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Building the Financial Foundations of the Euro

Experiences and Challenges

Edited by
Lars Jonung, Christoph Walkner and Max Watson

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Contents

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Preface

The growth and integration of financial markets is a central feature of today's international economy. As the euro area approaches its second decade, it is therefore timely to ask how changes in these markets have contributed to growth, adjustment and catching-up among present and prospective members of the euro area.

Experience in the past few years underscores that changes in the financial sector pose both opportunities and challenges for policy. So a key motive in reviewing recent trends is to distil policy lessons for the future, including for economies at an early stage of integration with the euro area. To shed light on these questions and promote discussion, this volume presents studies that explore different facets of financial market development and integration.

A common feature of the chapters in this volume is, by design, their focus on the economies that already belong to the euro area or are candidates to join it, and the contribution of financial markets in supporting ever-closer economic union in Europe. A second leitmotif is the challenges that cross-border integration presents for policy-makers, including in supervision and regulation. A recurring question is whether policy has kept pace with integration and is helping to realize its full potential.

The studies in this volume were originally presented at two conferences hosted by the Directorate-General for Economic and Financial Affairs of the European Commission (DG ECFIN) in Brussels. The first, 'Financial Stability and the Convergence Process in Europe', was held in October 2005, while the second, 'Adjustment under Monetary Unions: Financial Market Issues', took place in September 2006.

Contributions by discussants and by outside commentators greatly helped the authors in revising their contributions. At DG ECFIN, we would like to thank Klaus Regling, Director-General, Marco Buti, Deputy Director-General, and Jürgen Kröger, former Director of Economic Studies and Research, for their generous support for this project. We are also grateful to Michèle Devuyst and Bénédicte Herry for their secretarial support. We have benefited from the advice and views of Mary McCarthy and linguistic guidance from Sophie Bland.

Lars Jonung, Christoph Walkner and Max Watson
Brussels, February 2008

1 Introduction

Lars Jonung, Christoph Walkner and Max Watson

The introduction of the euro and the establishment of Economic and Monetary Union (EMU) have in a very short time changed the financial landscape of Europe. Major restrictions on financial flows across the borders of the Member States have been abolished, and exchange rate risks eliminated. The European Union, more broadly, is gradually being transformed into a single common financial market. This ongoing process is having far-reaching consequences. The financial transformation of Europe raises a number of issues concerning financial stability and fragility, financial supervision, risk sharing across capital markets, the transmission mechanism of monetary policy, and the character and speed of the adjustment process in the euro area – to name but a few.

The deep and far-reaching effects of financial integration in Europe have attracted increasing interest from researchers and policy-makers alike. The purpose of this volume is to make available some major contributions to this new field, as presented at the Annual Research Conferences of DG ECFIN in 2005 and 2006. Both these conferences dealt with financial aspects of the European integration process.

A major message emerging from the conferences and thus from this volume is that financial integration is a fundamental consequence of monetary unification as well as a necessary condition for making a monetary union work satisfactorily. In short, there is an important interaction between monetary and financial unification. They are closely related processes. In short, the euro causes financial integration and financial integration drives the euro project.

We consider this message in detail in the following account of the separate contributions.

In Chapter 2, 'Financial markets in the euro area: realizing the full benefits of integration', Klaus Regling and Max Watson present an overview of the issues considered in the volume. They explore the ways in which financial markets contributed to growth, adjustment and real convergence during the first decade of the euro, and ask how policy-makers can tap the full benefits that financial integration can bring. They emphasize the potential gains to be realized in terms of efficient adjustment to demand and supply shocks under monetary union, as well as the ways in which financial development and integration can support economic catching-up in present and future euro-area members.

Experience in the early years of the euro, they suggest, shows the financial sector playing a larger than expected role as a source and transmission channel of country-specific developments. This mainly occurred in connection with positive shocks in the form of lower risk premia, easier borrowing constraints and asset market booms – although economies did not always have policy frameworks in place to get the best out of these opportunities. Some of these developments – such as falling risk premia – reflected the initial gains of nominal convergence as the monetary union was created. But Regling and Watson consider that financial market influences on real activity will continue to be very important, and potentially benign, in the long run.

Particularly important under EMU is the continuing growth of cross-border risk sharing, since this 'insures' economies against country-specific shocks – thus helping to stabilize them, and indeed encouraging greater economic specialization. Catalysing stronger stabilization benefits through financial integration is especially valuable for euro-area economies, since other conventional cross-country stabilization mechanisms – such as labour mobility or fiscal transfers – play a less prominent role. The financial sector can also help to reallocate resources smoothly after shocks, and dampen the effect of localized credit crunches. More generally, an integrated and diversified financial sector can increase the resilience of the economy, provided policies – including financial supervision – are well designed and effective.

Several key messages for policy are seen to emerge from the early years of EMU. The first is the importance of making strides with fiscal consolidation during nominal convergence booms. Taking advantage of such booms to move strongly towards fiscal balance, or a modest surplus, has two benefits. It helps to moderate the course of country-specific booms (counterbalancing financial accelerator effects to some degree); and it also creates greater budgetary room for manoeuvre, which will be especially important if the country-specific boom is followed by a demanding adjustment period.

A second lesson from experience is the way financial channels have operated to support real convergence under EMU. Regling and Watson highlight work on this topic carried out by the Commission (and described in more detail later in this volume), pointing out that this is relevant also to future euro-area members.

A key finding is that economies undergoing real convergence stand to benefit greatly from the increased savings flows allowed by financial integration, but only if macro- and microeconomic policy frameworks are supportive. Given the speed with which financial integration is taking place, structural and institutional policy environments are particularly important in influencing patterns of resource allocation. Notably, there will be advantages if resources flow strongly to the traded goods sector, and other productive activities: this can underpin productivity growth, and may tend to moderate cycles in competitiveness and the current account. Strong productivity growth also eases any corrections in competitiveness, since it lessens the burden that has to be borne by nominal wage restraint. The public sector needs to support this process through good education and good investment. But in these and in other economies, vigilance is needed to make sure that the transitory revenue gains that occur during extended financial booms are not counted as permanent.

