institutions.

FDI inflows imparted resilience to net capital flows to emerging economies, despite volatility in portfolio and other ‘hot’ money flows. Globalisation began to take hold in this period, and the market-integrated model of the OECD had seemingly won the argument about successful economic models. At this time there was much discussion at World Bank and other global fora about stabilisation and liberalization programs, the need for realistic exchange rates, and the benefits of participation in the open trading system. Centrally planned economies suffering from stagnation in the 1980s also began to move towards the OECD model, trying to participate in the more integrated international economy even before the fall of the Berlin Wall. After the Soviet Union was abolished in 1991, many of the ex-Soviet satellites wanted to detach from Russia and join the EU. During the late 1970s the centrally planned development approach in China was reversed, with Deng Xiaoping as paramount leader from 1978-to 1992 establishing free economic zones, dismantling collective farms and wooing foreign capital.

11 The bonds had been underwritten and distributed by Goldman Sachs and Citigroup.
12 The import substitution approach had essentially failed.
13 Much of the discussion originated with a focus on the experience of the “Southern Cone” of Latin America and took place in the context of the contrasting success of the Asian Tigers. See for example World Bank (1984), The ideas generated were given broad applicability, for example, J. de Melo and S. Dhar (1992). A synthesis of these ideas gradually came to be known as the “Washington Consensus”. See, notably, J. Williamson (2004).
Consistent data are not available for the emerging economies considered here (China, India, Brazil, Mexico, South Africa, and South Korea) back to 1960, so the S-I correlation indicator begins only from 1982. Despite some modest efforts at opening up, both the structure of trade and the maintenance of significant capital controls appear to be consistent with a much higher S-I correlation than found for the OECD, as shown in Figure 6.6, and there is no sign of it declining over time. This suggests a very wide disparity of openness between the OECD and emerging countries in terms of willingness to open trade and to remove capital controls.

Figure 6.6: Saving Investment Correlation, Emergers/OECD, Extending Sample

Source: OECD.

Figure 6.7 shows the results for the 5-year rolling window S-I correlation. The OECD results reflect those shown earlier: a sharp decline in the 2000s. The emerging countries show evidence of some decline in the correlation during the 1990s. The coefficient for the 5-year period to 1994Q4 was around 0.78 and it subsequently fell to 0.65 for the 5-year period to 2001Q4 encompassing the Asia crisis. This is followed by a reversal back to pre-crisis coefficients before edging down again more recently.

---

14 South Korea and Mexico are included here as they joined the OECD only in the 1990s, and the focus of this paper is historical.
6.2.6. Asia Crisis

Emerging Asian countries had pegged to the dollar and industrialised rapidly financed by net private foreign borrowing, and in the first half of the 1990s they built up huge foreign debts\(^1\). A lot of the finance went into companies characterised as ‘crony capitalism’, where related party transactions and poor corporate governance were a common feature. Assets became overvalued as the weak dollar environment led to foreign exchange intervention and monetary accommodation. The policy of fixing against the dollar, while trade competition was increasingly versus Japan, had worked well during the Japanese bubble (after 1985) while the dollar was weak. However, the US tightening cycle that began in January 1994 eventually saw a reversal of the dollar. Thus, when the yen peaked in 1995 and fell back, non-Japan Asia experienced increasing competitive pressure, exposing them to withdrawal of funds by hedge funds and portfolio managers. Thailand (and others) had let ‘hot money’ in, and when these flows reversed, vicious circle mechanisms set in (falling asset prices, reserves loss, contraction)\(^2\). The IMF organised a series of bail outs tying packages to reform and structural adjustment packages (cuts in fiscal policy; higher interest rates to protect the exchange rate; allowing insolvent financial institutions to fail; developing western style bank models; and reducing restrictions on foreign ownership).

---

\(^1\) Many have used the Asia crisis as an excuse justifying capital controls. See, for example, Stiglitz, J. & Yusuf, S. (2001), and articles therein. The real problem is managing the exchange rate, and monetary policy accommodating speculation as a result of exchange market intervention. Australia is in Asia, has followed sensible economic policies, including free capital flows and floating since 1983. It suffered no crisis in 1997. Others have rightly argued for the need to restructure the global financial architecture comprised of OECD liberalised economies and those which control capital flows. See Eichengreen, B. (1999). But how to do this remains elusive.

