



CEPR PRESS

30

Edited by Giancarlo Corsetti, Galina Hale,
Beatrice Weder di Mauro

**The Making of the European
Monetary Union: 30 years
since the ERM crisis**

**CENTRE FOR
ECONOMIC
POLICY
RESEARCH**

The Making of the European Monetary Union

30 Years Since the ERM Crisis

CEPR

WITH SUPPORT OF CEPR PARIS FOUNDING PARTNERS



Research Fund



Direction générale
du Trésor



SciencesPo

CEPR PRESS

Centre for Economic Policy Research
33 Great Sutton Street
London, EC1V 0DX, UK

187 boulevard Saint-Germain
75007, Paris, France

Tel: +44 (0)20 7183 8801

Email: cepr@cepr.org

Web: www.cepr.org

ISBN: 978-1-912179-68-8

Copyright © CEPR Press, 2023

The Making of the European Monetary Union

30 Years Since the ERM Crisis

Edited by Giancarlo Corsetti, Galina Hale
and Beatrice Weder Di Mauro

CENTRE FOR ECONOMIC POLICY RESEARCH (CEPR)

The Centre for Economic Policy Research (CEPR) is a network of over 1,700 research economists based mostly in European universities. The Centre's goal is twofold: to promote world-class research, and to get the policy-relevant results into the hands of key decision-makers. CEPR's guiding principle is 'Research excellence with policy relevance'. It was founded in the UK in 1983, where it is a Charity, and in November 2019 CEPR initiated the creation of an Association under French law, in order to provide a vehicle for an expansion in France. The members of the Conseil d'Administration of the Association are identical to the UK Board of Trustees.

CEPR is independent of all public and private interest groups. It takes no institutional stand on economic policy matters and its core funding comes from its Institutional Members, projects that it runs and sales of publications. Because it draws on such a large network of researchers, its output reflects a broad spectrum of individual viewpoints as well as perspectives drawn from civil society. CEPR research may include views on policy, but the Trustees/members of the Conseil d'Administration of the Association do not give prior review to its publications. The opinions expressed in this report are those of the authors and not those of CEPR.

Chair of the Board	Sir Charlie Bean
Founder and Honorary President	Richard Portes
President	Beatrice Weder di Mauro
Vice Presidents	Maristella Botticini
	Philippe Martin
	Ugo Panizza
	Mar Reguant
	Hélène Rey
Chief Executive Officer	Tessa Ogden

Contents

<i>Foreword</i>	<i>vii</i>
The trauma of the European currency crises in the 1990s and its consequences until today	1
Giancarlo Corsetti, Galina Hale and Beatrice Weder Di Mauro	
Part 1: From Bretton Woods to the ERM	
1 Thirty years after the ERM crisis	13
Barry Eichengreen	
2 Why is the European currency and financial crisis of the 1990s relevant today?	17
Giancarlo Corsetti	
3 A small currency in the ERM zone of monetary <i>instability</i>	25
Patrick Honohan	
4 The European Monetary System crisis of 1992	31
Richard Portes	
Part 2: 1992 - Ground Zero	
5 The ERM crisis and the UK: Black or White Wednesday?	39
Sir Charlie Bean	
6 The ERM crisis: A teachable episode for international macro	43
Catherine Mann	
7 The backdrop of the ERM crisis	47
Maurice Obstfeld	
8 Italy and the crisis of the European Monetary System	53
Ignazio Visco	
Part 3: A decade of optimism	
9 From 1999 (and before) to 2007: A decade of optimism or a lost decade?	61
Charles Wyplosz	
10 One good reason we were optimistic: The rise of inflation targeting and the demise of fixed exchange rate crises	67
Andrew K. Rose	

Part 4: A decade of crisis in the euro area

- 11 The end of euro area crises?** 73
Paul De Grauwe
- 12 A decade of crisis in the euro area: How can one reconcile price stability with a monetary backstop for government debt?** 81
Olivier Jeanne
- 13 When Europe catches a cold, the rest of the world sneezes: Global spillovers of the euro crises** 87
Ozge Akinci and Paolo Pesenti
- 14 Thirty years since the ERM crisis: The beginning of the end** 95
Lorenzo Bini Smaghi
- 15 Lessons from the European Monetary System Crisis for European Monetary Union** 99
Philip R. Lane

Part 5: The next decade

- 16 Thirty years on, new frontiers for Europe's monetary cooperation** 109
Martin Sandbu
- 17 The architecture of the euro: Prospects for the next decade** 113
Jeromin Zettelmeyer
- 18 Future challenges to European sovereign debt markets** 121
Leonardo D'Amico, Francesco Giavazzi, Veronica Guerrieri and Guido Lorenzoni

Foreword

September 2022 marked the thirtieth anniversary of the Exchange Rate Mechanism (ERM) crisis, a seismic event which shook the continent and caused a severe recession to spread rapidly across European economies. To mark the occasion, CEPR organised, in collaboration with the Pierre Werner Chair at the EUI, a two-part webinar to reflect on the potential lessons from the crisis. These insightful discussions led to the creation of this eBook, which brings together eminent scholars and CEPR researchers who witnessed first-hand the fallout, both economic and political, of countries in the European Union. Many of the contributors have since been involved in managing, designing and debating the making of the European monetary system over the last three decades.

The eBook discusses the origins of the crisis and frames it within a broader European historical and political perspective. It considers the underlying causes – German reunification, the struggle for monetary cooperation, the instability of a fixed exchange rate regime under capital mobility – which ultimately led to the breakdown of a flawed system. From disaster to revival, the eBook explains why the crisis was such a watershed moment for European economic policy formation and traces the growth and subsequent construction of a more robust European monetary system. It highlights how the trauma of the ERM crisis may have been the impulse needed to reinforce the ultimate adoption of a single, common currency in the form of the euro. In the following decades, the eBook shows how lessons from the crisis have remained pertinent, influencing theories of currency crisis and the development of instruments and institutions able to adequately respond to subsequent financial instability and debt crises. The final section reflects on the need for changes to further strengthen the institutional setup.

Although the ERM crisis was over thirty years ago, this eBook demonstrates why it remains such a defining and pivotal moment in the history of European economic architecture. Its origins are unlikely to be forgotten and the lessons learned have helped shaped the current monetary system, which against many expectations is today in a strong position.

CEPR is grateful to Giancarlo Corsetti, Galina Hale and Beatrice Weder di Mauro for their expert editorship of the eBook. Our thanks also go to Anil Shamdasani for his skilled handling of its production.

CEPR, which takes no institutional positions on economic policy matters, is delighted to provide a platform for an exchange of views on this important topic.

Tessa Ogden
Chief Executive Officer, CEPR
February 2023

The trauma of the European currency crises in the 1990s and its consequences until today

Giancarlo Corsetti, Galina Hale and Beatrice Weder Di Mauro

European University Institute and CEPR; UC Santa Cruz; Geneva Graduate Institute and CEPR

Reflecting on history structures our interpretation of the present and sharpens our vision of the future. This is particularly true for large-scale political and institutional experiments, such as the creation of a single market and a common currency in Europe, shared by many states that remain essentially independent, and are sometimes profoundly different in their political, institutional, and economic structures. The 30th anniversary of the crisis of the European Monetary System (EMS) is too good an opportunity to engage in such reflection to let it pass. This was the spirit in which we contacted a number of eminent scholars and CEPR fellows who ‘were there’ – managing, designing and debating the making of the European monetary system over the last three decades. We were happy that so many spontaneously agreed to contribute to this reflection.

A younger generation of Europeans may have no memory of this crisis of 30 years ago. Those who lived through it can hardly forget, though. It was frontpage of newspapers and occupied prime time on TV shows for many months. It was deep and systemic: the European Union entered a significant recession essentially generated by the monetary and financial turmoil accompanying a currency crises that, starting in September 1992, kept coming in waves until the decision, in July 1993, to abandon the central bank commitment to keep currencies within the narrow band of fluctuations. Banks and households suffered sizeable losses. Non-performing loan rates were very high, and bank profitability fell to very low levels. Prior to the crisis, many households living outside Germany had borrowed money in Deutsche marks at cheap rates, trusting in the resilience of the Exchange Rate Mechanism (ERM) of the EMS. The devaluation of their currencies was an unexpected blow. For a few years, the crisis also fed rising scepticism about the prospect of introducing the euro as early as 1999 according to the timing set in the Treaty of Maastricht.

Against all odds, the trauma of this crisis nonetheless turned out to be a watershed moment in the evolution of the European monetary system. It highlighted the dangers of intermediate exchange rate regimes and gave birth to a whole new generation of currency crisis theories stressing dangerous self-fulfilling dynamics when commitments are contingent. It reinforced the view that exchange rate regimes are only stable at the corners, i.e. with free floating or irrevocably fixed rates. And a free float among a large collection of relatively small, very open and highly integrated economies – the case of

European countries – was not considered seriously as an option. In this sense, the crisis still serves as a historical counterfactual for any notions of euro dissolution. In sum, the ERM crisis may have been the impulse needed to reinforce the ultimate adoption of a single, common currency in the form of the euro.

It took the initiative and political intelligence of dedicated policy and academic leaders for the euro to become a reality. The collection of excellent essays in this volume explains how this was possible. The crisis changed the way Europe moved towards currency unification, technically and politically. One may regret that, unfortunately, the same was not true on institutional and constitutional grounds – the constitution of the euro remained essentially the same as envisioned in Maastricht, leaving critical issues for future generations to resolve. The nature and anatomy of the crisis speak directly to current debates on desirable policy reforms in the euro area.

We briefly introduce the essays in this volume below, grouping them into five sections: Origins and implications of the crisis; Country perspectives on the crisis; Global perspectives on the crisis; Managing financial instability and debt crisis; Two decades of EMU and the future of the euro.

ORIGINS AND IMPLICATIONS OF THE CRISIS

Barry Eichengreen introduces the origins of the ERM in the context of historical experience in Europe, the trauma of the Great Depression combined with the geopolitics of Europe in the late 1970s and the personal affinity between Giscard d'Estaing and Schmitt, the French and German leaders at the time. Ultimately, attempts to stabilise exchange rates in Europe proved to be no different than in other countries that struggled to maintain currency pegs in an environment of free and increasing cross-border capital mobility – an argument that is also made by Andrew Rose. This view is echoed by Catherine Mann, who finds that the ERM and its crisis are a great example of the textbook model of how international currency arrangements work and fail.

Lorenzo Bini Smaghi reads the ERM crisis as a change in the paradigm that for many years had structured the European monetary area, with Germany providing monetary stability and the other countries accepting its leadership. The macroeconomic effects of German unification showed that the country could not be expected to provide an anchor in all circumstances. The crisis coincided with a crisis of politics of monetary cooperation, which was resolved in favour of delegating monetary policy not to a hegemonic country but to a common, technocratic institution. Richard Portes takes this one step further, stating that to the extent that fixed exchange rates are closer to floating than to monetary union, the 'hard' (i.e. no realignment) ERM that was in place between 1987 and 1992 was doomed as soon as capital controls started to come down. Portes agrees that German unification was ultimately only an impetus for the breakdown of a system that was already doomed.

Philip Lane brings the memory and the lessons from the ERM crisis to bear on the dual crises of 2008–2012 and the COVID-19 pandemic. The analysis moves from the important observation that, according to empirical evidence and historical records, flexible exchange rates do not appear to offer better insulation from global shocks. Yet, over its life span, the euro has paid a price for being launched without so much as a framework for crisis management capabilities. In the 1990s, this was an intentional choice – a calculated risk motivated by the need to avoid moral hazard distortions from the possibility of a bailout, at all costs. Through the years, the euro has had to consolidate its resilience by developing institutional solutions to the problem of preventing and managing imbalances and crises. Progress is apparent (especially in the euro area response to the pandemic), but still incomplete in some key areas.

Maurice Obstfeld guides us through a sharp logical reconstruction of the theories and views about monetary unification that historically shaped the policy debate, referring to two memorable CEPR conferences in 1987 and 1988 in Perugia and Castelgandolfo. The two edited volumes arising from these conferences laid out and articulated the issues with the instability of a fixed exchange rate regime under capital mobility, which included the threat of belief-driven crisis, originating either in the currency or in the debt market or both, as well as the risks inherent in the unbalanced Maastricht architecture. Obstfeld also reminds us of the theoretical development at the time, with the so-called second-generation models of crises, stressing the ‘cost-benefit’ calculations underlying a political decision to abandon a peg. During the ERM crisis, high interest rates dictated by the Bundesbank were too costly (politically and economically) in countries with high debt, or with a large diffusion of flexible-rate mortgages.

The crisis left a mark on the subsequent development of European policy cooperation. Giancarlo Corsetti discusses how and why the crisis ultimately strengthened the political drive towards the creation of the euro, but only in the form of an incomplete – and thus unstable – monetary union among independent sovereign states. A key lesson of the ERM crisis was indeed (and arguably intentionally) lost in translation – monetary cooperation is sustainable only if policymakers can credibly rely on appropriate instruments and institutions to reduce the risk of crises *ex ante*, and to deal with crises if and when they do erupt. The euro was born without any of this. These instruments and institutions belong in the economic constitution of a stable monetary union.

COUNTRY PERSPECTIVES ON THE ERM CRISIS

From the UK perspective, Charlie Bean reminds us how, in the 1980s, disinflation by targeting an external nominal anchor (the Deutsche mark, which was the ERM-wide benchmark currency) could be seen as an attractive alternative to disinflation by targeting the growth of monetary aggregates. The new strategy was embraced by Nigel Lawson, Chancellor of the Exchequer at the time. It appeared to work, as the British pound was informally and flexibly pegged to the Deutsche mark from 1987 and then eventually

brought into the ERM in 1990, albeit at an arguably overvalued parity. The ERM crisis had two UK-specific consequences: first, it motivated the institutional developments towards a mature inflation-targeting regime; second, it fed Euroscepticism, which kept the United Kingdom out of the euro area and eventually scaled up to Brexit. Looking at the implications of the ERM crisis for the United Kingdom, Barry Eichengreen arrives at the same conclusion.

Patrick Honohan brings in a different perspective on the crisis, revisiting the history of and rationale for the ERM in its soft form, before 1987, from the perspective of small countries such as Ireland and Denmark. Frequent realignments, seen as a weakness of the system, could also be seen as a safety valve. Despite the slow progress in disinflation, small countries saw macroeconomic benefits from the soft ERM in terms of competitiveness (Honohan questions the widespread idea that competitive gains via devaluation were systematically opposed by Germany). More importantly, for Ireland the ERM was an opportunity to detach economically from its largest trading partner, which also happened to be its colonial power. Membership of the ERM and the adoption of the euro allowed Ireland a greater degree of independence.

Ignazio Visco brings monetary history forward to investigate the roots of the divide between the low-inflation centre of the system, Germany, and high-inflation Italy during the ERM crisis. Italy went into the ERM lacking “full autonomy of the central bank, [strong] budget procedures and a code of collective bargaining”, a prerequisite for successful participation in the ERM identified by Carlo Azeglio Ciampi back in 1981, when he was Governor of the Banca d'Italia. Adjustment along these three dimensions was the key political challenge for Italy. The crisis, however, did not arise from domestic problems in high-inflation countries, as many feared. Visco presents a brief but rich narrative of political factors: the economic imbalance in Germany due to unification; the strong stance taken by the Bundesbank, which did not fulfil the obligation to intervene in the currency market as per the Maastricht Treaty; as well as the rejection by many countries of the German proposal to realign the Deutsche mark. Ultimately, it was the apparent unwillingness to find a coordinated solution that ignited speculation in currency markets and marked the end of the hard ERM experience.

GLOBAL PERSPECTIVES ON THE ERM CRISIS

Andrew Rose looks back at the ERM crisis, as well as the financial crises of the 1990s, to stress one feature of these events that was conspicuously absent from the Global Financial Crisis of 2008–2009 and from the euro crisis of 2010–12 : there was no wave of speculative attacks on fixed exchange rates. This was for a reason: not many countries still place an external nominal anchor (de facto, a currency peg) at the core of their monetary strategy. Arguably the most important lesson from the early period is that

a fixed exchange rate system creates instability. Most crucially, there is now a clearly defined and well-functioning alternative – inflation targeting. By 2022, over 70 countries had adopted this regime.

European stability is not just a European problem. Given the size of the European economy, a crisis in Europe can have significant global spillovers via trade and financial channels. Moving forward 20 years, Akinci and Pesenti run a model-based assessment of the euro area crisis, contrasting the effects on US growth of a baseline, historical scenario with a counterfactual ‘Grexit’ scenario. The drop in US GDP growth is twice as large with Grexit. The effects on the United States are nonetheless moderate in magnitude, due to the relative strength of the US financial and policy institutions. Still, a Grexit scenario could have been much more disruptive, given the uncertainty about its modalities.

MANAGING FINANCIAL INSTABILITY AND DEBT CRISES

A widespread view is that during both the ERM crisis and the sovereign risk crisis in the euro area, much of the market instability was driven by disruptive belief-driven speculation. This view motivated the early introduction of the euro as a way to prevent non-fundamental swings in exchange rates from destabilising the real economy. It motivated much of the institutional development in the euro area, with the ECB providing a monetary backstop to government debt and the ESM providing bailouts with conditionality.

Olivier Jeanne questions this view. A monetary backstop works via interventions (or a threat to intervene) by the central bank in the government debt market. This is supposed to rule out a bad equilibrium with high borrowing costs and coordinate investors’ expectations on a good equilibrium, where debt is sustainable. However, the countries which were not affected by a debt crisis after the Global Financial Crisis (supposedly benefitting from the backstop) hardly fitted the stability requirement of such good equilibrium. Rather, the engagement of central banks (the ECB, the Federal Reserve, the Bank of England) in the debt market may actually have had a different rationale, namely, providing seigniorage resources and keeping borrowing costs low – essentially buying time for the fiscal authorities to correct imbalances. While fiscal decisions are plagued by inertia, monetary policy can move fast, but a backstop is quite costly for the government. So the central bank can intervene upfront effectively without taking away the incentive for the government to consolidate the budget.

D’Amico, Giavazzi, Guerrieri and Lorenzoni reflect on the need to relieve the ECB of the function of supporting national fiscal policy via debt purchases aimed at reducing differences in spreads that are not justified by fundamentals. Given the high level of debt, especially among fiscally fragile countries, this function could be most effectively transferred to a common debt agency, financed by contributions of all member states. This would reduce the risk that financial stability (fiscal dominance) considerations interfere with the conduct of monetary policy.

TWO DECADES OF EMU AND THE FUTURE OF THE EURO

In hindsight, the first decade of the euro was one of optimism. Inflation rates in the euro area were low and close to target (2.2% on average over the decade), European ‘periphery’ economies were growing quickly, and capital markets were integrating. There was an excited and extensive debate on the monetary policy strategy of the ECB, with its two-pillar approach contrasted with a more standard inflation-targeting regime, but it seemed not to matter much in practice. There was some debate on current account imbalances within the euro area, but more attention was paid to global imbalances – the huge current account deficits run by the United States, and the current account surplus of other countries.

On the 10-year anniversary of the euro, the large-scale monetary experiment on the continent looked like a unmitigated success story. In a speech for the occasion, Jean Claude Trichet, the President of the ECB, noted that the euro had not only delivered on the promise of price stability but was also equipped with the necessary institutional foundations laid down in the Maastricht Treaty.¹ Then the euro crisis hit.

In his ex-post analysis of the reasons for the euro crisis, Charles Wyplosz points to a number of fundamental problems, but stresses that weak institutional arrangements and the lack of a banking union were key. The Stability and Growth Pact (SGP) lacked teeth and eventually lost all credibility, leaving the union without any institutions for fiscal coordination. As a result, the euro area was not ready for the asymmetric shocks that the Global Financial Crisis brought because of the nature of the Europe’s banking landscape.

One decade later, as a new shock hit the globe in the form of the COVID-19 pandemic, Paul De Grauwe reflects on the profound differences in the economic and political situation of the euro area relative to the previous decade. In particular, the devastating economic forecasts of early 2020 did not transpire and for this De Grauwe credits the ECB’s new governance, which allowed for an agile crisis response including the introduction of new monetary policy instruments. In addition, there was quite a bit of fiscal coordination. The euro area was – and still is – much less fragile than it was in 2010.

Posing fundamental questions about the institutional setup of the euro, Jeromin Zettlemeyer asks what the relevant benchmark is. Is it an *idealised* monetary, fiscal and political union, which would not be realistic? Or is it the *minimum necessary* union needed to deliver the conditions for European stability and prosperity? And if it is the latter, what is this minimum? Is it feasible? Fiscal union may not be necessary. The current setup complemented by a banking union-plus (a harmonised EU rulebook for bank regulation, common banking supervision and common institutions and policies for crisis management and deposit insurance, capital market integration) would be

1 www.ecb.europa.eu/press/key/date/2009/html/sp090212_1.en.html

sufficient. However, this banking union-plus may not be feasible because some elements of it may run into the same political obstacles that make further fiscal integration so difficult.