In sum, Regling and Watson note that financial integration can bring important gains in terms of growth, adjustment and convergence, including during economic catching-up. But this integration can also transmit adverse shocks more swiftly, or amplify policy errors. Thus financial markets bring opportunities that policy-makers may seize, rather than conferring automatic benefits. To foster growth and adjustment in the euro area, and to allow new members to share in its benefits, well-designed policies are crucial. These relate to fiscal policy, to the functioning of real sector markets, and to financial regulation and supervision. In all these domains, policy-makers need to internalize fully the opportunities and the challenges of deeper financial integration. EU policy frameworks, the authors emphasize, provide a benign setting to reap the benefits of such integration. And for economies already in EMU, the case for pressing forward in implementing those policies is all the more compelling.

In Chapter 3, 'Catch-up, the transition to full participation in EMU and financial stability', Iain Begg explores the challenges facing EU Member States in Eastern Europe as they navigate their approach to euro-area membership. He notes the impressive degree of real convergence they have already attained, but stresses that the remaining sizeable income gap vis-à-vis the EU average makes it especially important to ensure that policies for nominal convergence do not create serious tensions for a continued process of sustainable catching-up. A major change in monetary regime, he recalls, will have profound effects on the real economy and could imperil financial stability.

Begg focuses on three issues. First, there is the question whether the policy regimes required for euro adoption could constrain development – for example by limiting needed investment in public infrastructure. Second, policy-makers need to evaluate the implications of their pace of transition towards the euro in terms of the depth of shake-ups still required in the real economy. Third, while sound fiscal and monetary regimes should favour financial stability, the impact of changing patterns of capital inflows remains less clear. These issues are portrayed as a J-curve, featuring some potential upfront costs of pressing on to euro adoption, but major benefits down the line in terms of trade and stability benefits.

Begg considers that these factors may stack up differently in light of the varying economic characteristics of the eastern Member States. For small, open economies such as the Baltic States, he considers that the balance of advantage will tend to favour entering Stage III of EMU as quickly as possible. While their starting point in transition was inauspicious, they subsequently adopted regimes that have already transformed their macroeconomic policy performance and shaken up the supply side of the economy successfully. He sees analogies here with Ireland's very successful experience with real convergence and euro adoption.

Poland would be at the other end of the spectrum in terms of factors influencing the timing of euro adoption. It still faces significant challenges in tackling unemployment and handling further deep transformations in an economy still quite heavily based on rural activity. And like the Czech Republic, Poland has demonstrated its ability to manage a national currency successfully under inflation targeting. There is some analogy, Begg suggests, with the case of Spain. The experience of Spain, nonetheless, shows that the path to euro-area membership can be covered successfully in a much shorter time than observers had considered feasible, if current policies are right.

In conclusion, Begg evaluates the financial stability dimension of these challenges. Notwithstanding a degree of fiscal deterioration in some cases, he sees the core risk as lying in capital inflows, including sizeable EU cohesion transfers. The most obvious risk is vulnerability to a reversal of the more mobile forms of capital flows, and in this regard the switch from inflation targeting to ERM II will require careful handling. A further risk lies in asset bubbles or securities market disturbances. Payment systems and financial supervision will be particularly important, including effective relationships between supervisors and central banks in monitoring financial stability.

Amid the manifold and complex consequences of participating in a monetary union, Gabriel Fagan and Vítor Gaspar focus in Chapter 4, 'Adjusting to the euro', on the catalytic function of the financial dimension. Two main rationales underlie the key role of financial forces in shaping countries adopting the euro. First, compared with other economic aspects from euro-area participation, nominal interest rate convergence and financial integration are easy to document on the basis of available statistical information as both happened relatively fast.

Second, the available evidence indicates that the effects are large and significant. The authors argue that, for countries like Greece, Spain, Ireland, Italy and Portugal (hereafter referred to as 'converging countries'), one important aspect of the process of adjustment to participation in the euro area was associated with the convergence of high short- and long-term domestic interest rates to the relatively low levels prevailing in Germany. From the viewpoint of these countries, participation in the euro area entailed easier access to international financial markets, a fall in the risk premium combined with financial liberalization and financial integration.

Fagan and Gaspar first document stylized facts regarding the macroeconomic effects of interest rate convergence on the converging countries. Second, they examine the ability of simple macroeconomic models to explain the observed patterns of adjustment. Several stylized facts are highlighted. The convergence in interest rates has been associated with a sharp increase in household expenditures and a pronounced increase in household debt ratios in the converging countries. However, the expansion in expenditure does not seem to have been associated with noticeable effects on output or with sizeable effects on private sector productive investment. Instead, it has been allied with deterioration in the current account deficit and with the accumulation of sizeable negative net foreign asset positions. At the same time, the converging countries recorded inflation differentials which, under exchange rate stability followed by the adoption of the euro, implied significant real appreciation and loss of competitiveness, according to standard indicators.

Fagan and Gaspar develop an approach that relies on a model endowment economy set-up, with traded and non-traded goods, to discuss the real exchange rate implications of changing the geographical patterns of world expenditure. Their setting allows the effects on the real exchange rate of changing expenditures patterns over time to be studied. Their model is able to account qualitatively for all the stylized facts reported above. However, with standard time-separable preferences, expenditure increases on impact and, immediately thereafter, its growth rate declines below the baseline. Moreover, the steady-state effects on the net foreign asset position seem implausibly large.

Chapter 4 shows that the introduction of external habit formation makes the model used more 'realistic'. The initial build-up in expenditure is more gradual and the size of effects on the steady state is much diminished. The conclusion is therefore that the model they adopt of a small, open, endowment economy, with habit formation and traded and non-traded goods, goes a long way towards explaining the adjustment process of the converging countries to the euro.