The policy of allowing insolvent institutions to fail in Asia was in sharp contrast to the way US and European banks were treated in the peso crisis and in the more recent global turmoil. Similarly, the recession that followed higher rates and fiscal cuts in Asia was in contrast to the vigorous easing of monetary policy and relaxation of bank rules that the US and Europe imposed following the 2001 recession and tech bust and the recent crisis. Many Asian borrowers couldn’t pay their debts as the economy went into recession. Subsequently, Asia veered away from the IMF model and capital controls have remained a strong feature\(^{17}\). FDI flows have been relatively modest as a consequence, in spite of impressive growth.

### 6.2.7. Foreign Direct Investment

Continental Western Europe and the United Kingdom also appear to have led the world in opening up with respect to FDI. Figure 6.8 shows FDI outward (assets) levels for the OECD areas and the emerging group in the top panel, and the FDI inward (liabilities) in the bottom panel\(^{18}\). Following the first oil crisis and the turmoil that led to the floating of exchange rates, OECD openness appeared to moving backwards until the early 1980s. At this time, the deregulation and opening up of capital accounts in the OECD countries is reflected in a rise in the levels of both inward and outward FDI, with latter outpacing the former somewhat. In 1981 the inwards and outwards levels are both around 6% of the combined OECD/BRICS GDP. Subsequently, inward FDI stocks of liabilities rise to around 20% of GDP by 2011 (of which the United Kingdom and Continental Western Europe comprise 12.5%). Outward FDI stocks of assets rise to 30% of GDP in that year (of which the United Kingdom and Europe comprise around 18%). These FDI patterns for the OECD are very consistent with the S-I correlations and the interest parity findings reported earlier. However, this globalisation phenomenon has been associated with a falling share of the OECD in the combined OECD/BRICS GDP. In 1975 the 23 OECD countries were 90% of the combined OECD/BRICS GDP, and this fell to 75% by 2011, with most of the decline occurring in the 2000s financial integration and (eventual) crisis period.

The Emerging group (BRICS plus Indonesia) is also consistent with the earlier S-I correlation finding of the relative absence of openness, particularly with respect to outward FDI. Prior to 2004 the levels of assets and liabilities were small. From 2004 inward FDI rose from 2% of the combined OECD/BRICS GDP to 6% by 2011. Outward FDI levels have been even less impressive: a little over 0.8% of the combined OECD/BRICS GDP in 2004, rising to a mere 2% by 2011.

---


\(^{18}\) OECD data for all of the BRICS plus Indonesia is only available from 2004.
6.2.8. Developing Countries and Distortions Caused by Capital Controls

Most countries in Asia ex-Japan and many Latin American countries have maintained heavily managed exchange rates and engage in financial repression to support them. These include controls on capital inflows: to manipulate exchange rates; to help monetary policy autonomy when exchange rates are managed; for prudential stability reasons, such as avoiding asset and liability mismatches in foreign currency exposures and maturities; and for sovereign security and national interest reasons (including industry protection and the control of economic rent in resource extraction industries). Such controls include inter alia:
- price based controls: taxing capital inflows and required reserves on capital inflows;

Source: OECD.
– quantity based controls: quantitative limits on foreign ownership of domestic companies; reporting requirements and limits on foreign exchange borrowing abroad; limits on the ability to borrow offshore; licensing procedure for foreign firms, limits on open forward market derivative positions, etc.

Controls on outflows are usually imposed with the aim of: attempts to manage the exchange rate while maintaining monetary policy autonomy; protecting the tax base; preserving savings to fund domestic investment; and allocating credit to help domestic industry.

Such controls include, inter alia: multiple exchange rates; exchange controls; restrictions on the purchase of foreign assets and deposits; and limits on currency convertibility.