Despite this fundamental dilemma, the euro area and the European Union have shown a remarkable robustness in the face of a series of negative shocks. Against this background, Martin Sandbu focuses on the strengths of the euro today: confidence in its integrity, and political unity around the commitment. Looking forward, he points to new issues that the union will have to tackle: common monetary policy in the context of high inflation that will shape perceptions about the ECB in 2023–24, as well as high investment needs for the energy, climate and digital transitions. Despite these new challenges, Sandbu points to a number of political and economic developments that mean the euro area is in a much better place than many unrepentant sceptics like to believe.

CONCLUSIONS

The ERM was the mother of currency crises in Europe. It was sudden and violent, rapidly spreading across countries as one central bank and treasury after another rose to fight and quickly gave up against the incoming tide. The ERM crisis shook the continent and showed the need for a more robust monetary system.

The weakness of the ERM became evident when Germany, the de facto monetary leader in the system, experienced a mayor idiosyncratic shock. German reunification was an inflationary shock and the Bundesbank prioritised reducing domestic inflation over concerns of system-wide spillovers. In the asymmetric ERM, underlying policy conflicts would undermine cross-border cooperation. The lack of a consistent, coordinated response and a contingent commitment to the system fed destabilising speculation, which accelerated the demise of the system and paved the way for the euro.

The euro was a brave experiment on a grand scale. Many economists on both sides of the Atlantic (but mostly on the west side) were deeply sceptical and predicted its quick failure. Yet, on its 10th birthday the euro appeared robust and successful. It had been a good decade.

This cannot be said of the euro's second decade, in which the euro crisis spread across the area and leaders were seen climbing summit after summit just to deliver the minimum necessary reforms and funding to prevent the union from falling apart. Against many odds, they succeeded – doubtless with the help of Draghi's famous “whatever it takes” speech – in spoiling the many bets on the euro's demise.

The pandemic provided another large-scale test of the system and the Russian war of aggression in Ukraine is the latest in a series of negative economic shocks, this time also contributing to high inflation. The ECB had to quickly navigate away from the risks of stagflation while at the same time avoiding the substantial fiscal implications of rising interest rates. Today, however, the response to inflation by the ECB internalises the euro-

wide effects of its policy decisions. Its determination to avoid inefficient divergence in the transmission mechanism – motivating the Transmission Protection Instrument (TPI) – reflects the much higher level of cross-border cooperation that a common currency requires.

This is, of course, not to be taken for granted. Conflict and controversies over joint policy measures are still divisive and will possibly generate new crises. But as recent history shows, there is hope that crises will once again be resolved in the future. We thus finish on a high note, in Martin Sandbu’s words: “30 years on from a crisis, then, the European monetary system is in rude health. With existential fears rightly buried, the policy questions that now have to be addressed are ones which, if the right solutions are chosen, could take it from safety to strength.”

ABOUT THE AUTHORS

Giancarlo Corsetti (Ph.D. Yale, 1992), is Pierre Werner Chair and joint Professor, Department of Economics and Robert Schuman Centre for Advanced Studies of the European University Institute. He is affiliated with CEPR, the ESRC Centre for Macroeconomics, the Cambridge Janeway Institute, and the United Nations High-level Advisory Board on Economic and Social Affairs. He is an Academic Adviser at the Bank of England and the European Central Bank. He is a leading scholar in international economics and open macro with pioneering contributions on currency, financial and sovereign crises, monetary and fiscal policy in open economy, and the international transmission and global imbalances, published in top academic journals. He served as co-editor of the *Journal of International Economics* between 2005 and 2016. In 2015 he gave the Schumpeter Lecture at the Meetings of the European Economic Association in Mannheim. In 2020, he was elected fellow of the British Academy.

Galina Hale is a Professor of Economics at UC Santa Cruz. She served as a Research Advisor at the Federal Reserve Bank of San Francisco, and an Assistant professor in the economics department of Yale University. Galina currently serves as a co-editor of the *Russian Journal of Central Banking*, associate editor of the *Journal of International Economics*, and a member of the editorial board of the *IMF Economic Review* and *Pacific Economic Review*. She has co-edited special issues of the *Journal of International Economics* and of the *IMF Economic Review*. Galina is a director of the CEBRA’s IFM program and a co-director of the UCSC Center for Analytical Finance (CAFIN). She serves on multiple boards and committees in the animal welfare and animal agriculture space.

Beatrice Weder di Mauro is Professor of International Economics at the Geneva Graduate Institute and Distinguished Fellow at the INSEAD Emerging Markets Institute, Singapore. Since July 2018, she serves as President of the Centre for Economic Policy Research. From 2001 to 2018, she held the Chair of International Macroeconomics at the University of Mainz, Germany, and from 2004 to 2012 she served on the German Council of Economic Experts. She was Assistant Professor at the University of Basel and

Economist at the IMF. She held visiting positions at Harvard University, the National Bureau of Economic Research and the United Nations University in Tokyo. She has served as consultant to governments, international organizations and central banks (European Commission, IMF, World Bank, ECB, Deutsche Bundesbank, OECD, among others). She is an independent director on the board of Bombardier, UBS and Bosch. She is a senior fellow at the Asian Bureau of Finance and Economics Research (ABFER), a member of the ETH Foundation, the International Advisory Board of Bocconi and a member of the Bellagio Group.

PART 1

**FROM BRETTON WOODS TO
THE ERM**

CHAPTER 1

Thirty years after the ERM crisis

Barry Eichengreen

University of California, Berkeley and CEPR

Management have asked us to speak in this first of five sessions on “From Bretton Woods to the ERM”. So I shall. But I hope that they won’t mind if I also devote a few words to why the 1992 crisis happened.¹

FROM BRETTON WOODS TO THE ERM

On the origins of the Exchange Rate Mechanism (ERM), part of my answer, inevitably, is ‘the lessons of history’. Rightly or wrongly (and I am inclined to argue wrongly along the lines of Eichengreen and Sachs 1985), Europeans drew the lesson from the 1930s that exchange rate fluctuations were destructive, not only of economic relations but of diplomatic relations between nations. There was also the worry, which I regard as more realistic, that exchange rate changes conferring arbitrary competitive advantages on some countries over others might foment opposition to the Single Market – that competitive depreciations might create demands for retaliatory tariffs. The operation of the Common Agricultural Policy and the need for ‘green exchange rates’ gives substance to this argument.

Finally, there was a role for individual agency. The 1979 agreement was driven by German Chancellor Helmut Schmidt and French President Valéry Giscard d’Estaing. The Franco-German tandem would again play a key role in the drive for the euro, as it has in all efforts to deepen European integration. But this late 1970s episode was the first instance of effective monetary cooperation across the Rhine. Prior to Schmidt, German leaders had been reluctant to assert their leadership of Europe, given the country’s culpability in World War II. France under de Gaulle had been more a disruptive than a constructive force. The ‘Empty Chair Crisis’ of 1965, when France had recalled its permanent representative in Brussels in a dispute over the budget prepared by the German President of the European Commission, Walter Hallstein, had brought progress to a halt.

¹ In what follows I draw on three publications: Eichengreen and Wyplosz (1993), Eichengreen and Naef (2022) and Eichengreen (2022a).

Giscard and Schmidt were different. Not only were they a new generation, but they had a strong personal affinity; the two ‘best friends’ insisted on sitting alongside one another at European Council meetings. They were equally knowledgeable of monetary affairs. They were ardent supporters of the European project.

WHY THE CRISIS HAPPENED

As for why the crisis happened, I would characterise the story as an akin to a murder in an Agatha Christie novel: there are multiple suspects, and they all had a hand in it. First, there is the intrinsic fragility of currency pegs in a setting of high capital mobility. The crisis coincided with completion of the Single Market in 1992 and the removal of almost all of Europe’s significant capital controls. Subsequent history has shown that very few countries have been able to maintain currency pegs in such an environment. I would point to two: Hong Kong and Denmark. Hong Kong is just about the most open economy in the world, so exchange rate fluctuations are exceptionally costly. And until recently, pegging to the dollar has been an important symbol of autonomy from China. (Raising now interesting questions about the prospects for the peg.) Denmark is more mysterious. Some people point to Denmark’s ‘exceptionally deep links’ to the German economy. I myself don’t think this is an adequate answer. (Homework assignment for the audience).²

Among other things, this environment of high capital mobility raises the possibility of self-fulfilling (‘second generation’) speculative attacks. Charles Wyplosz and I, in a research paper that is also celebrating its 30th anniversary this year, thought that we detected this kind of self-fulfilling behaviour in 1992, when hedge fund managers, for reasons good or bad, attacked a set of currencies that would have been defensible in the absence of the attack but collapsed in its presence (Eichengreen and Wyplosz 1993). The UK case is clear: the UK was stumbling along until George Soros & co. attacked its currency, at which point the Bank of England was forced to raise interest rates. This hit British homeowners in the pocketbook, causing the Bank to reverse course and sterling to collapse. (Some readers may detect echoes of these events in the early weeks of the Truss government.)

Charles and I documented this behaviour by sending out a survey inquiring into the motivations to several hundred hedge fund and investment fund managers. I mean ‘sent out’ literally. This was before the availability of email directories, so we got a directory of fund managers and enlisted Charles’ four kids to address, stuff and lick the envelopes. Alain Naef and I, in our joint paper from earlier this year, track daily interventions by the Bank of England and show that the timing of the attack was semi-random: it was triggered by some supposedly off-the-record remarks by Bundesbank President Helmut Schlesinger that made their way into the press (Eichengreen and Naef 2022).

2 For my own answers, see Eichengreen (2022b).

Finally, Alain and I find a role for the dollar. The ERM was characterised by dollar/Deutsche mark ‘polarisation’. When funds moved out of the dollar because the US economy was doing poorly, they flowed into the deutschmark, which was the closest substitute, putting pressure on other ERM currencies. This is exactly what happened in 1992. Alain and I find that it was a first-order effect. It was an episode where dollar fluctuations originating in conditions in the US destabilised financial arrangements in the rest of the world. If you hear more echoes with what’s going on today, you are not alone.

CONCLUSION

The implications of the 1992 crisis were far reaching. Abandoning the ERM meant that the UK would not qualify for the euro. Ultimately, British officials took this as a happy consequence, given their painful experience with imported monetary policy. But this meant that Britain would continue to have one foot in and one foot out of Europe. It reinforced the country’s ambivalence toward the European project – an ambivalence that would tip into rejection with Brexit in 2016.

For other European countries, the experience highlighted the urgency of completing the transition to the euro. It showed that pegged exchange rates between national currencies were fragile, and that the Bundesbank, left to its own devices, would not tailor its policies to wider European needs. Another factor behind Black Wednesday was the French referendum on the Maastricht Treaty, just four days later. Polls showed that treaty – the euro’s founding document – going down to defeat, and the euro going down with it. But having just seen a demonstration of the alternative on Black Wednesday, French voters turned around and voted the referendum through.

In a sense, then, had John Major not made his ill-fated decision to bring sterling into the ERM in 1990, Europe would not have the euro. As for the UK itself, Liz Truss can only hope that the 30th anniversary of Black Wednesday won’t be ‘celebrated’ with a replay.

REFERENCES

Eichengreen, B (2022a), “The Long Shadow of Black Wednesday,” Project Syndicate, 13 September.

Eichengreen, B (2022b), “The Danish Problem”, Keynote address at the Danish Nationalbank Conference on the 40th anniversary of the country’s currency peg.

Eichengreen, B and A Naef (2022), “Imported or Home Grown? The 1992-3 EMS Crisis”, *Journal of International Economics* 138, 103654

Eichengreen, B and J Sachs (1985), “Exchange Rates and Economic Recovery in the 1930s”, *Journal of Economic History* 45: 925-946.

Eichengreen, B and C Wyplosz (1993), “The Unstable EMS”, *Brookings Papers on Economic Activity* 1: 51-144.

ABOUT THE AUTHOR

Barry Eichengreen is George C. Pardee and Helen N. Pardee Chair and Distinguished Professor of Economics and Professor of Political Science at the University of California, Berkeley. He is a Research Associate of the National Bureau of Economic Research and Research Fellow of the Centre for Economic Policy Research. In 1997-98 he was Senior Policy Advisor at the International Monetary Fund. Professor Eichengreen is a fellow of the American Academy of Arts and Sciences (class of 1997). He is a distinguished fellow of the American Economic Association (class of 2022), a corresponding fellow of the British Academy (class of 2022), and a Life Fellow of the Cliometric Society (class of 2013). He has held Guggenheim and Fulbright Fellowships and been a fellow of the Center for Advanced Study in the Behavioral Sciences (Palo Alto) and the Institute for Advanced Study (Berlin). For 15 years from 2004 he served as convener of the Bellagio Group of academics and officials. He is a regular monthly columnist for Project Syndicate.

CHAPTER 2

Why is the European currency and financial crisis of the 1990s relevant today?

Giancarlo Corsetti¹

European University Institute and CEPR

When, 30 years ago, European countries were shaken by waves of speculative attacks on their currencies, Europe suffered a deep downturn and a hike in unemployment. Banks also suffered deeply – in some countries, non-performing loans were as bad as during the sovereign risk crisis in the euro area in the 2010s (for a comparative analysis of the two crises, see Corsetti et al. 2020).

In fairness, relative to recent records, the financial and economic effects of the currency crisis in the 1990s were rather mild. Yet, in the eyes of contemporaries, it was perceived as a terrible event, exposing the economic and financial fragility of European countries – and potentially derailing the process through which Europe was aiming to enhance cross-border monetary cooperation in tandem with market integration. The turmoil erupted in September 1992, between the signing of the Treaty of Maastricht on 7 February of the same year and the establishment of the Single Market on 1 January 1993.

The importance of this early crisis cannot be overstated. In many dimensions, it marked a turning point in the process of European monetary and economic integration. To a large extent, its resolution in the 1990s determined the good, the bad and the ugly of the subsequent institutional development of the euro area.

THE ERM CRISIS AS A REALITY CHECK ON THE PROCESS OF MONETARY UNIFICATION

The Exchange Rate Mechanism (ERM) of the European Monetary System (EMS) required countries to keep their currencies within a narrow fluctuation band around fixed (central) parities. Established in 1978, after a period marked by repeated realignment of the central parities, the ERM became increasingly strict – it turned into the ‘hard ERM’

¹ Corsetti's work on this eBook is part of the Keynes Fund project in Cambridge (“The Making of the Euro-area Crisis: Lessons from Theory and History”), as well as of the COVID-19 Project of the Research Council of the EUI (“Debt Sustainability: Towards a new blueprint for a comprehensive study of debt crises”).

in 1986. The Maastricht Treaty placed the ERM centre stage in the plan for monetary unification – exchange rate stability became a key precondition to qualify for admission in the euro area.

The ERM crisis marked the passage from this blueprint for currency unification (elaborated in decades of work between the Werner Report and the Delors Report) to a more realistic and feasible blueprint. To appreciate the significance of this passage, recall the ‘impossible trinity’ or ‘trilemma’ – the well-known tenet in open macro that a country cannot simultaneously pursue an independent monetary policy, a fixed exchange rate and perfect capital mobility. According to the trilemma, after European current accounts were progressively liberalised at the end of the 1980s, and especially in view of the prospective implementation of the single market, a country participating in the ‘hard ERM’ would have to relinquish monetary autonomy.² Most countries were not ready for the challenge.

Some countries were still struggling with completing the disinflation process started in the first half of the 1980s – during the ‘hard ERM’ period, inflation differentials were still large and persistent in Europe. These differentials de facto undermined the credibility of the ERM parities for the relatively high inflation countries. In other countries, especially Germany, monetary authorities had little or no intention of giving up their sole focus on domestic price and monetary stability.

The ERM was in principle designed as a symmetric system, whereas the system-wide monetary policy stance would be determined through cooperative adjustment by both low- and high-inflation countries. Unsurprisingly, the reality of the ERM turned out to be quite different: Germany set its own preferred monetary stance and the other countries followed, keeping their policy rates sufficiently high to compensate investors for the risk of devaluation. This risk in turn translated into high borrowing costs that weighed on consumption and investment and worsened the fiscal outlook.

In the policy debate of the 1980s, a widespread view held that participating in the ERM could be seen as an efficient way to foster the transition from high to low inflation policy regimes by ‘importing (anti-inflationary) credibility from the Bundesbank’. Critics noted that such a strategy could only be successful as long as countries seemingly lacking fiscal and monetary discipline would be able to reform their policy framework and close inflation differentials rather quickly. Otherwise, the cumulative ‘loss of price competitiveness’ over time would endogenously undermine its credibility – and hence compromise its effectiveness. The cumulative macroeconomic imbalances created by persistent inflation differentials was one of the key problems feeding the instability of the ERM.³

2 In the European context, Padoa Schioppa elaborated on the trilemma and define the ‘Inconsistent Quartet’, including free trade (see Padoa Schioppa 1998).

3 Alberto Giovannini was one of the leading intellectual leaders in this debate, articulating both views in the course of his career as an academic and policymaker.

Against these imbalances, however, the demise of the ERM followed from a systemic shock hitting the core country in the form of German reunification. The overvalued conversion rate at which the East German mark could be converted to the Deutsche mark and massive fiscal transfer programmes in favour of East German residents soon generated inflationary pressure and turned the country's external surplus into a deficit. In response, the Bundesbank raised its policy rates in four steps and revised downwards its money growth target. With these decisions, the Bundesbank showed its determination to maintain price and monetary stability. The monetary contraction in Germany quickly transmitted a recessionary impulse to the rest of the system, generating strong pressures towards a Deutsche mark appreciation. Pressed to cut back rates, the president of the Bundesbank proposed a quid pro quo: the Bundesbank would trim rates 'in exchange for' a general realignment of the ERM allowing for a revaluation of the Germany currency (which would have lowered demand for German goods and imported inflation in Germany). But while many countries could not tolerate high rates – at the level required to quell speculative pressures in the market – they also remained fiercely opposed to a realignment of their parities. The ERM, as a cooperatively managed exchange rate system, could not and did not survive this policy conflict (1998 for a detailed historical account of the crisis, see Chapter 3 of Buiter et al. 1998).

What 'good' came from the crisis, then? In 1993, because of the crisis, the ERM agreement was corrected (without breaching the Maastricht Treaty!) to allow the exchange rate to move within bands as large as 15% on either side of central parities, implying that that – bilaterally – two currencies could move against each other by as much as 30%. This technical solution, adopted rather late (in July 1993) and after long political disputes, could not prevent a Europe-wide recession. But it did have two positive effects. First, the wider bands provided ample space for national monetary policy to play a central role in stabilising economies in the aftermath of the crisis – disposing of the temptation to reintroduce capital controls or other measures that could interfere with the process of financial (and trade) integration. The transition to the euro was no longer inconsistent with the impossible trinity! National central banks actually managed keep inflation rather low vis-à-vis large currency devaluations (this was surprising at the time, in light of the experience of the 1970s and 1980s when the passthrough of exchange rate movements to inflation was quite high). Central banks eventually restored exchange rate stability (but, as discussed below, the fiscal and regulatory frameworks did not adjust enough). Second, the reformed system created breathing space for Europe to metabolise the German unification shock and reassess the blueprint for Maastricht as a whole. This is where the 'bad' lies.

THE ERM CRISIS ULTIMATELY STRENGTHENED THE POLITICAL DRIVE TOWARDS THE CREATION OF THE MONETARY UNION

When the crisis erupted in 1992, it revived a long-standing European debate between the so-called ‘economists’ and the ‘monetarists’. At the cost of oversimplifying (and abstracting from the heterogeneity in views in each camp), the first camp included academic policymakers and observers who would consider monetary unification as the last step in a far-reaching economic and political integration process. Along this process, policies, institutions and economic structures in each country/region in Europe should integrate and grow in such a way as to reduce the costs of giving up national monetary instruments at a minimum, so as to fully enjoy the (micro, trade, investment) benefits from adopting a common currency. The second camp turned the logical and temporal sequence around, viewing monetary unification not as the end point but as a catalyst for real (economic and institutional) integration.

In the aftermath of the ERM, the monetarist view prevailed. Specifically, at the Madrid Summit in 1995, the political drive towards monetary unification over-ran reservations and calls for gradualism. This political drive resulted in an economically and institutionally incomplete, and therefore unstable, currency union. When the euro was introduced, its economic constitution consisted of three legs: (1) the ECB law, guaranteeing independence to the common central bank in the pursuit of a strict price stability mandate; (2) the Stability and Growth Pact, which lacked credibility from the start; and (3) the ‘no bailout’ clause (no transfer union), which was arguably ill defined and thus open to political bargaining and also not credible.