In Chapter 5, 'Booms and busts: experiences with internal and external adjustment', Reiner Martin and Ludger Schuknecht assess the implications of differing exchange rate strategies during financial cycles in industrialized and emerging market economies over the past twenty years. They make a key distinction between countries that made the external adjustment through a major change in the nominal exchange rate and those that adjusted mainly by re-orienting the economy without devaluation. In performing this analysis, the chapter focuses on real and financial sector transmission channels for shocks during a crisis, including the role of balance sheet risks. It is concerned with identifying empirical regularities rather than causality in these two cases.

Martin and Schuknecht examine a number of flow and stock variables that characterize the interaction between various transmission channels that contribute to boom–bust and crisis phenomena. Their findings confirm that real and financial channels interact in such episodes: indeed a cycle of deterioration and subsequent repair in sector balance sheets is an important driving force of the boom–bust cycle.

Martin and Schuknecht find somewhat similar patterns in industrialized and emerging market economies, while acknowledging that the latter may be more vulnerable to systemic risks and capital flow reversals. These common patterns feature a significant difference in the downturn and recovery path of countries depending on whether they used the real exchange rate as a main element in their adjustment strategy. Those cases that they term 'external adjusters' tended to experience more pronounced booms: greater overheating of demand, loss of competitiveness and private and public sector balance sheet vulnerabilities. The external adjusters' imbalances were initially more severe, causing steeper downturns, but their recoveries were also more rapid.

It is noted that some of the Member States that joined the EU in 2004 display either the early or the more advanced stages of a boom–bust cycle. However, data are less reliable in these countries than in the other industrialized economies, so such indications are tentative and at most can serve as a warning sign of potential challenges ahead.

Martin and Schuknecht note that their findings confirm many 'orthodox' messages about sectoral and systemic risks. These include the advantages of adopting preventive strategies, which can help avoid countries finding themselves experiencing the more acute crisis features of the external adjusters. Prudent monetary and wage policies may help moderate the scale of boom–bust cycles. Several lessons also emerge about the contribution of fiscal performance. In particular, fiscal policies should avoid stoking a boom, and here sound headline figures may be misleading due to transient revenue gains during a boom. Low initial public debt can also help by giving scope to socialize the costs and losses of a crisis.

The Maastricht criteria are noted to be well chosen from this angle of crisis analysis: they provide a significant amount of information about the sustainability of economic developments. However, experience across countries during boom–bust cycles also underscores the importance of monitoring balance sheet developments in the private sector, since these may play a major role over time in influencing economic outcomes.

In Chapter 6 'Financial stability in emerging Europe', Piroska M. Nagy and Richard Fox set out to apply an approach they had developed at Fitch Ratings to assess financial stability for the economies of Eastern Europe. This marries concepts of macro-prudential vulnerability developed by Claudio Borio and co-authors at the Bank for International Settlements (BIS) with banking sector systemic risks as captured by ratings of systemically important banks.

There are thus two strands to the analysis. The first is macro-prudential, and is based on a methodology to identify where excessive optimism about earnings and asset prices, compounded by strong capital inflows, may lead banks to underestimate risk over time. This builds on insights in the BIS literature, highlighting strong, simultaneous departures from trend in credit as well as asset prices and/or the real exchange rate. These developments are seen as potential forerunners of financial crises, to the extent the latter arise from procyclicality in the financial sector. The second strand in the authors' analysis is a conventional approach to assessing bank robustness. It is based on Fitch Ratings' assessment of banks, supplemented with an analysis that factors in common weaknesses across the banking sector. An insight is that stronger banking systems can better withstand macro-prudential shocks than weak ones.

Applying this methodology to advanced and emerging market economies, Nagy and Fox develop a matrix to categorize them along dimensions of macro-prudential risk and banking system strength. In the EU, only Luxembourg receives the highest score on both counts, but most 'EU-15' Member States are quite close to this ranking. Estonia is the only eastern Member State (or former transition economy) to rank alongside most EU-15 Member States. By contrast, Hungary receives a weaker ranking, due notably to macro-prudential risk and indirect foreign currency exposure in the banking system. In south-eastern Europe, Serbia is particularly weak, due to concerns about banking system robustness. Other economies that joined the EU in 2004 receive intermediate rankings, with weaknesses most frequently apparent in the field of banking robustness, at least when the assessment was made.

Nagy and Fox conclude that there are systemic risks building up in these latter economies, but they remain manageable for the time being. A particular concern is that those with weak banking systems could be vulnerable to even a small degree of macroeconomic stress: this, they see as a worry in south-eastern Europe and the CIS (Commonwealth of Independent States). Once the foreign ownership of banking systems is factored in, the risks of a classical banking crisis appear much lower. However, a 'growth crisis' cannot be ruled out, particularly where (as in some central European cases) fiscal positions are weak.

The policy recommendations of the authors for the eastern Member States are to strengthen fiscal positions and toughen prudential standards. On the prudential front, they emphasize risk management in areas such as indirect foreign currency exposure, recommending tools such as loan-to-value limits; marginal reserve requirements; and provisioning systems that build up levels of protection during periods of expansion.

In Chapter 7, 'Adjustment in EMU: a model-based analysis of country experiences', Sven Langedijk and Werner Roeger analyse adjustment dynamics in the euro area, using a dynamic stochastic general equilibrium (DSGE) model. This modelling approach is at present turning into a standard tool of macroeconomics. They start from the fact that, since the introduction of the euro, economic developments in the euro area have differed markedly amongst Member States. In particular, growth and inflation differences have been persistent thus affecting competitiveness and monetary conditions in the Member States. Another remarkable development in the early years of EMU is the emergence of substantial and persistent current account imbalances. To be sure, sustained differences in growth performance existed before the creation of monetary union.