Figure 6.9: Covered Interest Parity in Asia: China, Korea vs Australia

Source: Bloomberg, OECD.
Figure 6.9 shows the covered interest parity condition for China, Korea, India and Brazil. Clearly covered parity does not hold in these countries, and similar results are found for others that use combinations of some of the above capital control procedures in Asia and Latin America. Australia is added for comparison to a country in the region that does not maintain capital controls and does not intervene in the foreign exchange market. When the local currency is not deliverable in the forward market (essentially banned in the case of China, and severely limited to 40% of domestic bank capital and 150% of foreign bank capital in the case of Korea), then an offshore Non-Deliverable Forward (NDF) market develops that allows shadow hedging deliverable in dollars. Similar NDF markets have developed for India, Chinese Taipei, Indonesia and others.

These policies to manage exchange rates at undervalued levels directly impact other countries. They result in beggar-my-neighbour trade outcomes and imbalances, which always risk retaliation and destruction of the gains from trade. They also force unpalatable choices in macro policy on to other countries. China has a large saving pool, maintains an undervalued exchange rate, and redistributes reserves to the world to fund its current account surplus in the face of capital inflows. This distorts trade through the relative price effect and can be offset only by contracting absorption through domestic demand in major trading partner countries (such as the United States). But while import competition resulting from the huge global supply shock from the developing world runs on and this, together with the fear of job losses in trading partners, keeps inflation low, monetary and fiscal authorities prefer to maintain expansionary policy for domestic growth and inflation rather than demand contraction to offset the impact of misaligned exchange rates on external imbalances. This in the end leads to distortions in assets price cycles, financial stability and ultimately longer-term for inflation pressures.

The poor relative growth performance of OECD countries, culminating in the global financial crisis from 2007 to the present, raises important questions – did the OECD go too far in opening up their economies or financial systems, creating too much interdependence and complexity? Alternatively, is there an issue of the incompatibility of free market systems alongside economically significant ‘state capitalist’ regions, which trade with and invest in each other?

6.2.9. The Crisis and OECD Countries

Covered interest parity holds (other than for transactions costs in the 0-0.5% range) in most of the large trading currency countries within the OECD. However, during 2008, as the crisis reached its worst point, there were some sharp
deviations in covered parity to the 1-2% range. This was in large part due to the very real risk that some major financial institutions involved in the derivatives market might fail. Counterparty risk became extreme. But even in the midst of this crisis, the foreign exchange market performed well, and deviations from interest parity never approached the magnitudes of countries that maintain controls on capital inflows and outflows. Counterparty risk has however greatly increased interdependence in the world financial system, with implications for financial fragility and (because of deleveraging) the real economy. Whereas opening up markets and increased integration in trade and capital flows carries with it positive welfare implications, greater interdependence in the financial system should not necessarily be thought of in the same way.

6.2.10. The Risk of Rebuff to Global Integration

The global crisis has seen some signs of a backward shift in openness. There has been little measurable sign of increased openness in emerging markets, and as the crisis unfolded, there have been signs of backward moves in some OECD countries. It is true that capital flows have dried up in part for temporary reasons, such as the market concerns over financial institution insolvency leading to a drying up of short-term cross-border lending. Some of this has been the result too of a home bias pursued by regulators in ring-fencing their own banks’ capital adequacy. Others, such as Korea, have introduced new measures that control capital flows and essentially target exchange rates by limiting the functioning of the forward market and other related measures – such moves are explained as domestic prudential measures, but move countries using them closer to the way other emerging markets have always behaved.

It is difficult to say whether this is likely to be permanent. Part of the problem has been caused by the response to the crisis: i.e. very low interest rates and unconventional polices such as quantitative easing. Aside from helping relieve banks with balance sheet losses through better spreads (for improved operating earnings) and asset re-inflation, such measures also affect the exchange rate. This may be a legitimate market-price-based response of OECD countries to beggar-thy-neighbour exchange rate policies in the developing world. Japan’s proposed quantitative easing on a large scale, following those of the US Fed, the ECB and the Bank of England certainly helped to lower the yen at times in the first half of 2013. Even Australia is being forced into easier policies as a consequence of the high value of its currency.