There was widespread awareness of some of the problems that this three-legged constitution could create. For instance, the euro area constitution left supervision and regulation of banks to (voluntary?) cooperation among, and coordination of, domestic institutions (up to 30 or 40 of them!) operating in different legal systems. It became progressively clear that the ‘no bailout’ clause precluded any progress not only towards the creation of a common safe asset, but also towards the adoption of mechanisms of cross-border insurance and rebalancing of demand and misalignment of relative prices. Most crucially, how could the euro area prevent or manage the emergence of large current account or fiscal imbalances, or significant inflation differentials?

A DIGRESSION ON ISSING’S QUESTION

The first generation of policymakers managing the euro were deeply involved in the ‘existential’ debate over how to provide solid foundations for the European Monetary Unification. In my visits first at the European Monetary Institute and then at the European Central Bank, I had the opportunity and privilege to engage in a constructive

and continuing dialogue with Tommaso Padoa Schioppa and Otmar Issing, among other leading members of the board and officers of the Bank. For the purpose of this chapter, let me refer to one recurrent question, which I would dub ‘Otmar Issing’s question’.

It goes like this: think of the international postal service. There are a few key rules/arrangements that are required to run it efficiently and effectively. For instance, letters and packages should be allowed to cross borders speedily and free of border-specific charges/problems; postal charges should be as uniform as possible; issues in delivery should be resolved by some centralised institution (or network of institutions) in charge of defining rules and sharing information about the status of the delivery, what to do in case of lost/damaged material, and other possible problems.

Shouldn’t we think of a common money using the same approach? That is to say, shouldn’t we ask: what is *minimal economic constitution required for a common currency to deliver stability and prosperity*? Note that this question is actually controversial. If someone envisions the euro as conducive to political integration (the ‘monetary’ view), he or she will naturally treat the adoption of the euro by independent states as a transitional stage – the success of the euro should be ultimately predicated in its capacity to catalyse a political federation or a political union. In contrast, when taking the route indicated by Issing’s question, the constitutional preconditions for a stable common currency that performs well should be assessed on their own.

In the first decade of the euro – a decade of optimism – the official answer to the question was something like this: if credible, the Stability and Growth Pact and the ‘no bailout’ clause could check all the boxes. The key is to ensure that both are credible. Credibility means that rules are always enforced, even in circumstances where their application may be extremely inefficient (ex post) and unfair. It is the responsibility of each government to understand what this implies and to act accordingly – first and foremost, reducing debt and ensuring a stable fiscal outlook.

Perhaps at the time most people downplayed the possibility of large systemic crises, and believed that intra-euro area imbalances would remain manageable via politically acceptable, country-specific adjustment. Nothing could have been further from the truth. We now come to the ‘ugly’ part.

A KEY LESSON OF THE ERM CRISIS LOST IN TRANSLATION

A surprising feature of the economic constitution and the institutional framework of the euro at its birth was that the possibility for crises was not even contemplated – European institutions and member states had no guidelines for an effective common policy response to periods of financial, fiscal or economic turbulence.

With hindsight, this was strikingly odd. After all, the European Union was born not from the orderly and smooth convergence process envisioned in Maastricht. Rather, the ‘last but one mile’ was disrupted by deep and persistent currency and financial turmoil,

shaking politics, economics, financial intermediaries, unions, and so on. In Madrid in 1995, the Europeans decided to sail on, as if the introduction of a common currency would be sufficient to put an end to all crises!

This short-sightedness was not just political, but also intellectual. According to a controversial view insistently voiced in academic circles at the time, it was exchange rate instability that created financial and economic vulnerability in Europe. Eliminating currencies was tantamount to eliminating the problem. The sooner the euro were to be introduced, the better.

Superficially, this view appeared to be rooted in leading international finance papers written in the early 1990s (sometimes specifically envisioned as a critique of ERM-like arrangements; see Obstfeld 1997 and Obstfeld and Rogoff 1995). These papers showed that, unless currency parities are irrevocably and credibly fixed, expectations of devaluation can become self-fulfilling, i.e. they can generate speculation and inflation/wage dynamics causing central banks to validate, *ex post*, the anticipation of instability by market participants. Any arrangement like the ERM would therefore be unstable.⁴ Digging deeper, however, it is apparent that these papers offer no theoretical support for the tenet that a discontinuous jump from national currencies to a common one would provide a shield from belief-driven financial instability *tout court*. Indeed, the same theory applies, *mutatis mutandis*, to self-fulfilling crises in the sovereign debt market – a point stressed in the seminal contribution by Guillermo Calvo in 1988 (for a recent reconsideration of the link between the currency and the debt crises literature, see Corsetti and Mackowiak 2022).

After the Global Financial Crisis, it took a long and painful political process to understand how to deal with self-fulfilling crises in the euro area. Fortunately, out of necessity European institutions were (once more) able to overcome internal political conflicts erupting along the ever-active San Andreas fault line dividing the core countries from the periphery countries. The key institutional remedy, implemented with great delay, consisted of activating a process eventually leading to a banking union and, most importantly, creating the European Stability Mechanism (at the intergovernmental level) and introducing the ECB's Outright Monetary Transactions (OMT) programme. The ECB could then break the self-imposed taboo on trading government bonds that had conditioned its initial response to the crisis. Once the taboo was broken, the ECB could later go on to extend the reach of its measures and engage in extensive quantitative easing.

⁴ To be clear, this is not to say that fundamental weakness is irrelevant. On the contrary, in the model as much as in reality, the crisis is driven by the interaction of fundamental weakness and self-fulfilling market expectations. But it is the latter component that not only caused crises to strike unpredictably, but also magnifies the disruption they cause.

TO CONCLUDE

European integration, so the argument goes, develops through crises. The ERM crisis in the early 1990s was a particularly important one. I argue that it substantially helped the introduction of the common currency at the end of the decade. Growing through crisis, however, comes at a cost. More than two decades old, the (economic) constitution of the euro area still falls short of the ‘minimal requirements’ for a resilient and prosperous currency union. An answer to Issing’s question is urgently needed.

POSTSCRIPTUM

In the early 1990s, Willem Buiter, Paolo Pesenti and I received the Sanwa Foundation award to write a monograph on the crisis (Buiter et al. 1998). In the process of writing the book, Paolo Pesenti and I attended (serving as young assistant professors in the room) the seminar that Paul Volcker and Helmut Schlesinger gave to Master’s students at the Woodrow Wilson School in Princeton in 1994. Schlesinger, who had been president of the Bundesbank throughout the ERM crisis, engaged in an uncompromising defence of the Bundesbank’s monetary conduct in the aftermath of German reunification, stressing its institutional commitment to price and monetary stability. He also expressed the profound concern produced by the deterioration of the German currency account – from a surplus to a deficit – that followed the country’s reunification, interpreting it as an indicator of declining competitiveness (Volcker stood steady in his view that much of the current account deterioration was actually a byproduct of intertemporal saving-investment decisions). The seminar ran in the evening from 7pm until 9pm. Schlesinger took pleasure in remaining with Paolo and me in the corridor outside the lecture room, with his raincoat on, to give us a long, exhaustive account, rich in detail, of the crisis from his perspective. This included not only his analysis of the fundamental roots and imbalances causing it and the political debate before and after the eruption of the crisis, but also a report of the various meetings at the European level discussing what to do. Much of this account, verified also by other sources, shapes the historical chapter of our book - as well as our modelling strategy. Re-reading the book today prompts the usual comment – in Europe “*plus ça change...*”.

REFERENCES

- Buiter, W, G Corsetti and P Pesenti (1998), *Financial Markets and European Monetary Cooperation: the Lessons of the 1992–93 Exchange Rate Mechanism Crisis*, Cambridge University Press.
- Calvo, G A (1988), “Servicing the Public Debt: The Role of Expectations”, *The American Economic Review* 78(4): 647-661.

Corsetti, G, B Eichengreen, G Hale and E Tallman (2020), “The Euro Crisis in the Mirror of the EMS: How Tying Odysseus to the Mast Avoided the Sirens but Led Him to Charybdis”, *Open Economies Review* 31(2): 219-236

Corsetti, G and B Maćkowiak (2022), “Gambling to Preserve Price (and Fiscal) Stability”, Robert Schuman Centre for Advanced Studies Research Paper No. RSC_72,

Obstfeld, M (1997), “Destabilizing effects of exchange-rate escape clauses”, *Journal of International Economics* 43(1-2): 61-77.

Obstfeld, M and K Rogoff (1995), “The Mirage of Fixed Exchange Rates”, *Journal of Economic Perspectives* 9(4): 73-96.

Padoa-Schioppa, T (1988), “The European Monetary System: A Long-Term View”, in F Giavazzi, S Micossi and M Miller (eds), *The European Monetary System*, Cambridge University Press.

ABOUT THE AUTHOR

Giancarlo Corsetti (Ph.D. Yale, 1992), is Pierre Werner Chair and joint Professor, Department of Economics and Robert Schuman Centre for Advanced Studies of the European University Institute. He is affiliated with CEPR, the ESRC Centre for Macroeconomics, the Cambridge Janeway Institute, and the United Nations High-level Advisory Board on Economic and Social Affairs. He is an Academic Adviser at the Bank of England and the European Central Bank. He is a leading scholar in international economics and open macro with pioneering contributions on currency, financial and sovereign crises, monetary and fiscal policy in open economy, and the international transmission and global imbalances, published in top academic journals. He served as co-editor of the *Journal of International Economics* between 2005 and 2016. In 2015 he gave the Schumpeter Lecture at the Meetings of the European Economic Association in Mannheim. In 2020, he was elected fellow of the British Academy.

CHAPTER 3

A small currency in the ERM zone of monetary instability

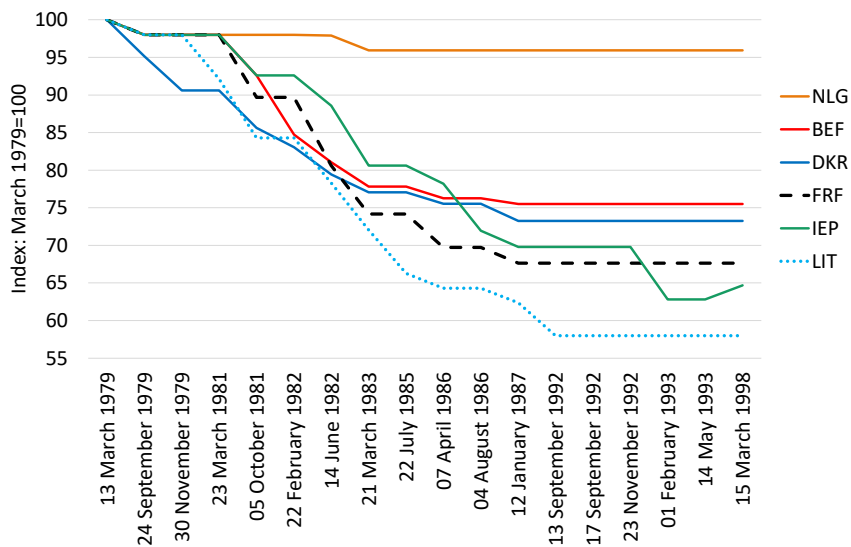
Patrick Honohan

Trinity College Dublin, Peterson Institute for International Economics and CEPR

The period between the collapse of the Bretton Woods system in 1971 and the end of the narrow band Exchange Rate Mechanism (ERM) in 1993 was a low point in the management of exchange rates in Europe. In particular, the European Monetary System (EMS) with its ERM had been announced as a ‘zone of monetary stability’, but it proved to be far from that. And not just because of its spectacular disintegration when the large countries (first the UK and Italy and later France) decided in effect to abandon it, but because a pegged exchange rate is only pegged until the next realignment.

In the first years of the system, apart from the Dutch guilder, the other four narrow band currencies all exhibited considerable weakness, with either six or seven effective devaluations each against the Deutsche mark in the first eight years of the system (Figure 1). Now that we are used to the passionate adherence of the Danish National Bank to a euro-peg, it is salutary to recall that the Danish krone (the second smallest currency of the ERM) was actually the weakest of the four in the first few years.

FIGURE 1 REALIGNMENTS AGAINST THE DEUTSCHE MARK IN ERM



Note: Original ERM member countries

And what about the smallest currency, the Irish pound? It had been fixed at one-to-one with the pound sterling for over 150 years, and had (in effect) entered and left the 'snake' with sterling. Indeed, by the late 1970s Ireland was one of the very last members of the sterling area to maintain a fixed parity with sterling. Why, when the EMS was mooted, did Ireland join? After all, by the time it was finally launched, the ERM was in effect little more a remake of the 'snake' with France back in, but without the UK. Ireland's trade was still dominated by the UK; leaving a peg with sterling for one with the rest of the European Economic Community (EEC) was not an obvious choice.

There were push and pull factors in Ireland's decision. On the push side, Britain had enjoyed/endured the highest inflation rates among the leading economies after the first oil shock, and this was fully imported into Ireland. This was a dragging monetary anchor. Joining a hard exchange rate system could banish the spectre of inflation. And Ireland saw larger opportunities in detaching itself from the old colonial power and increasing integration with the more promising continental economies.

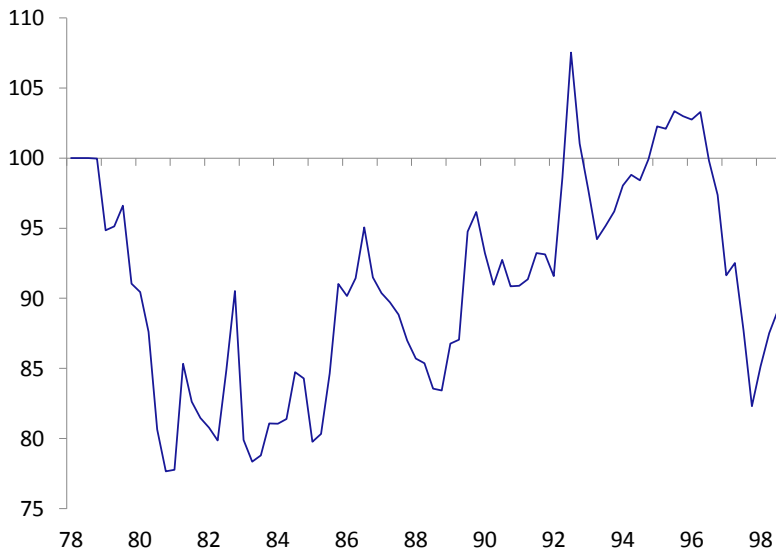
Still, it was seen that joining a Deutsche mark-zone without Britain could entail deflationary costs for Ireland. With this in mind, a package of grants and low-cost loans was offered to Ireland, along with Denmark and Italy. For Ireland the package was sizable – worth about 3% of GDP – so it became a pull factor not to be sneezed at, and Ireland joined.

There was some hope in Dublin that the margin of fluctuation in the ERM band might be wide enough to allow the Irish pound to stay tied to sterling, but such hopes were dashed already in the starting month of the system, March 1979. The bilateral exchange rate with Britain continued to be important, and the quite sharp fluctuations in both nominal and real bilateral rates proved to be unsettling (Figure 2).

Because of the strength of sterling in the early 1980s and because of realignments, the ERM did not prove to be a hard currency area for Ireland.

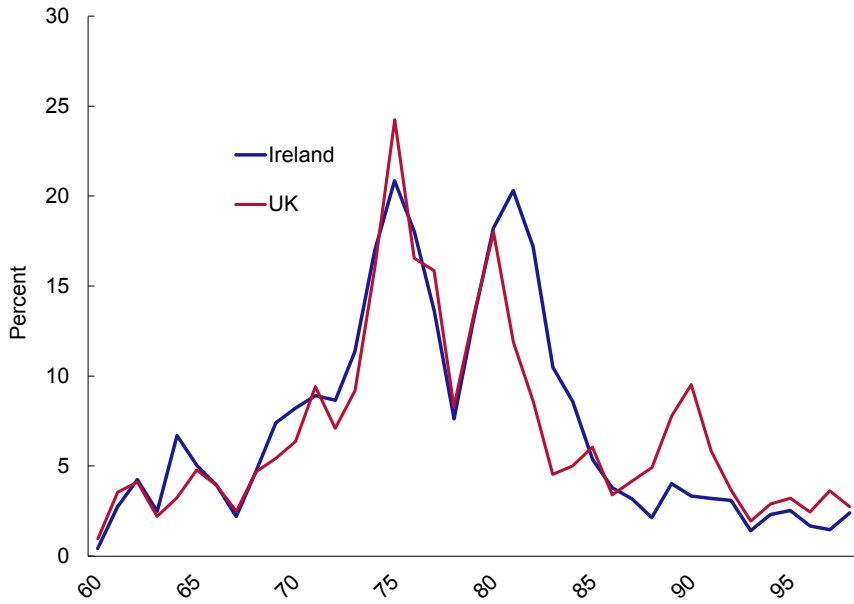
As shown in Figure 3, inflation did fall in Ireland during the first decade of the ERM, but it did so more slowly than in the UK. The frequent realignments of the ERM allowed Ireland to take relatively passive and inconspicuous steps which served to maintain competitiveness at the cost of slower disinflation. The desire to be inconspicuous is captured in what the central bank governor at the time asked me on the occasion of one of the first realignments: "How can we do nothing?" This certainly contrasted with the two early devaluations of the Danish krone. Given the frequently multi-currency nature of most of the realignments, 'doing nothing' generally meant a depreciation against the Deutsche mark.

FIGURE 2 IRELAND-UK NOMINAL EXCHANGE RATE, 1978-1998



Note: In Irish pence per pound sterling, monthly average of third month in each quarter).

FIGURE 3 IRISH AND UK INFLATION RATES 1960-1999



Thus, Ireland's inflation rate fell but more slowly than in Britain, as it took most realignment opportunities to try to ensure that it was not losing competitiveness (stabilisation of the trade-weighted real effective exchange rate was a goal). For the Irish pound, there was a 30% cumulative devaluation against the Deutsche mark by January 1987 (37% by February 1993).

What of the other small country member? Was Denmark's stabilisation strongly helped by its membership of the system? That's not what the literature suggests (Christensen 1989, Westbrook 2006). With two devaluations already in 1979, Denmark lost monetary credibility in the early phase of the system and paid the price in higher interest rates. Not until a conservative government took office in 1982 and suppressed automatic wage indexation and implemented fiscal austerity was disinflation established in the country.

Was the ERM a trap prepared by the Bundesbank in order to tie in poorly managed countries to overvalued exchange rates, thereby giving German producers a competitive advantage? The experience of Ireland and Denmark provides little support for this theory. The statements and behaviour of German policymakers also point in a different direction. Karl-Otto Pöhl often argued that the system would work better with even more frequent – but low-pressure – realignments. He worried about a regime of permanently fixed rates in which, as he wrote in 1988, “the weak would become ever weaker and the strong ever stronger. We would thus experience great tensions in the real economy of Europe” (quoted in James 2012: 232). Furthermore, when the Irish pound was devalued in the unilateral realignment of August 1986 (a step triggered by the pressure induced in Ireland by the wave of sterling weakness since the Plaza accord of the previous year), Germany pressed for a larger devaluation than had been requested by the Irish authorities.¹

Indeed, the politics of realignments in the ERM (and in the ‘snake’ before it) were multi-dimensional and complex. Some of the problems related to the interaction of exchange rate movements within the EEC and the prices negotiated under the Common Agricultural Policy. Some related to the bystander effects of speculative capital flows between the two major currencies – the US dollar and the Deutsche mark – especially when the dollar was weak, as this drove up the mark relative to all others and made maintaining the intervention limits tough in terms of interest rate movements and in terms of loss of export competitiveness against third countries. The Bundesbank did not want a weak currency system in which it would be repeatedly expected to finance the debtor countries. But it also didn't want the Deutsche mark to be driven too high against the other EEC currencies.²

1 This was the only pre-ERM crisis occasion at which Ireland chose not to ‘do nothing’.

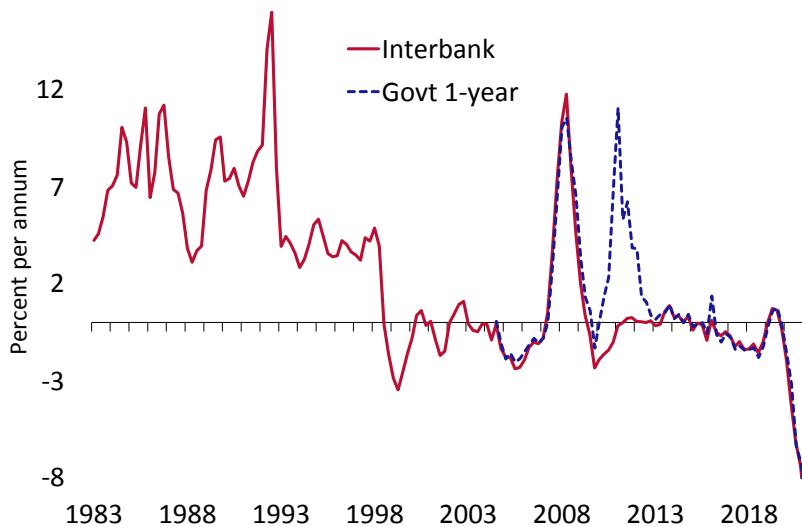
2 Interesting that it was periods of US dollar *weakness* that tended to cause European exchange rate problems, in contrast to the way in which dollar *strength* causes problems in emerging markets today.