Langedijk and Roeger identify some stylized macroeconomic facts in a sample of six euro-area countries that have experienced significant deviations of key macroeconomic variables from euro-area aggregates. These facts are then used to identify various shocks exogenous to their model, including entry-level shocks such as the convergence of exchange rate risk premia, the misalignment of entry parities and the further integration of financial markets, and 'steady-state' shocks such as debt ceilings, the growth rate of the population (especially growth in the household formation age groups), productivity growth, shifts in the structural employment rate, and shifts in preferences from tradables to non-tradables (services, housing). On the basis of the identified shocks, a number of simulations are carried out, providing insights into adjustment dynamics in the euro area.

The model simulations provide a fairly good match with actual growth and inflation performance of the euro-area economies. The main finding is that the diverging growth and inflation developments and current account shifts can largely be attributed to one-off adjustment to EMU (initial parities and exchange risk premium convergence) which broadly seems to have run its course. The absence of an exchange risk premium in EMU allows an increase in capital mobility resulting in a lower correlation between savings and investment. The model simulations show a persistent effect on the current account, which largely operates through a wealth effect. Differences in investment growth are the main cause behind growth differences after the establishment of EMU. Due to its non-tradable character, housing investment is the most responsive component of investment growth to changes in interest rates (risk premia).

In a number of countries some structural divergences are observed as well, related to total factor productivity and labour market developments. Due to differing factor productivity growth across countries, the link between inflation and competitiveness is not always strong. For example, high total factor productivity growth in the tradable sector in Ireland allows high inflation without deteriorating competitiveness. While the model matches the more short-lived (up to three years) divergences from the euro-area average rather easily with the standard entry-related shocks, some difficulties are observed in matching longer-term divergences. After the one-off adjustments in the wake of euro adoption, therefore, economic developments can be expected to be more symmetrical, mainly adjusting to a possible continuation of the series of consecutive supply shocks.

The model gives a somewhat benign picture of the adjustment process in the euro area, though the authors suggest that caution is warranted. A somewhat less rosy picture is possible if housing plays a larger role leading to endogenous build-up of excess demand, especially through wealth effects.

The central role of the housing market for adjustment inside the euro area is highlighted by Peter Hoeller and David Rae in Chapter 8 on 'Housing markets and adjustment in monetary union'. While they focus on adjustment mechanisms that limit or increase cyclical divergence in the first part of their chapter, the central part concerns the transmission of monetary policy via the housing market, which can be a source of resilience as well as a factor leading to prolonged divergence.

The authors argue that the main cost of joining a monetary union like the euro area lies in the implied loss of the instruments allowing for a sovereign setting of interest and exchange rates, making it potentially more difficult to adjust swiftly to shocks. Challenges depend on the frequency and nature of shocks hitting individual countries: the price or output response must be highest in the case of asymmetric economic shocks, which require substantially disparate monetary conditions within the euro area. In the case of symmetric shocks, by contrast, the loss of monetary autonomy is of lesser concern.

Even assuming symmetric shocks, however, a differing transmission mechanism among member countries would yield diverse outcomes in spite of uniform policy responses. Initial shocks might then perpetuate initially small inflation differentials over a significant period of time, eventually leading to heavy competitiveness losses and painful adjustment. This, in turn, could result in a prolonged period of sluggish economic performance reducing potential output growth due to low investment, loss of skills and labour market withdrawal.

Labour, product and financial market policies may play a significant role in hindering a rapid adjustment, and the commitments under the Stability and Growth Pact may limit the leeway for fiscal action to smooth the cycle. The authors discuss both the competitiveness and the interest rate channel by providing a model-based assessment as well as by looking at empirical developments within the euro area.

The central role of the housing market for the monetary transmission mechanism is highlighted in the second part of Chapter 8. Housing markets are important in the transmission of monetary policy and a high interest sensitivity is beneficial as it implies that monetary policy is more powerful in boosting or damping cyclical fluctuations overall in the euro area. However, the characteristics of housing and mortgage markets still differ widely across the euro area, leading to asymmetric behaviour of individual countries.

Hoeller and Rae highlight first the housing market's role in providing resilience in the face of an economic shock and offer then a detailed discussion on housing and mortgage market characteristics, and estimates for the marginal propensities to consume out of financial and housing wealth for differing countries. They discuss the economic implications of the existence of a complete mortgage market, focusing on the variety of mortgage products, as well as on the effects of specific regulatory frameworks for housing finance – ranging from tax incentives to land-use regulations and supervisory issues. Additional issues are explored in boxes, such as past empirical evidence for soft landings following the bursting of a housing bubble, and the advisability of a central bank response to house price booms.

When concluding, the authors stress that policy should neither hinder adjustment, nor exacerbate the cycle.

The chapter by Hoeller and Rae provides an important contribution to the assessment of the current state of housing markets worldwide and cautiously warns of slowdown or recession. Equally significant, by stressing the diversity of housing markets, this chapter sheds light on one of the most central transmission mechanisms within the euro area and allows therefore for a more profound understanding of the current forces dominating intra-euro-area adjustment.

In the literature on monetary unions, the proper policy response to asymmetric shocks plays an important role. Countries subject to severe asymmetric shocks are less likely to be candidates for a monetary union. Likewise, monetary policy-makers within a monetary union are faced with a delicate dilemma if the monetary union is subject to asymmetric shocks. To what extent are such shocks a challenge for monetary unification? How would a less than fully financially integrated monetary union respond to symmetric as well as asymmetric shocks? One way to answer these questions is to study the record of monetary unions other than the euro area, as John Landon-Lane and Hugh Rockoff do in Chapter 9, 'Regional interest rates within a monetary union: lessons from the United States'.

The authors look at the monetary and financial history of the United States from 1880 until today to arrive at some answers to the questions raised above and draw lessons for the euro area. They examine whether asymmetric shocks have constituted a challenge in the US monetary union, whether the problem of asymmetric shocks has changed over time, becoming more or less severe, and how US policy-makers have solved the challenge of asymmetric shocks.