---

20 See ECB (2012) and (2013).
21 Such moves have been described as a prudential measure to reduce the risk of foreign currency exposure of banks given the hedging activities of local businesses etc. However, were this the case, as opposed to an exchange rate targeting exercise, a domestic capital buffer could be required for banks related to such exposure, rather than discriminating between on-shore and offshore implied interest rates.
A major risk at this point in time is that more countries resort to capital controls and exchange rate policies in response to quantitative easing in a world where openness and integration is perceived to have benefits more limited than hitherto. Such backsliding towards reduced openness could become damaging to global trade and economic development more generally.

6.3. **Financial Integration and Interdependence Trends**

Financial market deregulation proceeded in parallel with the opening of trade and capital markets, and this has led to a greater integration of banking activities across countries. To the extent that this mirrors the opening of markets and the facilitation of capital flows there are undoubtedly benefits from this. However, this process also increased the complexity and interdependence of the financial system: reducing the effectiveness of regulation in controlling leverage and new financial products, both of which became key hallmarks of the global financial crisis. This form of global integration requires more careful assessment of the benefits of increased trade in financial services versus the raised vulnerability of the financial system to counterparty and other interdependence risks.

6.3.1. **Growth of Cross-Border Banking**

In the 1960s and 1970s banking integration centred on the development of the Eurodollar market, which was located primarily in the city of London. Figure 6.10 shows the non-sterling assets and liabilities of UK banks from 1960 to the mid 1970s, as a percentage of GDP in the 17 western European countries: both rose from virtually nothing to 6.5% and 7% of EU GDP, respectively, by 1975. The creation of the European Monetary Union (EMU) with its managed exchange rates and the subsequent the launching of the euro were both a continuation of the single market process that had begun in 1992\(^\text{22}\). Based on BIS data with comprehensive coverage across countries, available from the late 1970s, European banks’ cross-border businesses continued to expand rapidly, as shown in Figure 6.11. The external assets of western European banks by residence rose from around 20% of western European GDP in 1977, to peak at around 133% in 2007, on the eve of the crisis. Some part of this contributed to financing corporate long-term investment in Europe and ‘catch-up’ growth in Central and Eastern Europe (CEE). Subsequently, the financial crisis has led to deleveraging generally, but with a much greater impact on banks’ foreign assets.

\(^{22}\) See Chapter 1 of this volume on global and European monetary arrangements.
The external assets of western European banks had fallen back to 97% of GDP by 2012. The ratio of foreign assets to GDP of banks by their nationality (as opposed to residence) was noticeably stronger prior to the crisis, peaking at 162% in 2007, and subsequently falling back to 114% after the crisis. The difference between foreign assets by nationality and residence of some 30% of GDP in 2007 illustrates the extent to which banks have opened subsidiaries and branches outside of their own borders.

A substantial part of this expansion of banking within Europe was into CEE countries, anticipating their growth and the possibility of their later integration into the EU. Financial integration, however, has proceeded more quickly than that for the real economy, where structural aspects including fiscal policy and labour market flexibility have not converged. The narrowing of nationality and residence gap to 17% of GDP in 2012 illustrates the extent to which bank deleveraging has focused on pulling back from foreign subsidiaries and branches – and this has affected negatively the CEE economies’ ability to weather the crisis.

6.3.2. Growth of Bank Interdependence

Financial deregulation in the 1990s and 2000s occurred at a time of financial innovation and the proliferation in the use of derivatives, particularly interest rate swaps (IRS) and credit default swaps (CDS). Figure 6.12 shows primary securities in the world financial system and the notional value of all global derivatives. Primary securities consist of: bank balance sheets (other than derivatives); non-bank debt securities issued; and equities. These components are ‘primary’, in the sense that they finance directly some form of non-bank economic activity. Derivatives, on the other hand, fund nothing: they shift the ownership, structure and the riskiness of primary securities. Yet all derivatives are based on counterparty risk between the buyer and the seller, which operates with collateralisation via initial and variation margins. Initial margin is posted (typically cash) as collateral, and as the prices of the reference primary securities change, the variation margin is settled on a daily basis between the two counterparties. In this sense derivatives, which fund nothing, nevertheless carry all the bankruptcy characteristics of debt. The losing counterparty must be able to post cash from existing assets or borrow it (typically in the repo market). While primary securities have fluctuated within a range of 2 to 3 times world GDP since 1998, the notional value of derivatives rose from around 3-times world GDP to a staggering 12-times world GDP during the decade to the eve of the financial crisis in 2007.