The repeated realignments in the system (on average, one a year up to 1987), which had at first been seen as a weakness of the system and later as a good safety valve, ground to a halt after early 1987. There followed a five-year ('new EMS') period of exchange rate stability.

But the fact that its dominant trading partner was not in the system left Ireland constantly vulnerable on the exchange rate front. In the ERM crisis of 1992, the Irish pound held out against devaluation for more than four months, during which time money market rates sometimes reached 100%, but eventually succumbed again to a large devaluation.

A price was paid by Ireland for the repeated devaluations, with interest rate spreads over Deutsche mark rates substantially exceeding the actual subsequent realignments, at least after 1983 (and even continuing into the 'new EMS period') (Figure 4).³ Denmark too paid a high price in interest rate spreads until its post-1982 government re-established credibility. No wonder that Ireland and Denmark both opted for corner solutions (fixed or floating) in the end.

FIGURE 4 IRELAND: REAL INTEREST RATES, 1983-2021 (DEFLATED BY 4-QUARTER FUTURE INFLATION)



After the narrow band ended and a virtual float was in place, Ireland's macro situation improved and these half-dozen years are seen as a golden age – before the Celtic Tiger morphed into a construction and property price bubble. But that's another story.

3 Still, Kremers (1990) claims that expectations data provides some evidence of a credibility gain for Ireland in the ERM.

REFERENCES

Christensen, M (1987), "On interest rate determination, testing for policy credibility, and the relevance of the Lucas critique: Some Danish experiences", *European Journal of Political Economy* 3(3): 369-388.

Honohan, P (2019), *Currency, Credit and Crisis: Central Banking in Ireland and Europe*, Cambridge University Press.

James, H (2012), *Making the European Monetary System*, Harvard University Press.

Kremers, J M (1990), "Gaining policy credibility in the EMS: The case of Ireland", *IMF Staff Papers* 37: 116-45.

Westbrook, J R (1995), "Does exchange rate pegging enhance credibility? Evidence from the European Monetary System", *Applied Economics* 27(12): 1153-1166.

ABOUT THE AUTHOR

Patrick Honohan has been a CEPR Trustee since January 2016. He was Governor of the Central Bank of Ireland and a member of the governing council of the ECB from September 2009 until November 2015, and is a CEPR Research Fellow. He is an Honorary Professor at Trinity College Dublin (where he was formerly Professor of International Financial Economics and Development) and is a non-resident senior fellow at the Peterson Institute for International Economics. Previously he was a Senior Advisor in the World Bank working on issues of financial policy reform. During the 1980s he was Economic Advisor to the Taoiseach (Irish Prime Minister). He has published widely on issues ranging from exchange rate regimes and purchasing-power parity, to migration, cost-benefit analysis and statistical methodology. He is a Member of the Royal Irish Academy and a past president of the Irish Economic Association.

CHAPTER 4

The European Monetary System crisis of 1992

Richard Portes

London Business School and CEPR

There were no realignments in the Exchange Rate Mechanism (ERM) from January 1987 to mid-September 1992. This period was called the ‘new’ or ‘hard’ European Monetary System (EMS). It ended when Britain and Italy were forced to leave the ERM; Spain devalued twice; and Portugal once. France very narrowly escaped devaluation in September and the franc was under intermittent severe pressure until the summer of 1993, when the system broke down.

Officials claimed they could not have seen the crisis coming. “All the clever economists never told us before Maastricht about the problems of maintaining the EMS in the transition to EMU” (European Community Ambassador to Washington, Andreas van Agt, speaking at William and Mary College, 25 September 1992).

But of course we did tell them frequently, in non-technical language, in European Commission publications and professional journals and public discussion meetings, in Brussels and London, Milan and Rome. A few economists got it wrong, but the consensus was clear and well argued. In 1990 it became clear that the economic impact of German reunification would require a real appreciation of the Deutsche Mark.

‘Permanently fixed exchange rates’ is an oxymoron. There is no point in having exchange rates except to change them some day. In that sense, fixed exchange rates are closer to floating rates than to monetary union. Since even in the ‘hard’ EMS the rates would not stay fixed permanently, the question was simply whether they would change in a rational and controlled manner. Would it be a conscious and agreed policy choice or forced by the markets?

I argued in autumn 1989, in an address to the Confederation of British Industry (CBI) conference on 10 October, that “Stage One, progressing to universal EMS membership with full capital mobility, is due to begin in July 1990. It cannot be maintained for long. The System will either break up...or will have to move quickly to irrevocably fixed rates, with all they require to maintain them.”

The key was the dismantling of capital controls. By limiting the rate of short-term speculative capital flows, controls had permitted orderly realignments pre-1987 – so orderly that in later years of that period, the new bands typically overlapped the old, so that speculators could not make easy profits on one-way bets. Capital controls did not then delay changes that were necessary – at least, the delay was no longer than necessary.

Officials appear to have believed, however, that a policy of no realignments would be safe even without capital controls if they simply told the markets there would henceforth be no parity changes. When they felt doubtful, they turned to the 1987 Basle-Nyborg agreements on defending the parities, and they were comforted.

This false sense of security grew as time passed, controls were removed, and the rate structure seemed to become universally accepted. Officials – and, temporarily, the currency markets – were behaving as if they were not merely on a glide path towards EMU (as the new EMS came to be known), but rather as though they were already there. Self-fulfilling expectations were supporting that path. Any shock that would disturb those expectations would remove the support, and without capital controls, there would be no time to devise a strategy for defence or orderly retreat. In the event, the clearest evidence for the importance of capital controls is that in September 1992 we saw not an orderly realignment, not even a realignment at all – two countries were forced out of the ERM, for the first time. It was revealed definitively that full capital mobility required either monetary union or floating exchange rates. The new EMS was held together only by expectations of progress to EMU.

As the anchor of the system, Germany was key. But it had entered severe macroeconomic imbalance. Subsidies to the East (at least DM 150 billion annually, mainly for consumption) were not financed by taxes on the West, and a large fall in net exports was necessary; indeed, a switch from strong current account surplus into deficit. Both implied Deutsche Mark real appreciation. As was foreseeable, the Bundesbank would not allow that to come about through inflation. Hence ‘German Reaganomics’: loose fiscal and tight monetary policies. To mitigate the rise in real interest rates required a realignment of the Deutsche Mark. The Bundesbank realised early the need for a real appreciation and wanted a general realignment in the EMS (some say as early as the end of 1989). France said no: the franc fort was the pillar of French economic policy.

The primary short-run cause of the collapse was not the fundamentals, which had not significantly deteriorated in the months prior to September 1992. Nor (except for the Deutsche Mark) were they seriously out of line – whether for the Finnish markka (which started it all when speculation forced a float at the beginning of September), the French franc, or even (arguably) the lira or sterling. The UK’s share of world exports was slightly up in the 1980s; unit labour costs vis-à-vis Germany in 1992 were the same as in 1965–79 (better than in 1979–85 and only 10% worse than 1986–7, which was the post-1979 best). The ERM floor of DM 2.78 *undervalued* sterling with respect to Deutsche Mark purchasing power parity (PPP).

Perhaps the best illustration of dependence of the exchange rate structure on expectations rather than fundamentals is the Spanish peseta, which was at the top of the ERM grid for a long time – until it was devalued. The Portuguese escudo followed a similar path. We should not be surprised at the key role of expectations rather than fundamentals, since we knew that there could be multiple rational expectations equilibria in foreign exchange markets. This explains the lack of relationship between exchange rates and fundamentals, shows there can be selffulfilling speculative attacks on ‘healthy’ currencies, and thus suggests a justification for capital controls.

Officials said they were not prepared for the size of the speculative capital flows, which overwhelmed their defences. Did they not know that foreign exchange trading was then on the order of \$1,000 billion daily, of which no more than 5% financed trade in goods and services? They claimed that there were extensive coordination and intervention mechanisms. But the Bundesbank could not in fact commit to unlimited intervention, because that would sacrifice its monetary policy autonomy, which was unacceptable, short of EMU itself. And it had explicitly rejected such a commitment. The Bundesbank was not willing to undertake massive unsterilised intervention, even for a short period.

It was claimed that the Swedish example in September 1992 demonstrated that it is always possible to defeat a speculative attack on a currency by raising overnight interest rates sufficiently. This is technically correct, but not helpful in practice if it raises the question of which falls first – the currency or the government. And even if governments were strong enough to take it (at least in the short run), financial systems could not: neither the Italian (which had to absorb \$80 billion of government paper each month) nor the British (because of its variable rate mortgages and the heavy overhang of private debt) financial system could cope with 500% overnight rates, however briefly.

The markets knew this, so such a policy was not credible. The ultimate Swedish capitulation in November 1992 demonstrated the practical limits of this policy instrument. Sharp rises in very short-term rates did help the Banque de France for a time, but they were feasible only because under French institutional conditions, the authorities were able to ‘protect civilians from war damage’ by stopping the commercial banks from passing on rate increases to commercial and personal borrowers.

Some suggested that the problems were all due to the Bundesbank. For example, it was said to have betrayed first the Italians, then the British – the former by promising (in exchange for devaluation) an interest rate reduction that turned out to be derisory, the latter simply by telling the markets that sterling could not hold. In regard to the UK, the Bundesbank had never hidden its belief that a wide-ranging real appreciation of the Deutsche Mark was required – certainly including sterling. At worst, the Bundesbank president was indiscreet in confirming that (yet again) when he did.

The Italian devaluation should have been seen as part of the overall picture. It is now clear that the Bundesbank was offering, in general terms, an ‘overall solution’ (a general realignment) in exchange for ‘help’ (lower interest rates) in early September, and that they

made an explicit proposal on the key weekend of 12–13 September. The Banca d'Italia Governor said subsequently, “[j]ust how much German interest rates would go down depended on how far the realignment extended...” But the offer was not passed on to the British by the (French) chairman of the European Community Monetary Committee; France would certainly have opposed it, and in fairness, the UK evidently never pursued this solution itself with the German authorities directly.

A particularly tendentious interpretation claimed that to finance the absorption of East Germany, the Bundesbank set out to attract capital without inflating by putting interest rates high. Nonsense. It was forced to run an excessively tight monetary policy because of the fiscal irresponsibility of the German Chancellor, who promised in autumn 1990, just before an election he was going to win anyway, that unification could be consummated without sacrifice – in particular, no new taxes. Doubtless some borrowing to finance unification was justified (smoothing), but letting domestic demand push against capacity constraints and foster wage push was a major fiscal policy error. Given that, a general realignment might have moderated the pressure on interest rates, but other countries did not want it.

The simple explanation for the events of autumn 1992 is that this was an accident waiting to happen. The new EMS was fragile, held together by expectations ready to be destabilised; a Deutsche Mark realignment was long overdue; the consequent high real interest rates were unsustainable outside Germany.

There was also widespread misunderstanding of the EMS itself and of the relationship between the ‘hard’ EMS and the Maastricht EMU project. For example, we heard that ‘the problem was the rush to EMU’. In fact, that might have been the *solution* to the instability of the EMS, if only the rush had been fast enough.

The classic scapegoat incapable of self-defence was ‘the markets’. They were ‘determined to bring down sterling (the franc, the lire, whatever)’. But it is absurd and misleading to anthropomorphise a collection of thousands of individual traders working for competing firms, taking very short-run decisions. ‘The markets’ have no collective view, nor *a fortiori* any collective intention. Yet conspiracy theories abound. ‘The foreign currency dealers seemed bent on proving that they had found a method of cracking the European exchange rate mechanism.’ Even more absurd. They have better things to do, like make money. Even if the traders aren’t crooks, some thought they could get stability by ‘curbing the power of . . . a handful of shirt-sleeved speculators’. It sounds easy, especially from the historical perspective of French Finance Minister Michel Sapin: “During the Revolution, such people were known as *agioteurs*, and they were beheaded.”

Some suggested that the situation in autumn 1992 looked just like the breakup of the Bretton Woods exchange rate system (‘dépà vu all over again’). But the Bretton Woods countries were not bound together in a single market and a European Community. So, the outcome was very different.

The two extreme options were to float – i.e. to suspend or abandon the ERM/EMS – or to accelerate the Maastricht timetable to EMU. There were no new arguments for or against floating, just the lessons of historical experience. As for the dollar, the yen and the pound in the 1980s, letting rates float can give cycles of 50% appreciation followed by 50% depreciation. That could not have been right for the highly integrated economies of the European Community, linked in a single market.

The Friedmanites who always believed in floating (‘the exchange rate is a price just like the price of peanuts’) were delighted by the events of autumn 1992. The correct lesson to draw, however, was not the superiority of floating, but rather the instability of the new ‘hard’ EMS without capital controls and the need to accommodate once-in-a-lifetime idiosyncratic shocks (e.g. German unification). On the other hand, accelerating the timetable to EMU without further economic convergence might well have been unsustainable.

Ultimately, and not surprisingly, it depended on France. The final denouement came in August 1993, when France could no longer remain within the tight bands of the ‘hard’ EMS. The solution chosen was to widen the bands dramatically, with a renewed commitment to the convergence process set out in the Maastricht Treaty. And less than six years later, EMU emerged.

ABOUT THE AUTHOR

Richard Portes, Professor of Economics at London Business School, is Founder and Honorary President of the Centre for Economic Policy Research (CEPR) and Co-Founder of *Economic Policy*. He is an elected Fellow of the Econometric Society and of the British Academy. He has been Chair of the European Systemic Risk Board Advisory Scientific Committee, of which he remains a member, and he is Co-Chair of the ESRB Joint Expert Group on Non-bank Financial Intermediation as well as of the new ESRB Crypto Assets Task Force. He is a founder member of the Bellagio Group on the International Economy and the Euro50 Group. He is an Academic Director of the AQR Asset Management Institute at LBS. Professor Portes was a Rhodes Scholar, then an Official Fellow of Balliol College, Oxford (of which he is now an Honorary Fellow). He has also taught at Princeton and Birkbeck College (University of London). He was the inaugural holder of the Tommaso Padoa-Schioppa Chair at the European University Institute (2014-17), and he has been Distinguished Global Visiting Professor at the Haas Business School, UC Berkeley, and Joel Stern Visiting Professor of International Finance at Columbia Business School. He holds three honorary doctorates. He has written extensively on sovereign borrowing and debt, European monetary issues, European financial markets, macroprudential regulation, and international capital flows. Professor Portes was decorated CBE in the 2003 New Year’s Honours.

PART 2

1992 - GROUND ZERO

CHAPTER 5

The ERM crisis and the UK: Black or White Wednesday?

Sir Charlie Bean

LSE and CEPR

The focus of my contribution to this eBook is Britain's short-lived membership of the Exchange Rate Mechanism (ERM) and its aftermath. The UK's forced suspension of its membership on 16 September 1992 in the face of an overwhelming run on sterling is widely seen as the point at which the then Conservative government's reputation for effective economic management crumbled. Yet the fact that this event is referred to as both 'Black Wednesday' and 'White Wednesday' suggests the legacy is mixed.

To start, it is worth recalling the circumstances leading the UK to join the ERM. In the early part of Margaret Thatcher's first administration, getting inflation under control was built on the pursuit of a target for the rate of growth of the broad money supply, £M3. While the government succeeded in bringing inflation down – albeit by inducing a deep recession and a large rise in unemployment – as in many other jurisdictions, the chosen monetary aggregate proved to be an unreliable guide to the subsequent evolution of nominal aggregate demand and inflation. That led Nigel Lawson, the Chancellor of the Exchequer, to look for a more reliable monetary lode star, eventually alighting on an external, rather than internal, nominal anchor in the form of the sterling–Deutsche mark exchange rate. Initially, the new approach involved only an informal and rather loose exchange rate target, but in due course this led to formal ERM membership in October 1990.

Crucially, the period preceding ERM entry saw rapid output growth, stoked by relatively lax fiscal and monetary policies – the so-called 'Lawson boom'. Unemployment fell from about 10½% in 1987 to around 7% in 1990, while consumer price inflation picked up from around 3% in 1987 to 7½% in 1991. This period also saw strong growth in mortgage credit and rapidly rising house prices on the back of financial liberalisation, a feature that added significant amplification to the subsequent downturn.

Initially, the government thought that this robust output growth reflected improved supply performance as a result of structural and tax reforms. Only later did the authorities realise that a conventional cyclical boom was in full sway, leading the Chancellor to begin raising the policy rate to cool demand. The policy rate, which had been under 9% in mid-1987, had reached nearly 15% by the time the UK entered the ERM, at a central parity of 2.95 marks to the pound. Full ERM membership was expected to provide a

more credible nominal anchor and so reduce the output cost of disinflating. Moreover, joining at a relatively high exchange rate meant more of the burden of slowing demand would fall on net exports, allowing the government to lower the path of interest rates, so moderating the squeeze on domestic spending. With an election looming, that was no doubt politically attractive too.

Even then, several commentators believed the chosen parity would prove unsustainably high and that something in the region of 2.5 would have been more appropriate (e.g. Muellbauer 1991, Wren-Lewis et al. 1991). And even if appropriate at entry, it seemed unlikely to remain so given the UK's excessive inflation relative to Germany.

Initially, ERM membership was viewed as a success, with both inflation and interest rates falling back. Then, of course, it ran into the consequences of German reunification. Higher interest rates in Germany meant rates needed to rise in the UK and other ERM members if parities were to be maintained. The result was a deep downturn in the UK, worsening twin budget and current account deficits, and a growing sense that ERM membership was, in fact, proving to be a straitjacket.

While a realignment of the central parities represented the obvious economic solution, the government had derived much political credibility from ERM membership, and was consequently strongly against any devaluation of the pound, especially if it singled the UK out. But by the same token, the government was also not prepared to undertake the action necessary to maintain the existing central parity – namely, a substantial hike in the policy rate and all that it entailed for domestic activity and unemployment. Market participants could see the unsustainability of this position and resorted to selling sterling assets in force. The rest is history, with the UK forced to suspend its membership on 16 September 1992.

Turning to the legacy of this episode, let me start with the positives, most notably the subsequent improvements to the policy framework. First of these was the adoption of inflation targeting, with the Treasury and the Bank of England coming to the view that focusing on the final objective of monetary policy – price stability – rather was likely to prove a more transparent and more durable nominal anchor than an intermediate target that was vulnerable to unpredictable shifts in the relationship between the target and the ultimate objective.

Second, the adoption of an explicit inflation target was buttressed by significant institutional improvements. Although the interest rate decision remained with the Chancellor, it was taken after a publicly minuted monthly meeting with the Bank of England, while the Bank began publishing an independent assessment of the economic outlook in its quarterly *Inflation Report*. The Bank thus became a sort of 'monetary watchdog', able to upbraid the Chancellor when it believed monetary policy was inappropriate (as was notably so in the lead-up to the 1997 election). This in turn led

to full operational monetary independence when Labour came to power in 1997, with monetary policy decisions delegated to an independent and technocratic Monetary Policy Committee housed at the Bank.

These institutional changes were accompanied by 15 years of low inflation and continued economic expansion. Many other countries also saw a 'Great Moderation' at this time but the improvement in the UK's macroeconomic performance is especially marked. Indeed, the period between ERM exit and the beginning of the Global Financial Crisis represents the most stable epoch over the 200 years or so for which data are available (Benati 2005). The apparent success of the reforms was also a factor behind the creation of the Office for Budget Responsibility as a 'fiscal watchdog' by the new Conservative-led coalition in 2010. In my view, ERM exit thus resulted in a greatly improved macroeconomic institutional framework.

On the other side of the ledger, the ignominy of ERM ejection together with the deepening of EU integration under the Maastricht Treaty fed growing euro-scepticism, especially on the Conservative right. The subsequent Labour administration provided a more pro-EU interlude, but a more virulent strain of euro-scepticism emerged after the Conservatives regained power in 2010, amplified by growing popular discontent with high levels of immigration from the EU. That in turn led to the 2016 referendum and the narrow decision to leave the EU.