The approach used in Chapter 9 is based on a number of steps. Landon-Lane and Rockoff make a distinction between three phases in the history of the US monetary union: first the period 1880–1913, when the United States did not yet have a central bank; second, the period 1914–43, the first years of the Federal Reserve system; and, third, the post-World War II era, when the federal funds rate emerged as the major instrument for monetary policy. The United States is split into four regions, the Northeast, the Plains, the South and the West.

Econometric and historical methods are used to identify various types of shocks. By shocks, the authors mean independent events that have shifted the supply or demand for funds and thus moved the interest rate and eventually impacted on the aggregate economy via the interest rate channel. They present a full account of all major shocks hitting the US economy, which shows that their econometric method is well designed to identify shocks.

The main result is that the US economy has been hit by a number of symmetric shocks impacting on the entire economy as well as asymmetric shocks impacting on only one region over the periods studied. Asymmetric regional shocks have been met in various ways, sometimes with measures designed specifically to have a regional effect, and sometimes being ignored by policy-makers.

In addition, the authors conclude that the problem of asymmetric shocks has diminished over time in the US monetary union. They explain this decline by the fact that the central bank – the Federal Reserve – gradually obtained control over regional interest rates, implying that the US currency union eventually evolved into a fully fledged financial union. They believe there is a lesson here for Europe: the faster European financial markets become integrated, the easier the task for the European Central Bank (ECB) will be as the problem of regional shocks will become less severe with financial integration.

Comparisons between the United States monetary union, the dollar area, and the European monetary union, the euro area, represent a fruitful way to evaluate European developments as illustrated by both Chapter 9 and Chapter 10, 'Where does capital flow? A comparison of US States and EU countries 1950–2000', authored by Sebnem Kalemli-Ozcan, Bent E. Sørensen and Belgi Turan. They study capital flows between states in the United States and between EU countries during the period 1950–2000 using an econometric approach.

They start from the question: where will capital flow? Different models give different answers. The standard reply based on simple neoclassical models is that capital shall move from rich regions or countries, which are capital-abundant, to poor regions and countries, which are labour-abundant and where the marginal product of capital is relatively high. This result, the 'downhill' pattern, assumes fully or near-fully integrated capital markets with no barriers to the flow of capital. However, a lack of good institutions such as lack of clear property rights may cause capital to flow the other way, 'uphill', that is from poor to rich countries.

Kalemli-Ozcan, Sørensen and Turan first examine the pattern of capital flows within the United States. They demonstrate that capital moved from rich northern states to southern states for about twenty years, during the 1950s and 1960s. They argue that this was part of a process of 'catch-up growth', resulting in income and output levels converging between the north and the south. This process eventually came to an end. Today, capital flows to states that are experiencing positive productivity shocks, commonly rich states. 'Catch-up growth' is thus a matter of history.

Next, the authors turn to the European integration process to examine where Europe stands relative to the United States, by comparing individual EU states with US states. Their econometric results suggest that EU is still in the 'catch-up growth phase', where the United States was in the 1950s and 1960s, with capital flowing from rich to poor states or regions. Capital is flowing to countries like Greece, Portugal and the new EU Member States, just as it did to Texas, Louisiana, Mississippi and Alabama in the decades after World War II. In their view, the catch-up process in Europe may be longer lasting than in the United States because financial market integration has not been completed in Europe, unlike in the US. Government regulations and institutions within the EU are still not fully geared towards complete capital market integration.

In the future, after the catch-up process and full financial market integration, Europe is likely to move to the phase where capital flows to regions and countries that experience positive growth and productivity shocks – such regions often have higher output than regions with low growth.

The phenomenon of international risk sharing has attracted considerable interest from researchers in recent years. The European integration process has served as an important source of inspiration as the rise of financial integration across borders in the European Union has fostered risk sharing and consumption smoothing. Deeper and more closely connected capital markets in the EU thus allow individuals to separate production and consumption decisions, in this way providing an insurance mechanism in the face of asymmetric shocks.

Starting from the fact that conventional consumption-based measures of risk sharing so far have had a hard time picking up the increase in international risk sharing, Michael J. Artis and Mathias Hoffmann, in Chapter 11, 'Declining home bias and the increase in international risk sharing: lessons from European integration', build on a novel approach to demonstrate that international consumption risk sharing has indeed increased. Their approach uses the information implicit in the levels of relative consumption and output. Their focus on relative levels – rather than on first differences of the data as in virtually all of the earlier literature – allows them to document longer-term trends in consumption risk sharing that earlier specifications have not been able to pick up.

Artis and Hoffmann claim that the increase in international risk sharing is economically significant. If regional evidence from a well-integrated economy such as the United States is taken as the benchmark, they conclude that international risk sharing has increased by between a third and half within a single decade in the EU. They also offer additional important results. First, they analyse the increase in international risk sharing with special reference to the experience of current EMU member countries. Second, they provide a detailed analysis of the channels through which improvements in international consumption risk sharing have come about, confirming that consumption risk sharing has improved equally in all industrialized countries. The level of consumption risk sharing reached among EU countries is higher and – possibly most interestingly – recent improvements have occurred through different channels. Among EU countries international capital income flows have become more important as a way to shield consumption from fluctuations in relative outputs, whereas in their entire panel of twenty-three industrialized countries, the ex post accumulation and decumulation of foreign assets remains the main channel of international risk sharing.

These findings are robust after controlling for other determinants of international risk sharing, in particular for the characteristics of the asset portfolios of the countries in their sample. They corroborate the finding that countries with lower home bias achieve more risk sharing, low risk sharing and portfolio home bias being twin puzzles separated at birth. They add to this the finding that countries with higher equity shares in their international portfolios share a larger portion of risk through capital income flows.