Figure 6.13 shows an index of global bank interdependence labelled “Beta”, and the gross market value (GMV) of derivatives in billions of dollars. The GMV of derivatives is much smaller than the notional exposure (on which bank fees and spreads are based): whereas in 2007 the notional value rose to some USD 700 trillion, their GMV rose suddenly from USD 10 trillion to around USD 37 trillion as the crisis hit. The GMV of derivatives is the amount that would have to be settled at the prices prevailing at that point in time. Settlement may occur via the

---

23 The series is led one year so that the beta calculated on daily data over the year to the date shown, corresponds to the derivatives at the start of that beta calculation.

LARCIER
netting of any positive and negative derivative positions (where this is contractually permitted or in a close out situation) and via the margin collateralisation process. The sudden rise in the GMV as the crisis hit revealed a huge shortage of capital and eligible collateral in the world financial system.

The global bank Beta is a measure of interdependence. It takes the daily stock prices of 70 global banks with more than USD 50 billion in assets, including all...
the GSIFI banks, and calculates for each a one-year rolling beta (correlation) to the MSCI world stock market index. Each bank’s individual beta to the MSCI is then aggregated according to the (rolling) asset weight of the bank in the total assets of all the banks\(^\text{24}\). During the Asia crisis of 1997-98 the beta correlation rose from around 0.75 to above 1.0, spiking at 1.3 in 1998. The GMV of derivatives was only around USD 3 trillion at that time. Subsequently, the beta fell back to where it was before the Asia crisis. However, from around 2005, the interdependence of global banking began to rise in an unprecedented way, to a global weighted-Beta peak of around 1.8 during the Lehman crisis. It fell back temporarily to 1.3 (bottoming well above 1) and then the global bank beta rose again in the second phase of the crisis to a record level of 2 in 2009, just before the first quantitative easing by the Federal Reserve in the USA began – it has subsequently varied within a range of 1.3 to 1.5. This ratcheting up of bank interdependence has been associated with the rise of counterparty risk, shown in Figure 6.13 by moves in the GMV of derivatives: i.e. because of the growth of counterparty risk undertaken by the GSIFI banks which dominate this business.

There are many socially useful roles for derivatives, particularly where these concern end users, such as airlines hedging fuel costs, exporters hedging their exchange rate risk, insurance companies hedging the interest rate risk in annuities, and so forth. However, the rapid growth in some instruments such as interest rate swaps and CDS were also used for purposes that might be considered less than socially useful:

- the considerable energy and use of resources by GSIFI banks to shift risks with a view to avoiding regulatory capital charges; and
- to structure products for clients by taking advantage of wide differences in taxation regimes between jurisdictions, individuals and financial products.

The interdependence caused by these innovations and products based on derivatives is multiplied between banks globally by a process known as re-hypothecation. When a bank takes cash as collateral in a derivative transaction, the cost can be greatly reduced (profitability increased) if the client signs a re-hypothecation agreement, whereby that cash can be lent (e.g. through the repo market) for new derivative transactions. In this way collateral is re-used a number of times, building more leverage into the financial system and increasing its vulnerability in the event of a shock: the velocity of collateral can be said to have risen.

\(^{24}\) This concept is different from the capital asset pricing model concept of beta where the risk free rate plays a role.
6.3.3. The Causes of the Ratcheting up of Bank Interdependence

The generic cause of the explosion of new leveraged bank business through derivatives and related products, including the tri-partite repo market, was the interaction of bank product innovations and financial deregulation.