The problem, of course, was that neither the referendum question itself nor the campaign in favour of leaving identified the particular form that Brexit would take. In the event, the Johnson government ended up opting for the hardest of Brexits, with just a bare-bones free-trade deal with the EU and maximum scope for the UK to follow its own regulatory path. Although perhaps not widely appreciated by the electorate, the natural corollary of such a hard Brexit would appear to be the drift towards a low-tax, low-regulation economic model in order to offset the increased costs of trading with Europe and to encourage businesses to locate in the UK rather than within the EU Single Market – a 'Singapore on Thames' strategy.

While the short-lived Truss administration signalled its intention of pursuing such a libertarian approach, the disastrous market reception to the 23 September mini-budget and its subsequent reversal have put this strategy on ice, possibly permanently. Instead, the Sunak administration and the Labour opposition, who look likely to provide the next government, both seem to favour working towards a more sustainable and cooperative relationship with the EU. In due course, I expect to see this evolve into some form of permanent alignment rather than the progressive divergence envisaged by libertarian Brexit enthusiasts.

REFERENCES

Benati, L (2005), “The Inflation-targeting Framework from an Historical Perspective”, *Bank of England Quarterly Bulletin* 45(2): 160-168.

Muellbauer, J (1991), “Productivity and Competitiveness”, *Oxford Review of Economic Policy* 7(3): 99-117.

Wren-Lewis, S, P Westaway, S Soteri and R Barrell (1991), “Evaluating the U.K.’s Choice of Entry Rate into the ERM”, *The Manchester School of Economic & Social Studies* 59(0): 1-22, Supplement.

ABOUT THE AUTHOR

Charles Bean is a Professor of Economics at the London School of Economics and Chairman of the Centre for Economic Policy Research. Between 2016 and 2021, he was also an executive member at the Office for Budget Responsibility. From 2000 to 2014, he served at the Bank of England as, successively, Executive Director and Chief Economist, and then Deputy Governor for Monetary Policy, in which capacity he was a member of the Monetary Policy and Financial Policy Committees. Before joining the Bank, he was a member of faculty at LSE and was Managing Editor of the Review of Economic Studies; he has also worked at HM Treasury. He was President of the Royal Economic Society from 2013 to 2015 and was knighted in 2014 for services to monetary policy and central banking. He holds a PhD from MIT.

CHAPTER 6

The ERM crisis: A teachable episode for international macro

Catherine Mann

Bank of England and CEPR

I appreciate the opportunity to join this webinar on the ERM crisis. This retrospective comes just weeks after the announcement of the ‘mini-budget’, when sterling was depreciating to near historic lows, there were calls for the Bank of England to meet in emergency session to support the pound, market interest rates were soaring and, ultimately, both the finance minister and the prime minister resigned.

However, I would like to step back from recent events and frame my remarks about the 1992 ERM episode using my experience as Rosenberg Professor of Global Finance at Brandeis University. The ERM period is an exquisitely teachable episode for an open-economy macro class. All the important theoretical underpinnings of international macro can be deployed to explain what happened in this episode. In addition, excellent empirical assessments from the ERM crisis highlight features common to other exchange rate crises. Finally, there is great text, photos and video on the internet – all quite useful in the classroom!

In terms of the theory, the workhorse model, Mundell-Fleming, which relates fiscal policy, monetary policy and external balance, takes centre stage. The IS-LM-BP model illustrates what happens given fiscal shocks and monetary responses under alternative exchange rate regimes and with different degrees of capital mobility. I still use this framework as a professor.

The ERM crisis also is a perfect example of the ‘trilemma’. You can’t have all three – an independent monetary policy, a fixed exchange rate and free capital flows. Usually, it is the fixed exchange rate that is the weakest link, since it is a variable not under the control of the domestic authorities. The degree to which cross-border capital flows should be ‘free’, or under some degree of domestic control, continues to be a thorny issue these days in some countries.

We can also talk about the ERM crisis through the lens of Rudi Dornbusch’s work, which integrated asset markets and asset prices into the open-economy goods markets framework. Because asset markets and asset prices move more quickly in response to shocks than do goods markets and goods prices, they tend to overshoot an equilibrium based on real fundamentals. Of course, the exchange rate is an asset price – even more so these days than in the ERM period.

For sure, the economics profession has moved on from these simple models, but the fundamentals that drive the conclusions from these models are still a good guide to likely empirical outcomes given the stresses of policies or shocks. Indeed, I can tell from the more recent events and market reactions that this all-encompassing, but still quite simple, framework reverberates still.

The tensions of the trilemma – particularly the policy requirements – were strongly evident during the ERM crisis. Back then, sterling was managed within the ERM, until cross-border capital flows, via a relatively early use of foreign exchange shorts and hedges, forced policymakers to choose to defend the peg or let the pound depreciate.

The difficulty of this decision, and its consequences for domestic activity and inflation so apparent back then, has renewed interest in the third leg of the trilemma – to what degree it might be appropriate to deploy capital flow management measures (CFMMs) to buffer the domestic economy from sloshing international capital. Back then, daily exchange rate transactions were only about \$500 billion; these days, daily transactions are some \$7 trillion. The exchange rate is even more an asset price these days than it was then, or when Rudi wrote his famous articles. In light of the liquidity in international capital markets, some economies do deploy CFMMs. After many years advocating free capital flows, CFMMs have become a tool more accepted in the Integrated Policy Framework of the IMF. The IS-LM-BP model of how exchange rates might behave in the face of policies and shocks, and under different degrees of capital mobility, has found a second life.

The political economy of exchange-rate crises is another strand of the open-economy literature that was reflected in the ERM period, and more recently as well. Periods of exchange rate turbulence are often politically turbulent as well, including being negatively associated with the longevity of finance ministers and heads of state. The resounding defeat of the Conservative Party in 1997 has been ascribed in part to Black Wednesday.

In considering the ERM episode, or indeed any open-economy situation, it is important to keep in mind the global context. A fundamental question often revolves around ‘what is the right exchange rate’, since presumably this is a currency rate that could be the equilibrium rate in the IS-LM-BP and defended in the trilemma context. But, since all exchange rates are the ratio of two currencies, this is not a question that can be answered just with reference to domestic variables.

Let’s return to the broader context in the 1992 episode, where the critical global factor was German reunification, and compare that to the current context of the common global shocks of Covid-19 and the Russian invasion of Ukraine.

A key feature of the 1992 episode was the tussle between private capital flows and institutional firepower and credibility. At the time, the combined UK fiscal and monetary authority first deployed foreign exchange reserves to stem the depreciation of sterling, but ultimately had to put the policy rate into play. It was the domestic consequences of the second tool that precipitated the decision to allow sterling to exit the ERM. There

was, in the end, a lack of firepower but also perceived uncertainty about institutional credibility vis-à-vis the inflation-versus-output consequences of maintaining the peg. To the extent that the output consequences were perceived to dominate, the one-way bet on sterling was clear. Some of the institutional changes discussed in more detail by Charlie Bean were the outcome of this institutional uncertainty.

Also, behind the apparent one-way bet on sterling at the time were issues facing the two major players – Germany and the UK – that go above and beyond the asymmetry in perception and reaction when comparing growth, inflation and current account dynamics, and how those relate to currency fundamentals. It has always been an asymmetrical fact that strong fiscal credibility and a current account surplus would be reflected in a strong currency, but neither Germany nor the UK scored well on those metrics in 1992, although Germany had a better history. However, in addition, UK inflation was running at 11% – about three times that in Germany – and there were stronger fears of recession, both tending to weaken the pound's fundamentals. But further, the 1992 episode took place as the political relationship between Germany and the UK soured, which, along with economic fundamentals, undermined both the desire and the ability to stay in the ERM.

If we contrast the 1992 global backdrop with the shocks and outcomes coming from Covid and the Russia-Ukraine war, these are more similar across economies, with energy-induced high inflation and threats of recession. Of course, the institutional backdrop of fiscal and monetary policies has changed dramatically. Any large one-way bets seem much less obvious today than it did in 1992.

ABOUT THE AUTHOR

Catherine L Mann joined the Monetary Policy Committee of the Bank of England on 1 September 2021. She is a member of the Council on Foreign Relations and the American Economic Association, among others. Previously she was Chair of the Economic Advisory Committee of the American Bankers Association. And she was also a member of the Executive Board of the Committee on the Status of Women in the Economics Profession, of the National Association for Business Economics, and of the advisory committees of the Federal Reserve Banks of Chicago, Boston, and New York, among others. She was the Global Chief Economist at Citibank from February 2018 to May 2021, where she was responsible for thought leadership and cross-fertilisation of research. Prior to that she was the Chief Economist and G20 Finance Deputy at the OECD from October 2014 to November 2017. She has also held positions as the Rosenberg Professor of Global Finance at Brandeis University, Senior Fellow at the Peter G. Peterson Institute for International Economics and Assistant Director in the International Finance Division at the Federal Reserve Board.

CHAPTER 7

The backdrop of the ERM crisis

47

Maurice Obstfeld

University of California, Berkeley and CEPR

The early years of the European Exchange Rate Mechanism (ERM) featured frequent realignments in the face of divergent macro policies. These were disruptive politically, economically and socially, as documented in the classic book by Francesco Giavazzi and Alberto Giovannini (Giavazzi and Giovannini 1989). The adjustable-peg strategy, as problematic as it was, would have been entirely infeasible without the support of capital controls by European Community (EC) members.

The logic of the 1986 Single Market initiative dictated capital account liberalisation among EC countries. Indeed, freedom of capital movement was one of the basic ‘four freedoms’ underlying European aspirations. One argument for relaxing capital account restrictions was that they were less binding on the rich, who therefore were positioned to profit from periodic exchange crises (Abdelal 2009). But freedom of capital movement within Europe also meant opening to the world, given that Germany was open to the world. At the same time, there was a realisation that, owing to the logic of the monetary policy trilemma, the ERM currency parities would need to be hardened considerably.

Tommaso Padoa-Schioppa articulated this logic clearly in a dinner speech at a memorable October 1987 CEPR conference in Perugia (Padoa-Schioppa 1988), summarised in the 1988 conference volume *The European Monetary System* (Giavazzi et al. 1988). (I cannot resist mentioning my own account in that volume of how adjustable ERM pegs could lead to self-fulfilling currency crises in an environment with high financial integration across borders; see Obstfeld 1988.) Toward the goal of reducing realignment pressures in a setting of rising capital mobility, the EC Basle/Nyborg agreement of November 1987 implemented several complementary measures. These included intensified surveillance, greater use of interest rates and fluctuation margins to defend the ERM grid of central rates, and enhanced use of the prior mechanism for credit extension among member central banks, the Very Short-Term Financing facility.

Even after these measures, several policy inconsistencies could threaten fixed parities. One was through public debt policy, the subject of another classic CEPR volume on *Public Debt Management* edited by Rudi Dornbusch and Mario Draghi and based on a conference held in Castelgandolfo in June 1989 (Dornbusch and Draghi 1990). Among other notable chapters, Giavazzi and Marco Pagano (building on Calvo 1988) wrote a prescient model in which there could be a run on a country’s debt, which would trigger a lender-of-last-resort operation by its central bank, a money supply increase and a

devaluation (Giavazzi and Pagano 1990). Perhaps ironically, it was through the threat of such an intervention on the part of the ECB that Draghi quelled the euro crisis nearly a quarter century later.

The threat of similar debt crises – one could call it the fear of what Draghi actually did in 2012 – informed the euro area architecture imbedded in the Maastricht Treaty and the Stability and Growth Pact. The Treaty, of course, hoped to end even the possibility of currency speculation, but it clearly did not do so, as events were to prove, and it certainly did not rule out crises of sovereign debt. The crises in Cyprus and Greece even saw the temporary return of cross-border payment controls, as well as restrictions on cash access by residents – the trilemma in action once again. Political considerations were prominent in the dynamics of the euro crisis a decade later, largely following from the euro area's adoption of economic and monetary union without political union.

But back to the tensions of 1992. In that year, Italy's general government debt-to-GDP ratio was 112%. Italy's debt now stands at around 150%, with interest rates set to rise in the euro area, a recession looming, an energy crisis and a new and a potentially fractious Italian right-wing government. We shall see how that all works out.

The 1992 ERM crisis was not primarily a crisis of debt, however, even though Italy was vulnerable to, and did suffer, a debt run (Rossi 2010). Draghi was Director-General of the Italian Treasury at the time. The crisis was primarily one of macroeconomic asymmetric shocks. German reunification had set off a fiscal expansion and boom within Germany, along with higher interest rates and a substantial current account deficit. This positive demand shock was out of sync with what was happening elsewhere in Europe. De facto, the ERM was a Deutsche mark-centric system where countries pegged to the German currency. As German interest rates rose, partner countries essentially had to import those rates, notwithstanding the absence of their own comparable domestic fiscal support.

Different countries suffered different strains – Italy due to debt, as I have mentioned; the United Kingdom with flexible-rate mortgages, a recurring problem as we saw again in the autumn of 2022 (Schenk 2010, Naef 2022). The logic is devastatingly destabilizing: the greater one's vulnerability to higher interest rates, the more one's interest rates must rise (under open capital markets) as speculators bet increasingly on devaluation. What determines the outcome?

The 'second generation' crisis approach birthed by the ERM crisis suggests that governments will do a cost-benefit analysis in deciding their exchange rate policy, comparing the cost of maintaining the peg to the benefit of doing so (Obstfeld 1994). And costs as well as benefits may have large political components – a durable theme in Europe.

For the UK, the benefits of defending sterling were perceived as relatively low given the country's long-term ambivalence towards European integration initiatives. For Italy, the costs of a debt blow-up were prohibitive, even though the country was determined to be a founding member of an eventual single currency.

Both countries left the ERM, the UK permanently. For the UK, the political damage in terms of its attitude toward the EU was also permanent. The abortive attempt to peg sterling strengthened long-standing scepticism of British participation in the European project. Brexit became more likely, if far from inevitable.

Tellingly, the 1992 crisis started on the Scandinavian periphery. Sweden and Finland aspired to future European Union membership but their pegs to the Deutsche mark were mere 'shadowing' arrangements and relatively expendable politically. Systemic strains escalated sharply, however, when, in response to the June 1992 Danish referendum narrowly rejecting the Maastricht Treaty, President Mitterand of France scheduled a September 1992 referendum in the hope of salvaging the project. As French polling went south, however, speculation intensified – the political benefits of maintaining the franc's peg were smaller if the single currency project were to fail. The franc ultimately stayed in the ERM with drastically widened intervention bands, after French voters approved the Treaty by a bare 51% vote.

There was no long-term depreciation of the franc, unlike in the simplest 'first generation' currency crisis models: its exchange rate had been and remained sustainable. We learned that with open capital markets, fixed exchange rates could be subject to self-fulfilling attacks in the spirit of 2022's Nobel laureates, Diamond and Dybvig, provided the fundamentals – political as well as economic – were weak enough. This logic haunted the euro a decade ago during the currency union's debt crisis and continues to haunt it now as Europe moves into recession in the face of Russia's ongoing aggression against Ukraine, the political order in Europe and global economic stability. The ERM crisis did not derail the single currency project. However, it likely delayed its realisation without fundamentally repairing a governance structure that provided inadequate complements to the single monetary policy in terms of fiscal policy and financial regulation.

The crisis also had a global significance reaching beyond Europe. As Managing Director of the International Monetary Fund, Michel Camdessus, an architect in the latter-1980s of the transition to harder parities within the ERM, called Mexico's devaluation crisis of 1994-95 and its global spillover the first 21st century financial crisis. I would argue that the ERM crisis of 1992-93 is more deserving of this title. We live and will continue to live with its example and implications.

REFERENCES

Abdelal, R (2009), *Capital Rules: The Construction of Global Finance*, Harvard University Press.

Calvo, G (1988), “Servicing the Public Debt: The Role of Expectations”, *American Economic Review* 78: 647-661.

Dornbusch, R and M Draghi (eds) (1990), *Public Debt Management: Theory and History*, Cambridge University Press.

Giavazzi, F and A Giovannini (1989), *Limiting Exchange Rate Flexibility: The European Monetary System*, MIT Press.

Giavazzi, F and M Pagano (1990), “Confidence Crises and Public Debt Management”, in R Dornbusch and M Draghi (eds), *Public Debt Management: Theory and History*, Cambridge University Press.

Giavazzi, F, S Micossi and M Miller (eds) (1988), *The European Monetary System*, Cambridge University Press.

Naef, A (2022), *An Exchange Rate History of the United Kingdom: 1945-1992*, Cambridge University Press.

Obstfeld, M (1994), “The Logic of Currency Crises”, *Cahiers économiques et monétaires* No. 43, Banque de France, pp. 189-213.

Obstfeld, M (1998), “Competitiveness, Realignment, and Speculation: The Role of Financial Markets”, in F Giavazzi, S Micossi and M Miller (eds), *The European Monetary System*, Cambridge University Press.

Padoa-Schioppa, T (1988), “The European Monetary System: A Long-Term View”, in F Giavazzi, S Micossi, and M Miller (eds), *The European Monetary System*, Cambridge University Press.

Rossi, S (2010), “Aspects of Italian Economic Policy from the 1992-93 Crisis to the Crisis of 2008-09”, Bank of Italy, Study Day in Honor of Guido M. Rey.

Schenk, C R (2020), *The Decline of Sterling: Managing the Retreat of an International Currency, 1945-1992*, Cambridge University Press.

ABOUT THE AUTHOR

Maurice Obstfeld is the Class of 1958 Professor of Economics and former Chair of the Department of Economics (1998-2001) at the University of California, Berkeley. He arrived at Berkeley in 1991 as a Professor, following permanent appointments at Columbia (1979-1986) and the University of Pennsylvania (1986-1989), and a visiting appointment at Harvard (1989-90). He received his PhD in Economics from MIT in 1979 after attending the University of Pennsylvania (BA, 1973) and King’s College, Cambridge University (MA, 1975). From September 2015 to December 2018, Dr. Obstfeld was the Economic Counsellor and Director of Research at the International Monetary Fund. From July 2014 to August 2015, he served as a Member of President Barack Obama’s Council of

Economic Advisers. Dr. Obstfeld was previously (2002-2014) an Honorary Adviser to the Bank of Japan's Institute of Monetary and Economic Studies. He is a Fellow of the Econometric Society and the American Academy of Arts and Sciences. Since February 2019, he has been a nonresident senior fellow of the Peterson Institute for International Economics.

CHAPTER 8

Italy and the crisis of the European Monetary System

Ignazio Visco

Bank of Italy

Italy's experience during the crisis of the European Monetary System (EMS) has been widely analysed.¹ In this contribution, I would like to focus on the long-standing determinants of the crisis, which can be traced back to the economic, political and social difficulties in adjusting to the two oil shocks of the 1970s and to the poor adaptation of the country, and of its European partners, to the end of the Bretton Woods system.

After the first oil shock in 1973, European countries implemented heterogeneous economic policy responses. In Germany, for example, the Bundesbank had taken a restrictive stance since the very collapse of Bretton Woods, triggering a strong appreciation of the Deutsche mark. In 1973, it declared that fighting inflation was the main task of monetary policy and, as of end-1974, announced a target for the growth of the quantity of money. This nominal anchor became a key reference for Germany and, absent any wage indexation, contributed to containing inflation expectations and wage growth.

In Italy, the high inflation recorded during the 1970s, and its persistently higher values compared to its main European partners during the 1980s and early 1990s, were due to three main factors.

First, monetary policy was not a fully independent arm of Italian economic policy in the 1970s. It contributed (despite not being formally obliged to do so) to the financing of the government budget by purchasing unsold public bonds, offered at interest rates that were much lower than inflation. However, those years were a period of 'financial repression', not 'fiscal dominance' – households, businesses and financial intermediaries all ended up paying an 'inflation tax' that helped to contain the public sector's indebtedness. The road to central bank independence was first paved in 1981 with the end of the Bank of Italy's commitment to buy unsold bonds (the so-called 'divorce' between the Bank of Italy and the Treasury). It was fully achieved in the early 1990s, with the governor of the Bank of Italy being given exclusive responsibility for setting the discount rate and with the closing of the Treasury overdraft account.

¹ See, in addition to the other contributions in this volume, Buiters et al. (1998), Eichengreen and Wyplosz (1993) and, for a theoretical framework, Obstfeld (1996). Several papers have focused on Italy, including Passacantando (1996), Rinaldi and Santini (1998) and Visco (1995).