Artis and Hoffmann's results suggest that by the end of their sample period the possibly most important difference between EU Member States and other industrialized countries is that, in the late 1990s, capital income flows had taken over as the main driver of improvements in intra-European risk sharing. By the end of their sample, one-third of the risk sharing achieved through international financial markets was achieved through capital income flows. Outside Europe, this channel still plays virtually no role in risk sharing. While the sheer growth in intra-European risk sharing since the 1990s is already impressive, the patterns that emerge increasingly resemble those observed within national boundaries. EMU membership may make a difference not only to how much risk a country shares, but increasingly also to how it shares it. While it is too early to evaluate these trends conclusively, Artis and Hoffmann discuss the possibility that the creation of the euro in itself, and the associated elimination of exchange rate variability, is responsible for the emergence of their findings concerning increased risk sharing.

The economies of the Member States of the European Union are at present involved in a far-reaching integration process that is likely to impact on financial stability. In Chapter 12, 'Economic integration and financial stability: a European perspective', Gianni De Nicolò and Alexander Tieman explore the relationship between financial stability and the ongoing integration of Europe.

They note that increased real activity synchronization and financial integration can have both positive and negative consequences for financial stability. Integration of both the real economy and the financial system has differing effects. Increased synchronization of real activity may diminish the returns from cross-country diversification if the effects of shocks to a relevant set of economies become more similar, reducing the opportunities for diversifiable risks. On the other hand, financial integration may increase the returns to diversification by expanding financial markets and thus investment opportunities. In addition, stronger connections between intermediaries in different parts of the European Union may heighten the risk of them being subject to contagion in case of financial distress.

De Nicolò and Tieman set out to assess the existence and the potential magnitude of these countervailing effects. In their opinion, this knowledge is important for the monitoring of financial stability. If it emerges that increased synchronization of real activity and financial integration would result in a heightened potential for systemic risk in the financial system, then supervisors should place more emphasis on the monitoring of the systemic risk potential among institutions.

In order to determine the actual effects on changing financial intermediary risk due to increased real and financial integration, the authors first examine if and to what extent the synchronization of real activity and financial integration has actually progressed in Europe by applying a set of econometric tests. Second, they construct measures for the integration process that can be related to the risks that the financial system is exposed to. Their approach allows them to gauge whether the risk profiles of financial institutions taken as a whole as well as on a country-by-country basis have become more sensitive to estimates of a common component in real activity, and whether a proxy of financial integration has had any dynamic impact.

De Nicolò and Tieman find increased real activity synchronization since the early 1980s, increased financial integration and no evidence of a fall of risk profiles of banks and insurance companies in Europe. The data suggest also increased equity market integration starting in the early 1990s. Real and financial convergence has not improved the risk profiles of the financial system. While synchronization of real activity may have reduced the diversification benefits of cross-country investments, increases in financial integration are associated with a decline in financial institutions' risk profiles. The authors conclude that as the integration process may not necessarily lead to improved financial stability, enhanced monitoring of the interdependencies among financial institutions seems to be an important task for European supervisors as integration continues.

Growing financial integration within the EU raises a number of issues such as the degree to which commercial banks across the EU are subject to the same kind of shocks. This issue is addressed by Andrea Brasili and Giuseppe Vulpes in Chapter 13, 'Banking integration and co-movements in EU banks' fragility'. Co-movements in bank risks derive from the exposure to common shocks – relating to either macroeconomic shocks or common exposures to industries, countries, individual counterparts and interbank linkages. Using a sample of almost 100 small, medium-sized and large banks, Brasili and Vulpes analyse co-movements in the fragility of EU-15 banks and explore to what extent such movements have increased since the start of EMU.

Using a dynamic factor model, the authors provide a measure of co-movements in bank risk. Brasili and Vulpes construct a bank fragility indicator, which is decomposed into three components: an EU-wide factor, a country-specific component and a bank-level idiosyncratic element. In addition, they measure the influence of common macroeconomic shocks on their fragility indicator at the EU and the country level. The authors are also able to distinguish between short-term, cyclical and long-term co-movements in bank fragility.

There are reasons to believe that common shocks affecting EU banks have increased recently. First, European economies have become more integrated via trade linkages and via a common monetary policy for those Member States having adopted the euro. Second, bank inter-linkages in the euro area have significantly increased, stemming from direct cross-border interbank exposures, but also from indirect exposures, such as syndicated loans for large firms, derivatives and loan securitizations.

The econometric results by Brasili and Vulpes indicate that co-movements in bank fragility are significant at the EU-wide level and that the commonality of bank risk has increased since 1999. Around 42 per cent of the variance in bank risk is due to EU-wide shocks. The EU component is much larger for bigger banks, explaining in a number of cases more than 80 per cent of the observed variance in bank risk. Larger banks also act as an important transmission channel for shocks. Overall, the strong co-movements among larger EU banks indicate a two-tier system of banking integration, whereas smaller and medium-sized banks remain predominantly anchored in their national environments. Finally, the dynamics of EU banks' fragility is accounted for to a larger extent by banking sector specific factors than by macroeconomic shocks.

Growing bank integration as documented by Brasili and Vulpes provides a clear indication of a need for macro-prudential surveillance at the EU level. These findings also provide some guidance as to the way supervisory competences should be split between national and EU-wide authorities: the still large weight of idiosyncratic components found in the analysis suggests that banking supervision at national level remains important, but its scope should be limited to small and medium-sized banks. In contrast, a case can be made that the supervision of large banks should be subject to greater cooperation among EU supervisory authorities.

Chapter 14, 'Challenges to banking stability in the EU: a survey', by Christoph Walkner highlights the financial stability impact of EU banking integration. In economies where banks do not cross borders, the fate of the domestic economy is closely tied to that of its banks as an economic downturn affecting non-financial companies would also impinge on the profitability and stability of the country's banking sector. Foreign bank entry can have different consequences for financial stability, to the extent that foreign bank subsidiaries (or branches) may behave not as completely autonomous businesses but as part of a larger bank holding company. Another impact on stability derives from increased competition, which promotes efficiency but might lead to reduced profitability of domestically owned banks, rendering weaker banks more vulnerable to stress.