- Banks argued successfully against separation policies that limited their international business models, notably by the Glass-Steagall Act in the USA. Just when European universal banks might have benefitted from the separation of traditional and investment banking, the regulatory and business model trends were in exactly the opposite direction. The main drivers of bank lobbying in this regard were the profitability of leverage and high OTC derivative spreads, as well as the business model need to have sufficient diversity of market views and scale amongst counterparties. Glass-Steagall was removed by the Gramm-Leach-Bliley Act in 1999.

- Banks consistently supported regulations under Basel II “consensus” approach to regulation because it permitted them to keep capital requirements very low (see below). Bank lobbying was extraordinarily successful in bringing about this ‘light touch’ form for the regulatory regime. The announcement of Basel II in July 2004 (to have been implemented by 2008), and the SEC’s removal of leverage controls on investment banks, actually encouraged the rapid growth in leverage and the profitability of banks.

Figure 6.14 shows the asset-weighted simple leverage ratio of GSIFI banks and that for the population of 70 global banks (that includes the GSIFI banks) both led one year. The Figure also shows the distance-to-default (DTD) of the 70 banks weighted by their share of assets. The DTD is the market value of assets (based on the Black-Scholes formula) minus the book value of liabilities measured in standard deviations. High numbers of the DTD are associated with a profitable well-capitalised banking system, while zero is the default point.

The growth of product innovation and reduced control of leverage saw the weighted GSIFI bank leverage rise from around 21-times capital prior to the removal of Glass-Steagall to 34-times on the eve of the crisis. For the population of 70 banks, leverage rose too, from around 18-times to a peak of 24-times bank capital.

25 The change in SEC rules in 2004 allowed investment banks to be supervised on a consolidated entities basis, in place of the strict SEC limitations on leverage. This was equivalent to the regulatory minimum that US banks would need to operate in Europe.
26 The DTD is calculated on daily data over the preceding year, which should be related to leverage at the start of the period.
27 See Blundell-Wignall and Roulet (2012). This process is often referred to as risk-weight optimisation.
Sophisticated banks under Basel II were allowed to model the riskiness of their own portfolios to calculate risk-weighted assets (RWA) to which the capital rules were applied. By reducing the ratio of RWA to total assets banks could minimise the capital required to conduct their activities and hence to expand leverage. Banks carried out this regulatory arbitrage or risk-weight optimisation by:

- biasing portfolio choices to assets carrying less capital requirements;
- valuing assets and their relative riskiness with their own models – no two banks having the same model system – and manipulating the outcomes;
- transforming the riskiness of assets and shifting their ownership with derivatives; and
- securitisation and the creation of special purpose vehicles (SPVs) to move products off their balance sheets.

The Basel rules also permitted banks to use broad concepts of capital to satisfy the numerator of the Tier 1 ratio (including subordinated debt, hybrids, etc), instead of (costly) pure equity, with each jurisdiction seemingly allowing different rules that best suited to the needs of their own banks.

At the same time, confidence to operate at high levels of leverage was fostered by the TBTF phenomenon. Large global banks, as noted earlier, were prime beneficiaries of official funding mobilized by the IMF for Latin America and Asia.

Figure 6.14: Global Bank Distance-to-Default, and Leverage

Source: BIS, Bloomberg, OECD.

28 The huge problems with the move to Basel II were at the heart of the problem. See Blundell-Wignall and Atkinson (2008), (2011), and (2012); and Blundell-Wignall Atkinson and Roulet (2012), and Blundell-Wignall and Roulet (2012).

29 See Chapters 7 and 11 of this volume for a discussion of regulatory arbitrage.
during the 1980s and 1990s. The fact that the lender-of-last resort is there to support bank liquidity, and that governments will act to bail out TBTF systemically important banks, gives creditors confidence that they are unlikely to lose any money\textsuperscript{30}. This enhances confidence to trade in high-risk activities: essentially facilitating the under-pricing of the risks being taken and raising the volume of business compared to what it would otherwise be.

Rising leverage, confidence that creditors would not lose money, and positive bank spreads, led to a surge in profitability. By 2006-2007, on the eve of the crisis, the weighted average DTD reached an unprecedented level in the range of 5-7 standard deviations above the default point. The aftermath of this unprecedented growth in interdependence was the global financial crisis: the weighted DTD fell towards zero, with many banks actually moving below the default level. Deleveraging on a massive scale has ensued – with deleterious effects of the real economy of most countries. Both of the above measures of leverage have returned towards their pre-crisis levels.