Second, inflation was boosted by the highly expansionary stance of fiscal policy. The public debt-to-GDP ratio rose from less than 40% in 1970, to 60% towards the end of the decade, to well over 100% in 1992 (in 1990 according to data available at the time). Between 1981 and 1992, Italy maintained an astonishingly high deficit-to-GDP ratio, averaging over 10%. Indeed, before the crisis, the governor of the Bank of Italy had called for a swift and aggressive effort to structurally reduce the government deficit and regain control of the public debt (Ciampi 1992, especially pp. 14-16 and pp. 28-29).

Third, a crucial role was played by the indexation of wages, which in the 1970s granted a degree of inflation protection of up to 100% over a very short time horizon – a feature that gave rise to a futile and dangerous spiral between wages and prices. Wage indexation was gradually reduced in the 1980s, but remained, *de jure* and *de facto*, too high. The rise in consumer prices originated mostly in the service sector, largely protected from competition, but indexation transferred inflation to the labour costs of industrial firms (Barca and Visco 1993, Visco 1994). Only on the eve of the EMS crisis did a new ‘collective bargaining code’, which used the inflation set by the Treasury as a reference, put an end to this flawed contractual model.

As a result of these developments, the large inflation differential with respect to the European average that prevailed at the end of the 1970s was slowly and only partially reduced. In the early 1990s, this differential was still between one and two percentage points.

Italy’s strong loss of competitiveness compared to its main trading partners is often blamed as the key factor that led to the suspension of the participation of the lira in the Exchange Rate Mechanism (ERM) and to its strong devaluation. In the 1980s, however, domestic credit and capital controls were gradually abandoned. Within the framework of the EMS’s fixed but adjustable system of exchange rates, the monetary and foreign exchange rate policy, which was considered a single policy by the Bank of Italy at that time, was not directed at the pegging of the mark or the ECU, but at maintaining a steady real appreciation of the lira. This would have helped to make inflation converge to the European average, encouraging firms and trade unions to foster competitiveness by containing labour costs and increasing productivity (Gressani et al. 1988). The feasibility of this policy was threatened, however, by the difficulty in controlling the domestic causes of inflation (mostly originating, as mentioned, in the service sector) and, in particular, by the constant deterioration of public finances.

These dangers were often discussed at the time at the Bank of Italy. Padoa-Schioppa, building on the Triffin dilemma and the Mundell-Fleming trilemma, had noted that the ‘inconsistent quartet’ of free trade, full capital mobility, fixed or managed exchange rates and domestic autonomy in the conduct of monetary policy could not be maintained indefinitely (Padoa-Schioppa 1982, 1988). In fact, the problems did not come only from within the domestic economy. Politics and a lack of coordination at the European level also contributed to the negative unfolding of events.

First, the financial turbulence was initially triggered by the negative result of the Danish referendum on the Maastricht Treaty in June 1992, followed by the French decision also to hold a similar referendum in September.

Second, as Germany was grappling with domestic stability problems posed by the asymmetric shock of unification, the Bundesbank pursued a very tight monetary policy to fight its inflationary effects. This proved unsustainable for other countries and marked a substantial ‘coordination failure’, i.e. the inconsistency emphasised by Padoa-Schioppa. In addition, following the agreement – perhaps not ‘secret’, but certainly not widely shared or clarified – it had established more than ten years earlier with the German government, the Bundesbank did not fulfil the obligation to make unlimited intervention purchases of weaker currencies in the ERM, an obligation which was triggered by the absence of a fully shared deal on parity realignments.²

Third, the rejection of the proposal by Italy and Germany of a general realignment of the EMS central rates succeeded only in fuelling further financial market speculation. The UK, apparently, was not aware of its own weak competitive situation (or disagreed with this perception). France feared that a depreciation of its currency would have negative repercussions on the imminent referendum. Italy’s government was weakened by the turmoil linked to the ‘clean hands’ investigation into political corruption, which later put an end to the so-called ‘First Republic’.

In August and September of 1992 speculative pressures intensified, while negotiations among the EMS government and monetary authorities were taking place continuously but without reaching any successful conclusion. Given the unwillingness to change the existing ERM parities, the negotiations ended with the decision to devalue only the lira by 7% on 12 September, followed by a small reduction in German official interest rates. On 16 September, intense pressures forced the British pound to abandon the ERM and the peseta to devalue. On 17 September, Italy suspended its participation in the ERM.

The crisis highlighted the importance of the challenges posed by the opening of financial markets, coupled with technological developments, for the pricing of currencies and government bonds. More than relying on the use of financial resources to fight speculative forces, closer attention should have been paid to the design of economic policies oriented to maintaining what we now call medium-term stability, focusing on the economy’s fundamentals.

To sum up, during those years Italy was lacking the three factors that Ciampi, in 1981, had identified as key for the stability of the currency: “autonomy of the central bank, strengthening of budgetary procedures, [appropriate] code of collective bargaining”.

2 The agreement between the German government and the Bundesbank is explained in the ‘Emminger letter’, discussed by Eichengreen and Wyplosz (1993), but fully disclosed less than 15 years ago in Marsh (2010) and James (2014). The letter made it clear that the Bundesbank would have only been prepared to intervene had it felt that, by doing so, it would not have negatively affected its own domestic monetary stability – an independent conclusion that might perhaps be questioned, but obviously not contrasted.

In the years following the ERM crisis, both monetary and fiscal policy were tightened (Ciampi 1981: 37-38). Most importantly, thanks to the income policy introduced after the 1992-93 depreciation, the governments of the time succeeded in ensuring that 'labour and capital' avoided replicating the wage-price spiral of the mid 1970s and early 1980s.

It is a lesson that we have learnt, together with that of the inconsistent quartet, and that has been decisively but not fully resolved by the European Monetary Union. Some of these same elements still matter today. This is why, in the current fight against inflation, we need to keep monitoring inflation expectations, through which we assess our credibility; the stance of fiscal policy, which, in a situation of high inflation, should not move in a direction contrary to monetary policy; and wage growth, to evaluate whether second-order effects are taking place.

We must also be aware of the implications of our decisions for financial stability and for the economy at large. Financial market interventions do not work when the roots of a crisis lie in untenable economic fundamentals. By the same token, if speculative attacks are instead directed against currencies or securities of countries with overall sound fundamentals, massive and possibly unlimited interventions can be successful in coordinating market expectations.

REFERENCES

Barca, F and I Visco (1993), "L'economia italiana nella prospettiva europea: terziario protetto e dinamica dei redditi nominali", in I Visco and S Micossi (eds), *Inflazione, concorrenza e sviluppo: l'economia italiana e la sfida dell'integrazione europea*, Il Mulino.

Buiter, W H, G M Corsetti and P A Pesenti (1998), "Interpreting the ERM Crisis: Country-Specific and Systemic Issues", Princeton Studies in International Finance No. 84, Princeton University.

Ciampi, C A (1981), "Concluding Remarks", Bank of Italy, May.

Ciampi, C A (1992), "Concluding Remarks", Bank of Italy, May.

Eichengreen, B and C Wyplosz (1993), "The Unstable EMS", *Brookings Papers on Economic Activity* 1.

Gressani, D, L Guiso and I Visco (1988), "Disinflation in Italy: An Analysis with the Econometric Model of the Bank of Italy", *Journal of Policy Modeling* 10(2).

Marsh, D (2010), *The Euro. The Politics of the New Global Currency*, Yale University Press.

James, H (2014), *Making the European Monetary Union*, Yale University Press.

Obstfeld, M (1996), "Models of Currency Crises with Self-Fulfilling Features", *European Economic Review* 40: 3-5.

Padoa-Schioppa, T (1982), “Capital Mobility: Why is the Treaty not Implemented?”, address to the ‘Second Symposium of European Banks’, Milan (reprinted as Chapter 2 in T Padoa-Schioppa (1994), *The Road to Monetary Union in Europe: The Emperor, the Kings, and the Genies*, Clarendon Press.

Padoa-Schioppa, T (1988), “The European Monetary System: A Long-Term View”, in F Giavazzi, S Micossi and M Miller (eds), *The European Monetary System*, Cambridge University Press.

Passacantando, F (1996), “Building an Institutional Framework for Monetary Stability: The Case of Italy (1979-1994)”, *BNL Quarterly Review* 49: 196.

Rinaldi, R and C Santini (1998), “Italy: Two Foreign Exchange Crises”, in S S Rehman (ed.), *Financial Crisis Management in Regional Blocs*, Kluwer.

Visco, I (1994), “Caratteri strutturali dell’inflazione italiana (1986-1991)”, in C Dell’Aringa (ed.), *Caratteri strutturali dell’inflazione italiana*, Il Mulino.

Visco, I (1995), “Inflation, Inflation Targeting and Monetary Policy. Notes for Discussion on the Italian Experience”, in L Leiderman and L E O Svensson (eds), *Inflation Targets*, CEPR.

ABOUT THE AUTHOR

Ignazio Visco has been Governor of the Bank of Italy since November 2011. He joined the Bank in 1972 and was appointed Head of the Research Department in 1990. From 1997 to 2002 he was Chief Economist and Director of the Economic Department of the OECD. Back at the Bank, he held the position of Central Manager for International Affairs from 2004 to 2006 and of Central Manager for Economic Research from 2006 to 2007, when he became a member of the Bank’s Governing Board as Deputy Director General. He holds a degree in Economics and Business from “La Sapienza” University of Rome and a Master’s and a PhD in Economics from the University of Pennsylvania. He is the author of numerous articles and books on economics and finance.

PART 3

A DECADE OF OPTIMISM

CHAPTER 9

From 1999 (and before) to 2007: A decade of optimism or a lost decade?

Charles Wyplosz

Geneva Graduate Institute and CEPR

THE EASY POST-1993 PERIOD

The Exchange Rate Mechanism (ERM) was designed to keep exchange rates among European countries fixed following the end of the Bretton Woods agreements. Exchange rate stability was seen as necessary to allow the Common Market to operate. In the 1980s, however, it was agreed that all capital controls would be removed. This created a major dilemma, known as the ‘impossible trinity’. Full capital mobility implies that exchange rates must be floating, or that monetary policy must be forfeited. Over time, the Deutsche Mark became the system’s de facto anchor, meaning that all other central banks were following the leadership of the Bundesbank, more or less. Because inflation rates in several countries had not converged to the German level, realignments became increasingly difficult and the system became unstable. The 1992 crisis led to the adoption of very large (+/-15%) margins of fluctuations around the fixed parities. De facto, currencies were floating and the dilemma disappeared. The focus shifted to admission to the monetary union, to be determined by a battery of criteria. In the end, all candidate countries were admitted, even though Greece had to wait for another two years.

The period before the launch of the euro was dedicated to setting up the future institutions. The European Monetary Institute was created as the precursor to the ECB. It built the organisation, hiring people and laying out its operations. The model clearly was the Bundesbank, the most successful of the European central banks. This is also the time when the Stability and Growth Pact (SGP) was adopted to fulfill a requirement of the Maastricht Treaty. It was adopted surprisingly quickly in response to a German proposal, which was hardly debated since Germany presented it as take-it-or-leave-it condition for its participation in the monetary union (France’s contribution was to add “growth” to the pact’s title).

Once the single currency was launched, the ECB faced mild challenges until the global financial crisis. Its main challenge was the 2001 global recession. As a symmetric demand shock, this did not present the ECB with unusual difficulties.

What did we worry about?

It may be of some interest to relate what economists worried about during this period to subsequent developments. A relevant source of information about these concerns is the *Monitoring the ECB* (MECB) series that was published by CEPR from 1998 to 2008 with varying teams of authors.¹ Of course, much more has been written about the monetary union during these years, but this is not meant to be a review of the literature.

Strategy

A constant theme was the ECB's confused strategy, at least when one considers official publications and public statements. The bedrock of monetary policy was the two-pillar strategy. It relied on the monetary pillar, i.e. the evolution of monetary aggregates, and on an economic pillar, a broad set of economic indicators, and on 'cross-checking' the information gleaned from the two pillars. Concerns were repeatedly raised about the survival of the money growth indicator – seen as a legacy from the Bundesbank old strategy – at a time when many central banks were adopting an inflation-targeting strategy (Favero et al. 2000; Alesina et al. 2001; Begg et al. 2002; Gali et al. 2004). The vagueness of the economic pillar also led to concerns that the ECB would end up displaying a contractionary bias (Begg et al. 1998), with some evidence to that effect (Gali et al. 2004). The risk of hitting the zero lower bound was also noted early on (Favero et al. 2002; Gali et al. 2004)

Nevertheless, the ECB stuck to its two-pillar strategy. It remained the stated core in the 2003 strategy review and was constantly reaffirmed until the early 2010s, even though it was becoming clear that the ECB was de facto following an inflation-targeting strategy (Gali et al. 2004). The two-pillar strategy was finally formally discarded in the second strategy review adopted in 2022.

Lack of transparency

The growing disconnect between the official two-pillar strategy actual decision-making implied that the ECB's policy statements could not provide adequate explanations of its thinking and actions. This lack of transparency was increasingly criticised (Begg et al. 1998; Favero et al. 2000; Alesina et al. 2001; Gali et al. 2004; Geraats et al. 2008) at a time when more and more central banks were developing and refining their communications. Like most opaque central banks, the ECB rejected this criticism. With hindsight, it may be that it did operate entirely within the two-pillar strategy far longer than imagined, as indicated by the mistaken interest rate hikes during 2011.

1 See <https://cepr.org/publications/publication-series/monitoring-european-central-bank>

Banking Union

The lack of a Union-wide framework for regulation, supervision and resolution of banks and major financial institutions was identified as potentially dangerous early on (Begg et al. 1998; Favero et al. 2000). A related concern was that the ECB would not have the ability to conduct interventions in case of a banking crisis. At the official level, the topic remained taboo until the global financial crisis.

Weak institutional arrangements

From the start, it was noted that several institutional arrangements were inadequate, essentially because it pitted collective and national interests against each other. Many shortcomings were identified:

- The large Governing Council was seen as circuit for national central banks to challenge the central Executive Board and its future extension was seen as undesirable (MECB 1 1998; Favero et al. 2000; Geraats et al. 2008).
- There were also concerns about the democratic legitimacy of the ECB and the limited role of the European Parliament in both affecting policy decisions and appointing Executive Board members (Favero et al. 2000).
- Coordinating one monetary policy with many uncoordinated fiscal policies attracted some attention, but little came of these early debates that still periodically re-emerge. For example, Favero et. al (2000) suggested that the Council of Finance Ministers be asked to coordinate national fiscal policies and exchange views with the ECB. Alesina et al. (2001) considered that fiscal policy coordination was unnecessary, possibly even counterproductive, as would be formal meetings between Ecofin and the ECB.

The Stability and Growth Pact

The SGP was based on two core requirements. The first reflects a fascination with arbitrary numerical targets: the 3% of GDP limit on budget deficits as specified in Germany's golden rule, and the 60% limit on public debt, then the average among candidate countries, with a contrived link to the deficit limit under dubious assumptions. Second, the credibility of the limits rested on enforcement. The chosen solution was the provision for financial sanctions, backed by a heavy surveillance mechanism. The politics of sanctions was implausible, as explained in Eichengreen and Wyplosz (1998), and no sanction has ever been applied even though public debts have massively increased since the start of the monetary union.

As events unfolded, the early concerns were largely confirmed. The 2001 slowdown showed that the SGP can foster procyclical policies, which complicates the task of the ECB (Alesina et al. 2003; Gali et al. 2004). Thirty years later, the SGP still exists, after two rounds of reforms that did not question its principles while trying to enhance its credibility by adding layer upon layer of bureaucratic procedures. A new reform is currently under discussion that would hopefully reduce the role of the numerical targets (Buti 2022, Wyplosz 2022).

A LOST DECADE

By early 2008, it was widely accepted that monetary policy had been largely successful. The ECB had navigated its first decade without major difficulties. The contractionary bias fears were largely alleviated, although monetary policy reactions were often perceived as somewhat slow.

In retrospect, the prevailing mild conditions could have made it possible to devote efforts to deal with the various flaws that had been identified. Progress was limited to two of the previously listed concerns:

- Transparency was improved when the ECB started in 2001 to publish its forecasts for inflation and GDP growth. Yet, these forecasts use market estimates of the policy interest rates, not the ECB's own forecasts, which reduces transparency (Geraats et al. 2008).
- While it remained the official analytical apparatus, the role of the two-pillar strategy has been progressively reduced in favour of de facto inflation targeting. Pragmatism prevailed over doctrine, even though doctrine was not officially repudiated.

Ominously, though, two serious flaws were allowed to persist:

- The SGP remained in place. The 2005 reform attempted to introduce some flexibility and to alleviate its procyclical bias. In the event, it started to make the pact more complex, adding rules and procedures. Following a subsequent reform in 2012, the pact has further grown in complexity without become more effective.
- The Banking Union came into being in 2014 in the wake of the debt crisis, which confirmed the arguments developed for over a decade. Still, to this day, the Banking Union is widely seen as incomplete.

CONCLUSION: THE MONETARY UNION WAS NOT READY FOR ASYMMETRIC SHOCKS

When the first decade ended, there was optimism that the euro had passed the test of time. Yet, underneath the surface, important flaws remained studiously ignored. All those flaws were revealed soon afterward.

The global financial crisis affected several systemic European banks. They had taken large positions in assets that came to be labelled ‘toxic’, because regulations were lax and sometimes subject to poor supervision, partly because most countries were promoting their national banks. Dealing with troubled banks proved to be complicated because the ECB was disinclined to wade into lending in last resort out of fear of provoking transfers among member countries, since not all were affected to the same degree and bank regulation and supervision also differed.

As a result, the task of supporting or closing down troubled banks had to be assumed by national treasuries. The resulting sizeable expenditures were financed by large debt increases. The debt crisis followed. Even though many other developed countries were hit by a similar shock, none faced a debt crisis for a simple reason: their central banks intervened quickly and forcefully. This was again an asymmetric shock.

REFERENCES

- Alesina, A, O Blanchard, J Gali, F Giavazzi and H Uhlig (2001), *Defining a Macroeconomic Framework for the Euro Area*, Monitoring the European Central Bank 3, CEPR Press.
- Begg, D, P De Grauwe, F Giavazzi, H Uhlig and C Wyplosz (1998), *The ECB: Safe at Any Speed?*, Monitoring the European Central Bank 1, CEPR Press.
- Begg, D, F Canova, P De Grauwe, A Fatas and P Lane (2002), *Surviving the Slowdown*, Monitoring the European Central Bank 4, CEPR Press.
- Buti, M, J Friis and R Torre (2022) “How to make the EU fiscal framework fit for the challenges of this decade”, VoxEU.org, 10 November
- Eichengreen, B and C Wyplosz (1998) “The Stability Pact: Minor Nuisance, Major Diversion?”, *Economic Policy* 26: 67-113.
- Favero, C A, X Freixas, T Persson and C Wyplosz (2000), *One Money, Many Countries*, Monitoring the European Central Bank 2, CEPR Press.
- Gali, J, S Gerlach, M Rotemberg, H Uhlig and M Woodford (2004), *The Monetary Policy Strategy of the ECB Reconsidered*, Monitoring the European Central Bank 5, CEPR Press.
- Geraats, P, F Giavazzi and C Wyplosz (2008), *Transparency and Governance*, Monitoring the European Central Bank 6, CEPR Press.

Wyplosz, C (2022) “Reform of the stability pact: the Commission proposal could be a missed opportunity”, VoxEU.org, 17 November.

ABOUT THE AUTHOR

Charles Wyplosz is Emeritus Professor of International Economics at the Geneva Graduate Institute, where he was Director of the International Centre for Money and Banking Studies. Previously, he has served as Associate Dean for Research and Development at INSEAD and Director of the PhD programme in Economics at the Ecole des Hautes Etudes en Science Sociales in Paris. He is a CEPR Research Fellow and has served as Policy Director and Director of the International Macroeconomics Programme at CEPR. He is currently Co-Chair of the Board of *Economic Policy*, and also served as Editor of *Covid Economics*.