After surveying the literature on macro-financial stability, Walkner examines the progress to date of cross-border banking integration in the EU. He demonstrates contrasting developments within the pre-enlargement EU-15 and the recently acceded EU-10. Cross-border banking linkages are relatively uncommon among the EU-15, when compared to linkages between the EU-15 and EU-10, suggesting that integration in the EU banking sector has progressed further outside the EU regulatory framework than within.

Exploring this paradox, Walkner examines the more typical avenues for banking integration within the EU, namely organic growth through greenfield investments, cross-border mergers and acquisitions, and cross-border provision of banking services. He identifies various barriers relating to national considerations as well as legal and institutional factors. In turn, the factors responsible for the high level of foreign ownership in the banking sector of the EU-10 are considered.

The chapter concludes by examining the EU supervisory framework, which has been regarded until recently as a convenient means to facilitate market entry without the need for a major change in Member State arrangements. Walkner notes this is now subject to debate, and explores a number of proposals for improving EU supervisory arrangements by looking at macroeconomic stability risks deriving from cross-border banking integration in the EU.

While financial integration is progressing within the EU, regulatory structures are still largely nationally rooted, implying possibly suboptimal outcomes in terms of financial institutions' cost-efficiency, competition and financial stability. This topical issue is explored by Dirk Schoenmaker and Sander Oosterloo in Chapter 15, 'Financial supervision in Europe: a proposal for a new architecture'.

The authors start from a presumed trilemma in financial supervision, whereby a stable financial system and an integrated financial market would not fit together with national-based supervisory structures. They highlight two industry trends: first, increasing cross-border penetration and, second, the centralization of important business functions. While the vast majority of the EU credit institutions remain nationally oriented, pan-European banks are emerging with a sizeable cross-border presence. Indeed, the fourteen largest of those cross-border groups already account for almost one-third of total EU banking assets. The extent of cross-border penetration is especially large in the new Member States (those which joined the EU in 2004 or thereafter). The observed trend of increasing cross-border penetration is robust and confirmed by using several methodological approaches.

As for the second industry trend, the authors show that banks are increasingly starting to centralize important business functions. As a result, the organizational structure of international financial firms is moving from the traditional country model to a business line model with integration of key management functions. The growing integration and centralization of management functions, such as risk management, internal controls, treasury operations (including liquidity management and funding), compliance and auditing, greatly affect the scope of control for supervisory authorities.

Starting from these trends, Schoenmaker and Oosterloo ask if the current supervisory settings are sufficient to sustain financial stability. They note that in the current system a financial institution is authorized and supervised by its home country. Given the centralization of important business functions at the headquarters as well as the increasing cross-border penetration of banking groups, the scope of control of the home country authorities is expanding. However, home authorities are not responsible for financial stability in host countries, which remains the remit of the host country. Increasing banking integration therefore gives rise to cross-border spill-over effects or externalities as a home country supervisor might have suboptimal incentives for overseeing – for example – an external branch of a domestic bank which is small overall from the home country perspective, but large from the host country perspective. While the cost of supervising such a bank would rest with the home country, the benefits would mainly accrue to the host country.

In response to this newly emerging European financial landscape, Schoenmaker and Oosterloo present three policy options. These choices range from (1) keeping the status quo, but enhancing the cooperation between home and host authorities for both financial supervision and stability; (2) switching to a lead supervisory structure where the home authority would not only supervise the mother bank and its branches but also the bank's subsidiaries – though without becoming responsible for financial stability in the host country; to (3) a novel supervisory structure, combining features of home country supervision for locally focused banks from the present setting with a European structure for cross-border oriented banks. This option would also push crisis management up towards a European level, although the home country would still take a leading role.

Coming out in favour of the third option, the authors propose a European Financial Authority working in tandem with the national financial supervisors. Key elements would be decentralized day-to-day supervision close to financial institutions and centralized policy-making to foster a uniform execution of the supervisory function. The newly created system would be accountable to the European Parliament and the EU finance ministers meeting as the ECOFIN Council. Although fairly comprehensive, the proposal leaves the thorny issue of fiscal burden sharing open, i.e. which countries should bear the cost of a possible bail-out of a financial institution?

With the rise of cross-border banking conducted through foreign-owned banking offices in the EU, regulatory issues concerning these institutions in case of financial distress have attracted considerable interest in recent years. In Chapter 16, 'Cross-border banking: challenges for deposit insurance and financial stability in the European Union', Robert A. Eisenbeis and George G. Kaufman contribute to the discussion. They focus on developments within the European Union that may create financial stability problems like reliance upon the home country as the primary provider of deposit insurance and inadequate bankruptcy and closure policies.

Eisenbeis and Kaufman describe first the EU cross-border banking regulatory structure and discuss the agency problems that may arise in the supervision and regulation of cross-border banking institutions in the EU. After focusing on the problems of providing deposit insurance for institutions operating in such an environment and looking at issues concerning the payout from deposit insurance plans and resolving large bank failures, the authors proceed to suggest a four part solution designed to mitigate the negative externalities associated with banking failures.

Banks become insolvent when the market value of their assets falls below the value of their deposits and other debt funding. Claimants may experience both credit and liquidity losses in the resolution process. Credit losses occur when the recovery value of the bank as a whole or in parts falls short of the par value of its deposits or other debt on the respective due dates.

Liquidity losses may occur for two reasons. First, depositors and other claimants may not have immediate and full access to the par value of their insured claims or to the estimated recovery value of their *de jure* uninsured claims. In the case of insured deposits, the insurer must have both the legal ability and funding to provide eligible depositors with immediate and full access to their funds. In the case of uninsured claims, liquidity can be provided through advance payments based on the estimated recovery value of the assets in receivership. Second, qualified borrowers may not be able to utilize their existing credit lines immediately.