Table 6.1 illustrates just how damaging the role of derivatives was during the crisis. It shows the close-out (netted positions) of the bank counterparties to AIG, which were settled by cash payments from the US government. AIG was an insurance company part of whose business was to write CDS contracts for large GSIFI banks to enable them to transform the riskiness of assets and reduce their capital requirements under the Basel system\textsuperscript{31}. More than half of these net amounts were paid to European universal banks. The exposures of banks after netting and not covered by cash collateral to this one single counterparty AIG was as much as 37\% of the equity capital of Deutsche Bank, 77\% for Merrill Lynch (inherited by Bank of America), 29\% for Goldman Sachs, and so on\textsuperscript{32}.

The problem with interdependence caused by margin call exposures on the scale considered here is that the whole system is exposed: conglomerate banks have too little capital and there is a general shortage of collateral and appropriate rules for its management (including account segregation and re-hypothecation rules)\textsuperscript{33}. It is highly likely that the whole financial system would have collapsed had central bank lending and government support not been there. Even after all of regulatory changes in the move to Basel III, increased supervision and bank assurances of better models, Dexia, a large European conglomerate bank, failed as recently as

\begin{table}
\caption{Net CDS exposures of European universal banks to AIG (in the crisis netted by US Government payments).}
\begin{tabular}{lrr}
\hline
Bank & Exposure as \% of equity\footnotemark & Exposure as \% of total assets\footnotemark \\
\hline
Deutsche Bank & 37 & \\
Merrill Lynch & 77 & \\
Goldman Sachs & 29 & \\
\hline
\end{tabular}
\end{table}

\footnotetext{30} Losses incurred in the Lehman Brothers’ bankruptcy and in Greek debt restructuring may, in time, be seen as important positive steps in encouraging more prudent behavior in global financial markets.

\footnotetext{31} See Government Accounting Office (2009).

\footnotetext{32} These numbers make a mockery of the claim that universal banking is safe, and that derivatives don’t need to be separated from traditional banking. Deutsche Bank has claimed it received no official support – but this presumably excludes the injection from the US Treasury.

\footnotetext{33} Goldman Sachs has claimed that they were not at risk to AIG, as they had bought a CDS contract on the possible failure of AIG (The CFO, at the Stanford conference in July 2010). However, only other GSIFI banks on the list here could have credibly written such protection.
October 2011 due to the failure to meet margin calls of USD 25 billion. When it did so, it still had a Basel Tier 1 ratio of 7.4%, well above the old minimum of 4%.

The OECD, in an econometric panel study of the determinants of the DTD covering 94 global banks, has found that the 4 main factors for the DTD are

- a strong negative relationship with the simple leverage ratio (but no connection with the Basel Tier 1 ratio);
- a strong negative relationship of the DTD with derivatives – interdependence via counterparty risk;
- a negative relationship with wholesale funding;
- a positive relationship with available for sale trading securities.

It is for these reasons that the OECD has consistently been in the lead of those proposing a simplified rule to control leverage, and to separate traditional banking functions (such as deposit taking and lending) from derivatives and other investment banking functions, where the latter are above some maximum threshold.

### 6.4. Concluding Remarks

The global economy has evolved a long way from its post-war fragmentation as the European powers retreated from their empires and Europe split into opposing political blocks based on very different economic and financial systems. The
Bretton Woods agreement, the Marshall Plan, successive GATT rounds, the European Coal and Steel Community and the Treaty of Rome set the stage for the progressive, market-oriented, trade and financial integration of western Europe and what evolved as the OECD area during the past 50 years.

This process has been remarkably successful. The OECD area has enjoyed a high degree of widespread prosperity while concerns of the early post-war period that renewed major conflict in Europe was just a matter of time were not borne out. Its market-oriented trade and financial integration has proved to be an attractive force to other parts of the world that had opted for more autarchic development models and central planning. The result has been the process widely known as “globalization” as the OECD area has welcomed the extensive participation of emerging economies in its economic and financial activities, while the European Union has provided a framework for more profound integration of Eastern Europe economies following the collapse of central planning.