CHAPTER 10

One good reason we were optimistic: The rise of inflation targeting and the demise of fixed exchange rate crises

Andrew K. Rose

National University of Singapore and CEPR

In mid-2007, I began a CEPR Policy Insight:

“The 1990s were plagued by international financial crises. Countries rich and poor, large and small, saw their currency attacked by speculators and witnessed their fixed exchange rate policies fall into the dustbin of history. The UK in 1992, Mexico in 1994, Thailand in 1997, Russia in 1998, Brazil in 1999 ...the list is long. Yet since the collapse of Argentina in 2001, the international financial system has been an oasis of stability...” (Rose 2007)

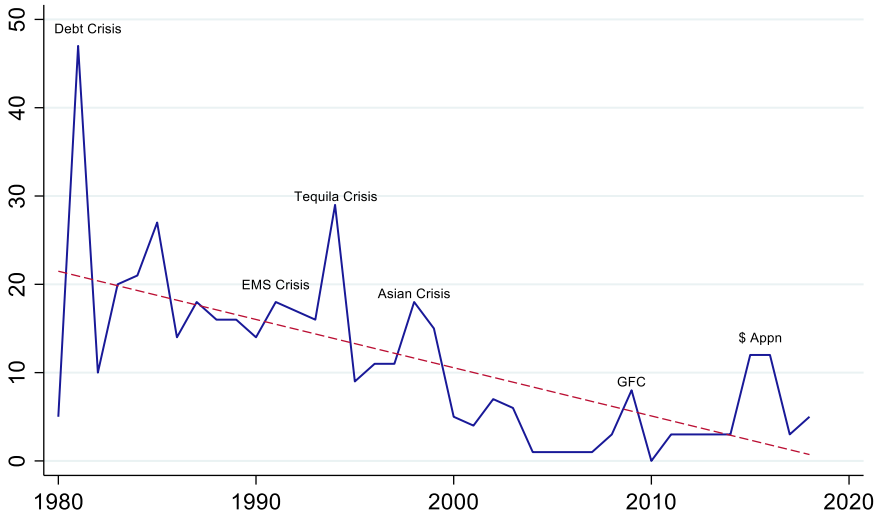
The tranquillity was about to end; in 2008-09, the world suffered through the global financial crisis (GFC), an episode that helped sow the seeds for the euro crisis. The GFC spread in part through international linkages, and some of the most effective policy interventions were international in nature (e.g. swap lines). But one thing largely *absent* from the GFC was a tidal wave of speculative attacks on fixed exchange rates; any doubts should be assuaged by Figure 1. This stands in dramatic contrast to comparable events even a decade earlier. We too often forget now to be thankful at the presence of this absence.

Why did speculative attacks on fixed exchange rates (mostly) disappear in the new century? Because most economies of any size had abandoned fixed exchange rates. And why could they do that? Because, for the first time in human history, there was a well-defined, feasible monetary policy alternative to fixed exchange rates. Flexible exchange rates are not a well-defined monetary strategy; what do the policy authorities do instead of fixing the exchange rate? The alternative to fixing was provided by New Zealand and its imitators, after inflation targeting started to spread in the early 1990s. By the eve of the GFC, there was a large cadre of inflation targetters, mostly countries that had floated their exchange rates after an unsuccessful defence of a fixed rate.

The removal of the fixed exchange rate target and its replacement by inflation targeting provided extra stability to the international monetary regime, as it returned an important element: durability. Most fixed exchange rates usually do not stay fixed for long. But only one country (Argentina) has, thus far, crashed out of an inflation-targeting regime. This

sort of durability is extraordinary and beneficial; it remains a lasting legacy of inflation targeting, again, in contrast with other monetary regimes. And indeed, inflation targeting continued to grow after the GFC, as shown clearly by Figure 2.

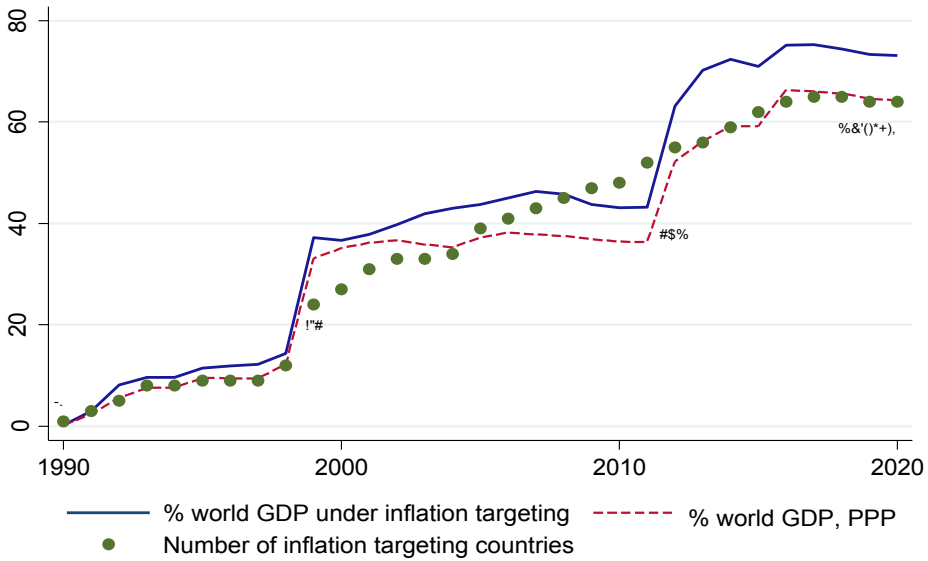
FIGURE 1 CURRENCY CRASHES WORLDWIDE



Note: Crash: depreciation >= 25%, increase in depreciation >= 10%. Annual bilateral US dollar rates.

Source: IFS.

FIGURE 2 THE CONQUEST OF INFLATION TARGETING



— % world GDP under inflation targeting - - - % world GDP, PPP
 ● Number of inflation targeting countries

The Economic and Monetary Union (EMU) clearly had its fault-lines, most clearly recognised during and after the GFC and euro crisis (and some even before). But a more rigid constellation of fixed exchange rates would surely have made the GFC and its aftermath far more complicated. Many fixers had shifted towards inflation targeting before the GFC, more afterwards. These facts remain under-appreciated, and represent a genuine cause for optimism. If the economics profession could collectively reduce one large source of economic tension, perhaps we can do it again?

Countries have few choices for their monetary strategy. Historically, a large number of countries chose to hitch their monetary policy to a fixed exchange rate – a choice that frequently produced exchange rate crises. In reaction, nations experimented with other strategies – money growth targets, monetary unions and boards, ill-defined or hybrid strategies. Since 1990, however, a new trend emerged, one that gained considerable strength following the fixed exchange rate crises of the 1990s. An increasing number of countries granted their central banks the independence to pursue a domestic inflation target. Almost all have stuck with inflation targeting; its endurance through the GFC and the COVID-19 pandemic is noteworthy.

As of October 2022, centralbanknews.info lists over 70 economies with inflation targets. Some of these are large multilateral currency unions such as EMU, but many are standard inflation-targeting countries. Inflation-targeting countries can still witness dramatic changes in their exchange rates, as shown clearly by the UK in October 2022. But their monetary regimes do not collapse as a result; most large economies have monetary policy frameworks that continue to target inflation. Because the goal of monetary policy is aligned with national interests, inflation targeting seems remarkably durable, especially by way of contrast with the alternatives. *Only one country (Argentina) has ever been forced to abandon an inflation-targeting regime.*

After the EMS crises of 1992-3, European countries pursued different paths towards monetary stability. Many drew the conclusion that only full European monetary union would be sustainable. But others – including important countries like the UK, Norway, Sweden, Switzerland and others – started to target inflation; a large number of other countries followed, in Europe and beyond. The death throes of the European Monetary System (EMS) directly sowed the seeds for the dramatic expansion of inflation targeting (as well as EMU). This legacy is noteworthy, positive and under-valued.

Economies – and especially financial institutions – continue to evolve, and so will their policies. But the stability that inflation targeting provides for monetary regime is noteworthy. Not all the optimism that economists felt with its emergence was misplaced.

REFERENCES

Rose, A K (2007), “Are international financial crises a barbarous relic?”, CEPR Policy Insight No. 1.

ABOUT THE AUTHOR

Andrew K Rose is Dean of the Business School at the National University of Singapore. He is also a Research Associate of the National Bureau of Economic Research (based in Cambridge, MA), a Research Fellow of the Centre for Economic Policy Research (based in London, England), and a Senior Research Fellow of the Asian Bureau of Finance and Economic Research (based in Singapore). He received his PhD from the Massachusetts Institute of Technology, his MPhil from Nuffield College, University of Oxford, and his BA from Trinity College, University of Toronto.

PART 4

A DECADE OF CRISIS IN THE EURO AREA

CHAPTER 11

The end of euro area crises?

Paul De Grauwe

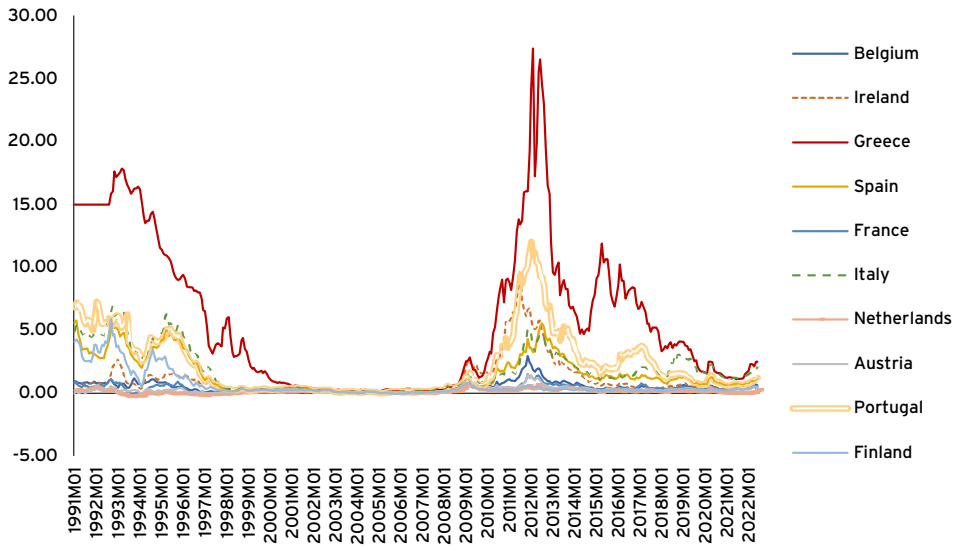
London School of Economics and CEPR

FROM THE ERM CRISIS TO THE EURO AREA CRISIS

The speculative crisis in the ERM that erupted in 1993 led to the demise of this fixed exchange rate arrangement. From then on, most EU countries started their move towards monetary union, which promised to do away with speculative crises through the drastic solution of eliminating foreign exchange markets within the union. Few suspected that the monetary union would just displace the locus of speculative crises from foreign exchange markets towards government bond markets. Figure 1 shows this phenomenon in a rather spectacular way. We observe that during the ERM crisis, government bond spreads increased. This reflected the surge in devaluation risks. The latter disappeared during the second half of the 1990s when, as a result of the decision to move to a monetary union, devaluation risks evaporated. After a period of ‘great tranquility’, however, spreads surged even more than during the ERM crisis, this time reflecting not devaluation risks but (perceptions of) default risks.

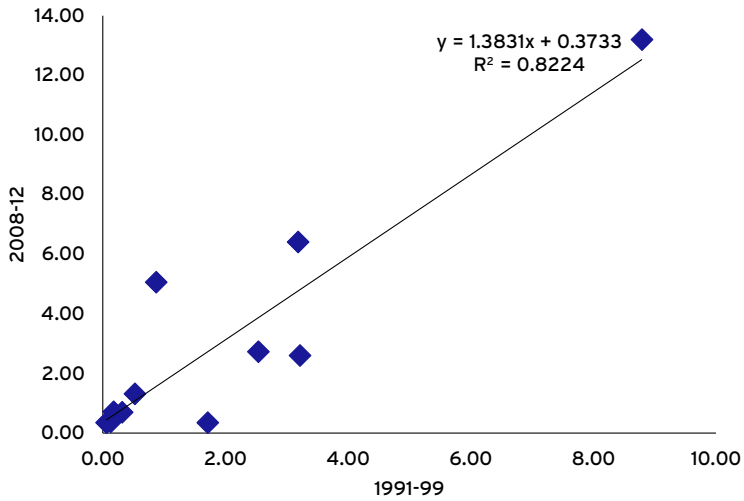
The most spectacular part of Figure 1 is the fact that the countries experiencing foreign exchange crises in the 1990s were the same as those that experienced sovereign debt crises in 2010–12. We show this feature in another way in Figure 2, which shows the mean spreads of euro area countries in the 1990s and the spreads during the sovereign debt crisis. It is striking to find that the spreads of the 1990s are good predictors of the spreads during the sovereign debt crises. Put differently, the countries that were at risk of devaluation in the 1990s turned out to be the same countries at risk of sovereign debt crisis during 2010–12. The monetary union just displaced the risks from foreign exchange markets to government bond markets.

FIGURE 1 TEN-YEAR GOVERNMENT BOND SPREADS (RELATIVE TO GERMAN GOVERNMENT BOND YIELDS)



Source: Eurostat.

FIGURE 2 BOND SPREADS, 1991-99 AND 2010-12



Source: Eurostat.

FRAGILITY OF THE EURO AREA

The euro area is a fragile construction. Governments of the member countries of the monetary union issue bonds in a currency – the euro – over which they have no control. It is as if each of these governments issues debt in a foreign currency, similar to when the Argentinian government issues bonds in dollars – a currency that this government does not control (Eichengreen et al. 2005).

As a result, the governments of a monetary union cannot give a full guarantee to the bondholders that they will have the necessary liquidity to pay them out at maturity. The risk that governments can run out of cash in a monetary union creates the potential for self-fulfilling liquidity crises: investors who are afraid that the government may run out of cash panic and massively sell that government's bonds, thereby precipitating the very liquidity crisis they were afraid of. Such a crisis may force the government to default on its debt (De Grauwe 2011, Beirne and Fratscher 2012, De Grauwe and Ji 2013, Aizenman et al. 2013, Montfort and Renne 2013).

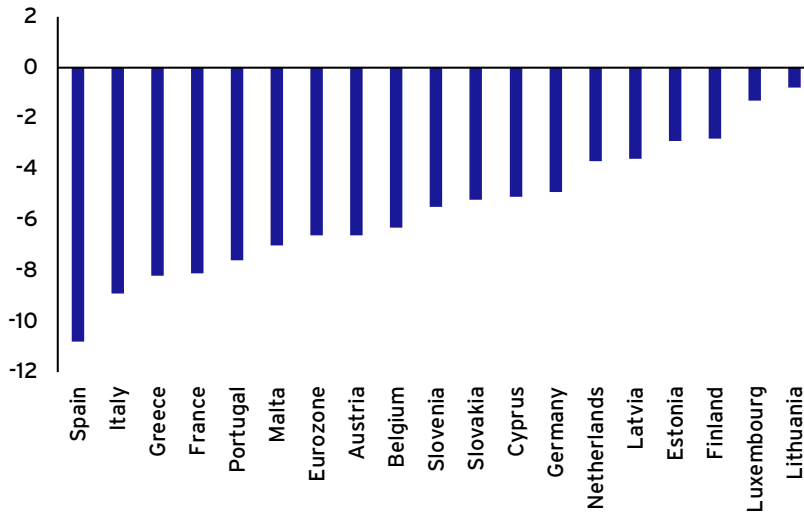
Fixed exchange rate systems suffer from a similar credibility problem. Central banks promise to convert the domestic currency into a foreign currency at a fixed price. This promise lacks credibility because the central bank may not have enough foreign currency to honour this promise. This can set in motion a self-fulfilling speculative crisis, forcing the central bank to devalue or to stop pegging the exchange rate.

The sovereign debt crisis that erupted in 2010 led to massive increases in the spreads in the sovereign bond markets of the euro area (see Figure 1). The crisis was overcome when the ECB understood that it has the responsibility to provide support as lender of last resort in the government bond markets in times of crises. With the announcement of the Outright Monetary Transactions (OMT) programme, which was a promise to buy unlimited amounts of government bonds in the secondary markets, the ECB ended the crisis.

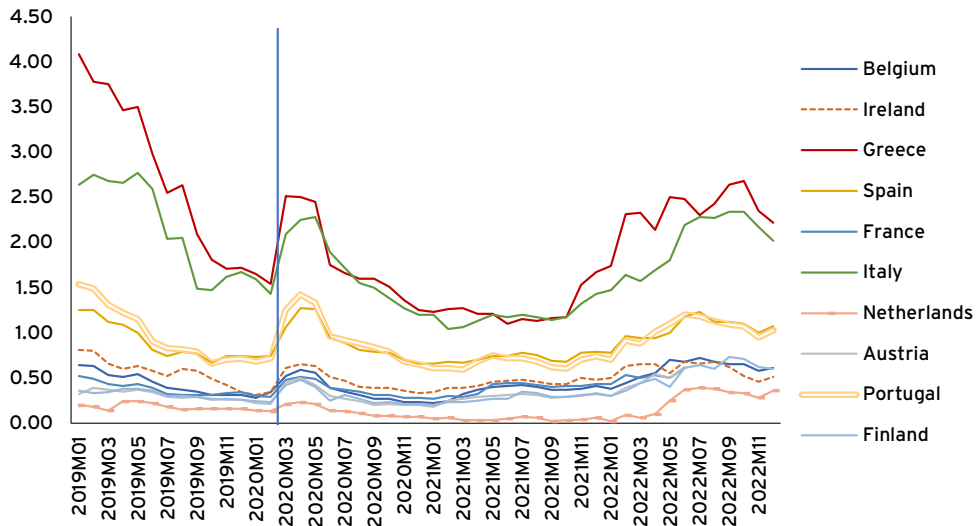
THE PANDEMIC OF 2020-21

When the Covid-19 pandemic erupted in 2020 there was a risk that the huge shock that hit the euro area countries would trigger a new sovereign debt crisis, especially since the high-risk countries in the periphery appeared to have suffered significantly larger negative effects to their GDP than low-risk countries (see Figure 3).

The sovereign debt crisis did not happen. In fact, apart from an early hiccup in the case of Italy, yields continued to converge further (see Figure 4, which shows a segment of Figure 1) so that at the end of September 2021 the spreads were even smaller than before the eruption of the pandemic (Candelona et al. 2021).

FIGURE 3 GDP GROWTH DURING 2020 (%)

Source: Eurostat.

FIGURE 4 TEN-YEAR GOVERNMENT BOND SPREADS

Note: The vertical line shows the start of the pandemic.

Source: Eurostat.

How did this remarkable result come about? The new governance of the euro area that emerged after the sovereign debt crisis of 2010–12 allowed European policymakers to use new instruments of stabilisation. As a result, the fragility of the euro area was significantly reduced, thereby making it possible to avoid self-fulfilling crises in the government bond markets. The new instruments that achieved this result were both monetary and fiscal.

On the monetary front, there was an important innovation in the form of the ECB's Pandemic Emergency Purchase Programme (PEPP), announced during 2020. This was a programme of large-scale government bond purchases by the ECB. The innovation of this programme was the absence of conditionality. While the OMT programme was linked to an austerity programme by governments receiving aid, the PEPP programme was stripped of any such austerity requirement. This was a remarkable intellectual reversal of the ECB policy towards support of government bond markets.

A second major policy innovation was a fiscal one. The European leaders decided in July 2020 to set up a recovery plan, NextGenerationEU (NGEU), which was funded by the issuance of common bonds. This common spending programme helped to create further confidence in the future of the euro area. It signalled that the future path of the monetary union would be one involving further steps towards a budgetary union. This was the second reason why the Covid- shock did not lead to a sovereign debt crisis.

TODAY'S CHALLENGE: WILL THE SURGE IN INFLATION LEAD TO A NEW EURO AREA CRISIS?

The surge in inflation creates two dilemmas for the ECB. The first is the traditional dilemma that every central bank, including the ECB, faces after a supply shock and can be described as follows. The negative supply shocks that occurred during 2020–22 raised the cost of production and led to a surge in inflation in most countries and to a reduction of output. This stagflation is at the core of the dilemma faced by the central bank. Whatever it chooses, the outcome will be painful: if it fights inflation by raising interest rates, it may produce a recession; if it does not raise interest rates for fear of creating a recession, it may make inflation permanent. Most central bankers have elevated inflation as their primary objective, so that it looks likely that they are willing to risk a recession to fight inflation.

The second dilemma is the one the ECB, as a central banker of a monetary union, faces (in addition to the one just described). This second dilemma can be described as follows. When the ECB raises the interest rate, this has very different effects on the long-term bond rates of the various member countries. This can be seen from Figure 3. The ECB started to raise the interest rate during 2022. This strategy triggered increases in spreads – especially those of Italy and Greece, which were close to 1% at the start of 2022 but moved upwards during 2022 to the 2.5–3% range. Further increases in the intertest rate triggered by the ECB's desire to fight inflation could lead to an explosion in spreads and risk creating a new sovereign debt crisis.

Thus, the second dilemma the ECB faces is one between fighting inflation at the risk of creating financial instability in the euro area; or fighting financial instability at the risk of losing the battle against inflation. An equally uncomfortable dilemma as the first one.