The authors' proposal is based on four rules or principles, each of them stressing the importance of prompt action: (1) prompt legal closure when the bank's equity capital declines to some pre-specified and well-publicized positive minimum greater than zero (legal closure rule); (2) prompt estimate of the recovery values and assignment of credit losses ('haircuts') to *de jure* uninsured bank claimants when equity is negative to avoid protecting *de jure* uninsured claimants; (3) prompt reopening (preferably the next workday) of failed bank through sale or creation of a temporary bridge bank with full depositor access to their accounts on their due dates at their insured or estimated recovery values and full performing borrower access to their pre-established credit lines; and (4) prompt re-privatization of new bank with adequate capital.

Eisenbeis and Kaufman argue that the adoption of the above four principles and the necessary infrastructure to make them work would minimize most of the agency problems, negative externalities, insurance fund losses, and coordination problems associated with the current cross-border banking development within the EU and elsewhere.

In the final chapter, 'The search for the elusive twin goals of monetary and financial stability', Claudio Borio explores challenges for monetary and supervisory authorities in a world where the major challenge of the great inflation of the post-war era has been eliminated. The main focus of his chapter is on the possibility that the 'elasticity' or 'pro-cyclicality' of economies may have increased, making financial crises possibly more likely. The author suggests that this requires adjustments in current policy regimes.

The reasons for a change in the financial dynamics of the economy are seen to lie in two underlying developments. First, financial liberalization may have made it more likely that financial factors act as drivers of economic fluctuations, including through boom–bust cycles in credit and asset prices. Second, monetary regimes featuring high central bank credibility and firm control over retail price inflation may have made it more likely that emerging imbalances will appear first in asset prices and only later in the prices of goods and services. Together, these factors can cause greater pro-cyclicality in the financial system and amplify fluctuations in the real economy.

Important steps were taken after the Asian crisis to address financial sector risks, Borio notes, notably measures to strengthen national financial systems, based on international standards and codes. Less has been done to probe financial dynamics and liquidity risks. There is a need to address this 'missing pillar' of the international financial architecture. To achieve this, the philosophy and operating procedures of prudential and monetary authorities would need to better capture the failure of private sector agents to measure the time dimension of risk, and especially of systemic risk.

To meet these concerns, Borio advocates closer cooperation between prudential and monetary authorities. This involves more than an exchange of information. It would require a shift in the approach of both sets of agencies. On the prudential side, there would be greater attention to risk in the financial system, as opposed to individual institutions. On the monetary side, it would involve greater concern with imbalances building over the medium term, even if near-term inflation is well under control.

Borio explores how these changes in prudential and monetary approach could be mapped to operating procedures, in order to manage systemic risk more effectively during periods of swings on financial risk perceptions. In the prudential field the main change would be to use instruments such as bank loan loss provisions in a manner that builds up cushions during periods of cyclical strength, and to reverse this process during downswings. Monetary authorities, meanwhile, would lengthen the policy time horizon in some inflation targeting regimes, internalizing medium-term risks.

Such a shift in the philosophy and operating procedures of official agencies, Borio acknowledges, involves non-trivial technical questions. More work would be needed, for example, on the relationship between credit, asset prices (especially real estate prices) and the real exchange rate. Moreover, a significant educational effort would be required. But an evolution along these lines would reduce the likelihood that systemic financial risks, building up over the medium term, might fall through the cracks of official policy preoccupations. This would enhance the stability of the real economy.

* * *

The work presented in this volume thus sheds light from different angles on a single core question: how well is financial integration supporting growth, adjustment and catching-up in economies that are members – or future members – of the euro area, and are policymakers moving swiftly enough to realize its full potential? Market events since these chapters were written only serve to highlight the relevance of this question.

In pursuit of this theme, the authors adopt a range of perspectives – in terms of both the specific policy areas they explore and the analytical techniques they deploy. Their purpose is in part to stimulate debate and future research; and it would be against the spirit of our volume to impose a false synthesis or draw unduly simple conclusions.

Nonetheless, it seems fair, and helpful to the reader, to underscore at the outset a few of the leitmotifs that run through the volume, because these are indeed the issues that policymakers need to weigh particularly carefully as they press forward in adapting the policy frameworks of the EU, and specifically of the euro area.

The primary theme running through these chapters is that the benefits conferred by financial market development and integration are not to be taken for granted. They do depend on well-designed policy frameworks. This is a core message.

The reasons for this lie in a number of inherent imperfections that the literature attributes to capital markets. Most fundamentally, markets are aware that policy-makers have limited capacity to accept turbulence in the real economy, and that they may therefore intervene to bail out markets and guarantee the public's assets.

But beyond this classic argument of moral hazard, several of the chapters also underline that markets respond sensitively and quickly to changes in policies and economic prospects, while real sector markets are typically more 'sticky'. Financial markets are also quick to arbitrage regulations. This means that times of economic change are among those when policy-makers need to pay special attention to the signals and incentives that they send to markets. The rapid financial integration now underway in the euro area, and across its borders, is certainly such a time.

The final chapters of the volume, in particular, communicate some sense of urgency. Markets have moved swiftly: have policy-makers been able to keep pace? The authors clearly believe some speeding up of reform is needed. They stress this in the case of cross-border regulation and deposit insurance. They also highlight it in connection with pro-cyclical macroeconomic policies. And in the final chapter the question is raised whether our failure to achieve financial stability alongside monetary stability requires a systematic stretching of our present monetary and supervisory approaches.

What seems beyond doubt to the authors, nonetheless, is the great potential gains to be tapped from ongoing financial integration. As Regling and Watson underscore in Chapter 2, these gains are even greater for the members of the euro area, since financial integration can help to foster risk sharing, and hence support stable growth and deeper specialization – and this especially in a monetary union where other adjustment mechanisms such as labour mobility remain to be fully developed.

More integration, not less, is thus the message of the authors. They do not have a temptation to throw sand in the gears of the markets as proposed by some commentators inspired by James Tobin. But they do believe that well-designed policy frameworks are crucial; and they press policy-makers to take this challenge in earnest. The prize is clear, in their view. It is to safeguard sustainable financial integration, and to allow the citizens of a widening euro area to tap the full benefits for growth, adjustment and catching-up that deeper financial integration can deliver.