The process still has some way to go. At this stage the Asian Tigers (Korea; Chinese Taipei; Singapore; and Hong Kong, China) should be considered as internationally integrated developed economies. But Thailand, Malaysia, Mexico, Turkey and the BRICS are less advanced in this regard. Much of Eastern Europe has joined the EU, but these countries have varying degrees of “catching up” with their western partners in front of them, both in terms of living standards and in terms of institutional development. Notably in regard to the financial issues that have been the focus of this paper, most have yet to join the euro area. Remaining parts of Europe (mainly in former Yugoslavia and Albania) and the former Soviet Union, most of Africa and much of the Islamic world have lagged behind.

A major risk at this point in time is that more countries resort to capital controls and exchange rate policies in response to low interest rates and quantitative easing policies in the West; policies which inevitably affect exchange rates. Openness and integration may be perceived to have benefits more limited than thought hitherto, and trade competitiveness is one of the few degrees of freedom at present. Such backsliding towards reduced openness could become damaging to global trade and economic development more generally.

With regard to financial issues, there remains an outstanding agenda as the world struggles to recover from the recent financial crisis and to ensure that it is not repeated. The global financial system has become too dominated by a small number of excessively leveraged banks, mainly based in the EU and the United States, that are too large and inter-connected to be allowed to fail. There are also too many perverse incentives in the system. Developing these themes would be beyond the scope of this paper\textsuperscript{35}, but the main priorities can be summarized as follows:

\textsuperscript{35} For a more extensive discussion see Blundell-Wignall, Atkinson and Roulet (2012).
the current Basel framework should be scrapped in favor of something vastly simpler;

- banks should be required to have meaningful amounts of capital to: (i) absorb losses so that local shocks do not become systemic; (ii) ensure a significant weight in bank decision-making for principals, i.e. owners, who face the consequences of their decisions rather than hired agents who can leave problems to taxpayers; and (iii) ensure the trust of creditors and counterparties which is required for financial institutions to fund themselves. A leverage ratio requiring core tier 1 capital of 5% of assets measured on an IFRS basis would seem to be a minimum, although more might be desirable – especially for poorly-diversified banks;

- the implicit guarantee that encourages banks to become too-big-to-fail needs to be limited. Separation of certain securities businesses (and notably derivatives) from commercial banking, when they move beyond a certain threshold, with each set of activities being ring-fenced effectively to end cross-subsidization is a key element here. A Non-Operating Holding Company structure, which has much in common with (but is more general than) the Vickers proposal in the United Kingdom, is the most promising approach. Such policies raise the pricing of risk in these activities (which should not be guaranteed by the official sector). In this respect it needs to be noted that simply moving some derivatives to central clearing platforms (CCP’s) does not ‘destroy’ any excess risk – it simply moves it. The creation of CCPs increases the number of TBTF institutions, the competition between which may well underprice risk. Such firms will need capital like any other securities firm and will have to duplicate their margin and risk models;

- corporate governance of banks should be strengthened to encourage a more prudent balance between risk and search for return, notably by separating the roles of the CEO and Chairman of the Board and by ensuring that the CEO has no role in Board nominations.

Finally, as the discussion of China, Korea and other emerging countries suggests, integration of financial markets of emerging economies into the international system has lagged that of trade and production. As the shift of the center of gravity of the world economy towards Asia continues, greater participation of Asian institutions in the international financial system seems inevitable. Evolving regulatory reforms will have to accommodate this process so that Asian banks can play a constructive role in facilitating development and international adjustment, while avoiding the excesses of US and EU banks that were evident during the recent crisis.
REFERENCES


FELDSTEIN M., BACCHELLA, P., 1991, “National Saving and International Invest-
ment” in *National Saving and Economic Performance*, BERNHEIM and SHOVEN (Eds.), University of Chicago Press.


OECD, 2002, *Forty Years’ Experience with the OECD Codes of Liberalisation of Capital Movements.*