There are two ways out of this dilemma. Both, however, create new discomforts. The first way out consists of a commitment by the ECB to provide unlimited amount of liquidity to countries experiencing liquidity crises. In fact, in July 2022 the ECB announced a new programme, the Transmission Protection Programme (TPI), which does exactly that – provide liquidity to governments experiencing liquidity crises. However, when used, this will create additional liquidity in the system, which will interfere with the central bank's desire to fight inflation. The ECB will therefore have to withdraw liquidity from the system by selling government bonds from low-risk countries (Germany, the Netherlands, Finland). As a result, the central bank will increasingly accumulate high-risk government bonds at the expense of low-risk government bonds. This may create uncomfortable political problems when countries such as Germany and the Netherlands resist this.

There is a second potential way out from this dilemma. This consists of allowing inflation to rise above the self-imposed target of 2%. Several academic economists have argued that 2% is too low a target and that a target range of 3–4% would be more appropriate (e.g. Blanchard 2010, Ball 2014, De Grauwe and Ji 2017), mainly because it would make it less likely that central banks get trapped in the zero lower bound syndrome that has made monetary policies so ineffective for so long.

Raising the inflation target would not eliminate the dilemma but it would make it less constraining, thereby reducing the probability of future crises. This way out from the dilemma, however, would trigger similar uncomfortable political problems as the previous one.

CONCLUSION: PROSPECTS FOR THE FUTURE

Since the sovereign debt crisis of 2010–12, a new governance of the euro area has emerged. This governance was strengthened even further during the pandemic, when both new monetary and fiscal instruments were created. This has made it possible for the euro area to withstand the major economic disruptions brought about by the pandemic. But a new risk has emerged in the form of inflation and the need to fight it with drastic increases in interest rates.

Will this need to fight inflation with higher interest rates again reveal the fragility of the euro area? There is a fundamental contrast between the euro area and 'standalone' countries (i.e. countries with their own central bank). In a standalone country the central bank faces one sovereign, which always prevails in times of crisis. There can be no doubt that in a standalone country, the central bank will have to provide liquidity when the government faces a liquidity crisis.

In the euro area the ECB faces 20 sovereigns, none of which has authority over the central bank. None of these governments can force the ECB to provide liquidity in times of crisis. This creates uncertainty about future liquidity support in a monetary union.

There is thus a fundamental credibility issue about the willingness of the ECB to be a lender of last resort in government bond markets. This will continue to make the euro area a fragile construction.

REFERENCES

Aizenman, J, M Hutchison and Y Jinjark (2013), “What is the risk of European sovereign debt defaults? Fiscal space, CDS spreads and market pricing of risk”, *Journal of International Money and Finance* 34(C): 37-59.

Ball, L (2014), “The Case for a Long-Run Inflation Target of Four Percent”, IMF Working Paper 14/92.

Blanchard, O, G Dell’Ariccia and P Mauro (2010), “Rethinking Macroeconomic Policy”, IMF Staff Position Note SPN/10/03.

Beirne, J and F Fratzscher (2012), “Pricing and mispricing of sovereign debt in the Euro area during the crisis”, paper presented at the conference on “The European Sovereign Debt Crisis: Background and Perspectives”, Danmarks Nationalbank/JIMF, 13-14 April.

Candelona, B, A Luisia and F Roccazellaa (2021), “Fragmentation in the European Monetary Union: Is it really over?”, paper presented at the conference on “Financial Globalization and De-Globalization: Perspectives and Prospects”, City University of Hong Kong, 3-4 May.

De Grauwe, P (2011), “The Governance of a Fragile Eurozone”, CEPS Policy Brief.

De Grauwe, P and Y Ji (2013), “Self-fulfilling Crises in the Eurozone: An Empirical Test”, *Journal of International Money and Finance* 34: 15-36.

De Grauwe, P and Y Ji (2017), “Inflation Targets and the Zero Lower Bound in a Behavioral Macroeconomic Model”, *Economica* 86(342): 262-299.

De Santis, R (2019), “Redenomination risk”, *Journal of Money, Credit and Banking* 51(8): 2173- 2206.

Eichengreen, B, R Hausmann and U Panizza (2005), “The Pain of Original Sin”, in B Eichengreen and R Hausmann (eds), *Other People’s Money: Debt Denomination and Financial Instability in Emerging Countries*, Chicago University Press.

Gibson, H, G Hall and G Tavlas (2011), “The Greek Financial Crisis: Growing Imbalances and Sovereign Spreads”, Working Paper, Bank of Greece.

Monfort, A and J-P Renne (2013), “Decomposing euro-area sovereign spreads: credit and liquidity risks”, *Review of Finance* 18(6): 2103-2151.

ABOUT THE AUTHOR

Paul De Grauwe is John Paulson Chair in European Political Economy at the London School of Economics, having been Professor at the University of Leuven, Belgium and a Visiting Scholar at the IMF, the Board of Governors of the Federal Reserve, the ECB and the Bank of Japan. He was a member of the Belgian parliament from 1991 to 2003. His research interests are international monetary relations, monetary integration, foreign-exchange markets, and open-economy macroeconomics. His books include *The Economics of Monetary Union*, Oxford, *International Money: Post-war Trends and Theories*, Oxford, *The exchange rate in a behavioural finance framework*, Princeton and *Lectures on Behavioral Macroeconomics*, Princeton. He obtained his PhD from the Johns Hopkins University in 1974 and *honoris causae* of the University of St. Gallen (Switzerland), of the University of Turku (Finland), the University of Genoa, the University of Valencia, the University of Murcia and Maastricht University. He is a CEPR Research Fellow.

CHAPTER 12

A decade of crisis in the euro area: How can one reconcile price stability with a monetary backstop for government debt?

Olivier Jeanne

Johns Hopkins University and CEPR

The 2010 euro crisis is a complex phenomenon from which all the lessons have not been drawn. These remarks will focus on one aspect of the crisis that I believe is both important and deserves more intellectual scrutiny – the relationship between central banks and government debt.

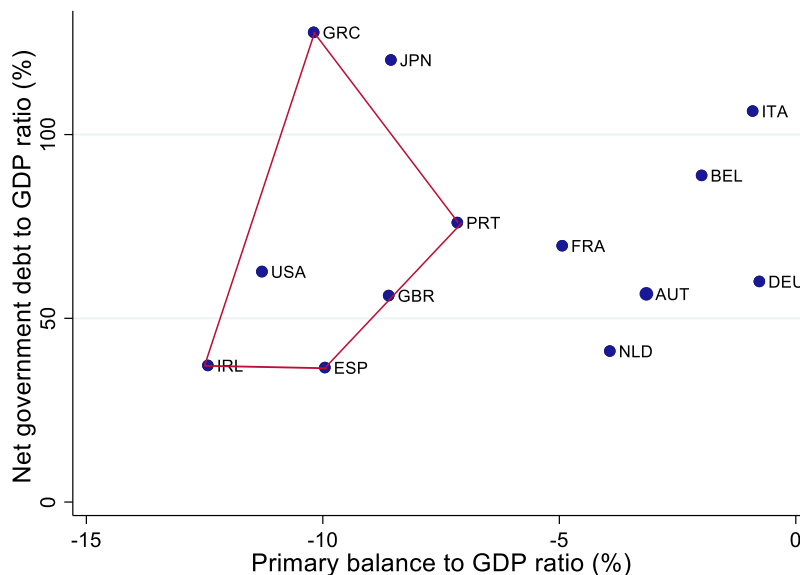
As many have noted, it is difficult to understand, based on the fiscal fundamentals, why a government debt crisis occurred in the euro area and not in other advanced economies. Figure 1 shows the two main fiscal fundamentals for selected economies on the eve of the crisis, in 2009. The figure plots the general government net debt against the primary balance for the main euro area economies as well as the US, the UK and Japan (both variables are expressed in terms of GDP). Greece, Ireland, Portugal and Spain had fundamentals that were comparable to the US, the UK or Japan. In fact, the US and the UK were inside the region delimited by Greece, Ireland, Portugal and Spain, and Japan was outside only because it had too much debt.

So, why was there a government debt crisis in the euro area and not in the US, the UK or Japan? The essential difference between the euro area and the rest was probably in the backstop that central banks were expected to provide to their governments' debt.¹ In the US, the UK and Japan, market participants expected the central bank to buy government debt to avoid a default in a debt rollover crisis.² They did not have the same expectation for the ECB, and indeed, the ECB let Greece default.

1 Another possible answer was that a fiscal adjustment was expected in the US or Japan and not in the periphery of the euro area. However, there is little evidence that such an expectation existed at the time and it has not been borne out by the facts so far.

2 It is difficult to provide formal evidence for the fact that market participants had these beliefs. As a piece of anecdotal evidence, I remember asking a few US Fed economists during the euro crisis if they thought that the Fed would let the US Treasury default in the event of a debt rollover crisis. The unanimous answer was no.

FIGURE 1 FISCAL FUNDAMENTALS IN SELECTED ECONOMIES, 2009



Note: The plot reports the general government net debt to GDP ratio (% , vertical axis) against the general government primary balance to GDP ratio (% , horizontal axis) in 2009. For Greece, we report the general government gross debt as the net debt is not available in the WEO database.

Source: World Economic Outlook database, October 2022.

This difference seems to make the ECB stand out as an oddity among central banks. I would argue, however, that from the point of view of the macroeconomic theory of the 1980s and the 1990s, what should surprise us is not so much the absence of monetary backstop in the euro area as its presence elsewhere. The UK and Japanese central banks have formal inflation targeting mandates and the US has moved a long way towards that regime. A central tenet in the literature about inflation targeting is that fiscal dominance and debt monetisation should be absolutely avoided. How can this be reconciled with the expectation that the central bank unconditionally comes to the rescue of the government in a debt rollover crisis?

One answer to that question is to view the monetary backstop as a form of lending in last resort for governments (De Grauwe 2011). In this view, government debt is subject to self-fulfilling destabilising dynamics in which high interest rates and default risk premia feed on each other. A good equilibrium with no default spread and no need for fiscal adjustment co-exists with a bad equilibrium with a positive default spread and a need for fiscal adjustment. The monetary backstop removes the bad equilibrium and provides a free lunch. This view has been formalised in the theoretical literature, for example by Corsetti and Dedola (2016) and Bacchetta et al. (2018).

The multiple equilibria story captures some features of the euro debt crisis but misses an important fact. The countries that were not affected by a government debt crisis in 2010–12 do not generally fit the description of the ‘good equilibrium’. Government debt-

to-GDP ratios have been consistently increasing in the US, Japan and France since 2010 even though these countries have not paid a substantial default risk spread on their government debts. The government debt dynamics observed in these countries thus do not look sustainable unless one expects a fiscal stabilisation to take place at some point in the future.

There is something about the relationship between central banks and government debt, thus, that is not well captured by the concept of lending in last resort and that we are still struggling to understand. The rest of my remarks will present some tentative thoughts on the nature of this relationship – the elements of a possible theory. A model along these lines can be found in the job market paper of my former student Tongli Zhang (Zhang 2022).³

The first element is *fiscal inertia*. One can think of many examples in history of fiscal adjustments taking a lot more time to be implemented than seemed desirable. A line of literature in political economy explains inefficient delays in the implementation of reforms in general, and fiscal stabilisation in particular, for example by conflicts over the allocation of the cost of the reform between different groups (for a review, see Chapter 10 of Drazen 2000). Fiscal inertia goes a long way in explaining the long waves of government debt upswings and downswings that we observe in the data (Zhang 2022).

By contrast, central banks are nimble and can use their balance sheets to backstop government debt at any time. However (and this is the second element), *the monetary backstop is very costly*. If there is no fiscal adjustment, the central bank needs to produce the quasi-fiscal resources that are required to avoid a default (Reis 2013).⁴ The seigniorage produced by higher inflation comes at the cost of a durable loss of credibility for the monetary authorities. Furthermore, seigniorage is likely to be too small to make a difference if it involves only the central banks' liabilities (the monetary base). Seigniorage, broadly defined, can be increased to a more substantial amount by the kind of financial repression described in Reinhart and Sbrancia (2015), but this may impose significant collateral damage on the real economy.

There is a silver lining to the fact that the monetary backstop is very costly. This mitigates moral hazard. The government may take time to implement the fiscal adjustment because of fiscal inertia but, given the opportunity,⁵ it will do so because the alternative (the monetary backstop or a default) is more costly. This explains how the monetary backstop can help to stabilise debt dynamics without weakening the government's incentives to fiscally adjust. The monetary backstop gives the government time to implement the fiscal adjustment without generating moral hazard.

3 Some of these ideas were developed earlier in Jeanne (2012).

4 Inflating debt away does not help to stabilise the debt dynamics from an ex-ante perspective because of the inflation premium that the government must pay on its debt (Bacchetta et al. 2018).

5 Zhang (2022) models fiscal inertia by assuming that the government can do a fiscal adjustment when hit by a 'Calvo fairy' that comes in every period with a constant probability.

In this view, the monetary backstop is beneficial but does not bring a free lunch. The monetary backstop is activated if the government fails to fiscally adjust, which occurs sometimes in equilibrium. Fiscal accidents occur. The question is how the risk of default in the absence of backstop compares with the risk of the backstop being activated. The simulations in Zhang (2022) suggest that a low frequency of monetary backstop (say, once a century) may be a price worth paying for avoiding a much higher frequency of defaults (say, once every 20 years).

This is not to say that the euro area solves all its problems once it establishes a monetary backstop. Establishing the appropriate balance between insurance and incentives is more difficult in the euro area than elsewhere. With a common currency, the cost of the monetary backstop is smaller for the country that needs to fiscally adjust because this cost tends to be borne by all the members of the currency area. This weakens the fiscal incentives relative to jurisdictions where a single monetary authority faces a single fiscal authority. How one can reconcile the monetary backstop and fiscal incentives (without excessive financial fragmentation) is an important question for the future of the euro area.

Let me conclude by looking at the euro crisis in the long sweep of history. At the risk of oversimplifying, the Bank of England, and later the Banque de France, were created to help the sovereign borrow and finance wars.⁶ The US Federal Reserve was founded, much later, to foster financial stability as a lender of last resort for banks. The ECB, by far the youngest central bank among its peers, had a different set of fairies leaning over its cradle. It was created after a period of soul searching about the appropriate anchor for monetary policy following the demise of the Gold Standard and the high inflation of the 1970s. It was designed by the textbook of the 1980s and the 1990s, with its emphasis on price stability as the main objective of monetary policy and on the absolute need to avoid fiscal dominance.⁷ The euro crisis revealed some limitations in this view and has led policymakers to reach for a less forbidding relationship between central banks and government debt. As for revising the textbook, this remains a work in progress.

REFERENCES

Bacchetta, P, E Perazzi and E van Wincoop (2018), “Self-fulfilling Debt Crises: What Can Monetary Policy Do?”, *Journal of International Economics* 110: 119-134.

Corsetti, G and L Dedola (2016), “The Mystery of the Printing Press: Monetary Policy and Self-Fulfilling Debt Crises”, *Journal of the European Economic Association* 14(6): 1329-1371.

⁶ See Goodhart (1990) for a more nuanced account.

⁷ Some would argue that the ECB was also modeled after the Bundesbank, but the Bundesbank itself was a model of good central banking for the textbook of the 1980s and 1990s.

De Grauwe, P (2011), “The European Central Bank as a lender of last resort,” VoxEU.org, 18 August.

Drazen, A (2000), *Political Economy in Macroeconomics*, Princeton University Press.

Goodhart, C (1990), *The Evolution of Central Banks*, The MIT Press.

Jeanne, O (2012), “Fiscal Challenges to Monetary Dominance in the Euro Area: A Theoretical Perspective”, Banque de France *Financial Stability Review*, April, pp. 143-150.

Reinhart, C and M B Sbrancia (2015), “The Liquidation of Government Debt”, *Economic Policy* 30(82): 291-333.

Reis, R (2013), “The Mystique Surrounding the Central Bank’s Balance Sheet, Applied to the European Crisis”, *American Economic Review* 103(3): 135-40.

Zhang, T (2022), “Monetary Backstop and Sovereign Default on Government Debt”, job market paper, Johns Hopkins University.

ABOUT THE AUTHOR

Olivier Jeanne is Professor of Economics at the Johns Hopkins University, which he joined in September 2008 after ten years in various positions at the Research Department of the International Monetary Fund. His research spans an array of applied and theoretical topics in international and domestic macroeconomics: capital flows, exchange rate regimes and currency crises, sovereign debt and defaults, international liquidity, and monetary policy. He is a research associate at the National Bureau of Economic Research, a Research Fellow at the Center for Economic Policy Research and a nonresident Senior Fellow at the Peterson Institute for International Economics.

CHAPTER 13

When Europe catches a cold, the rest of the world sneezes: Global spillovers of the euro crises

Ozge Akinci and Paolo Pesenti¹

Federal Reserve Bank of New York and CEPR

1 INTRODUCTION

The title of this note owes an apology to Klemens von Metternich, the 19th century Austrian statesman and diplomat who (reportedly) coined the expression, “when France sneezes the rest of Europe catches a cold”, to emphasise how events in one country or region affect and influence events elsewhere. Below, we turn Metternich upside down and focus on spillovers *from* Europe *to* the US and the rest of the world. As this section of the eBook focuses on the euro area crises, from the Global Financial Crisis (GFC) to Covid-19, we find it appropriate to zoom in on facts and events occurring about ten years ago. At that time, Europe had caught a major cold, if not full-fledged flu. The question we address is: did European events transmit negatively to the rest of the world? As the title foreshadows, the answer is (a moderate) yes: there were negative spillovers, and Europe’s cold made the rest of the world sneeze. Arguably, things could have got worse.

Travelling back in time to the autumn of 2012, euro area GDP had contracted 0.2% at an annualised pace in the third quarter after a 0.7% fall in the second, zero growth in the first and a 1.3% contraction in the last quarter of 2011. The third quarter aggregate growth was held up by a 0.9% gain in Germany and France, but elsewhere in the euro area, GDP declined at a rate of 1.2%, with declines particularly evident in the Netherlands (-4.1%), Portugal (-3.1%) and Greece (-1.7%). The October 2012 composite Purchasing Managers’ Index (PMI), at 45.7, was consistent with an annualised GDP decline of roughly 2%. In retrospect, a generalised fiscal retrenchment appears to have been a key driver of the recession, especially in the European periphery. Concerns about fiscal positions in Europe had translated into higher spreads and a credit crunch.

At that time, the US Federal Reserve was especially concerned with developments in Europe. As a paradigmatic example, the minutes of the September 2012 Federal Open Market Committee (FOMC) meeting included sentences such as: “Many participants...

¹ The authors thank Jonathan McCarthy for many comments and suggestions and Ethan Nourbash for excellent research assistance. The views expressed in this chapter are those of the authors and do not necessarily reflect the position of the Federal Reserve Bank of New York, the Board of Governors of the Federal Reserve, or the Federal Reserve System.

noted that a high level of uncertainty regarding the European fiscal and banking crisis and the outlook for U.S. fiscal and regulatory policies was weighing on confidence, thereby restraining household and business spending... In addition, participants still saw significant downside risks to the outlook for economic growth. Prominent among these risks were a possible intensification of strains in the euro zone, with potential spillovers to U.S. financial markets and institutions and thus to the broader U.S. economy...".²

European developments were expected to affect the US via (i) trade linkages, as US residents use goods and services imported from abroad and produce goods and services exported abroad; (ii) cross-border financial flows, as US residents lend to and borrow from foreigners, as well as strains on European banks with repercussion for US financial institutions; (iii) macroeconomic factors whereby exchange rates and foreign prices affect US inflation and real incomes; and (iv) broader confidence shocks leading to tighter financial conditions. Not for the first or the last time, global inter-dependencies were expected to transmit and magnify national shocks across countries.

2 A QUANTITATIVE ANALYSIS

In this section, we first assess the macroeconomic effects of the euro area debt crisis on the region itself. For this scenario analysis we use an open-economy DSGE model encompassing both input-output linkages between countries at the global supply chain level and financial linkages, and build a 'baseline' scenario replicating the 2012 events. Next, we consider a counterfactual scenario to analyse what could have happened if Greece had left the euro area ('Grexit') and quantify the global macroeconomic effects of this scenario through the lens of our model. Finally, we evaluate the spillovers from the euro area to the United States and the rest of the world under both the 'baseline' and the 'Grexit' scenarios.³

The 'baseline' scenario

Figure 1 shows the evolution of credit spreads and the euro exchange rate against the dollar since 2007. Euro area credit spreads tightened by 180 basis points at the onset of the crisis and stayed elevated for a little over one year, and the euro depreciated by 15% over the same period (shown by black lines). Accordingly, we calibrate our two-country DSGE model to the euro area versus the rest of the world (ROW) (including the US), and size the financial shock hitting the euro area banking sector so that the 'baseline' scenario matches the rise in credit spreads seen in 2012.⁴ The depreciation of the euro

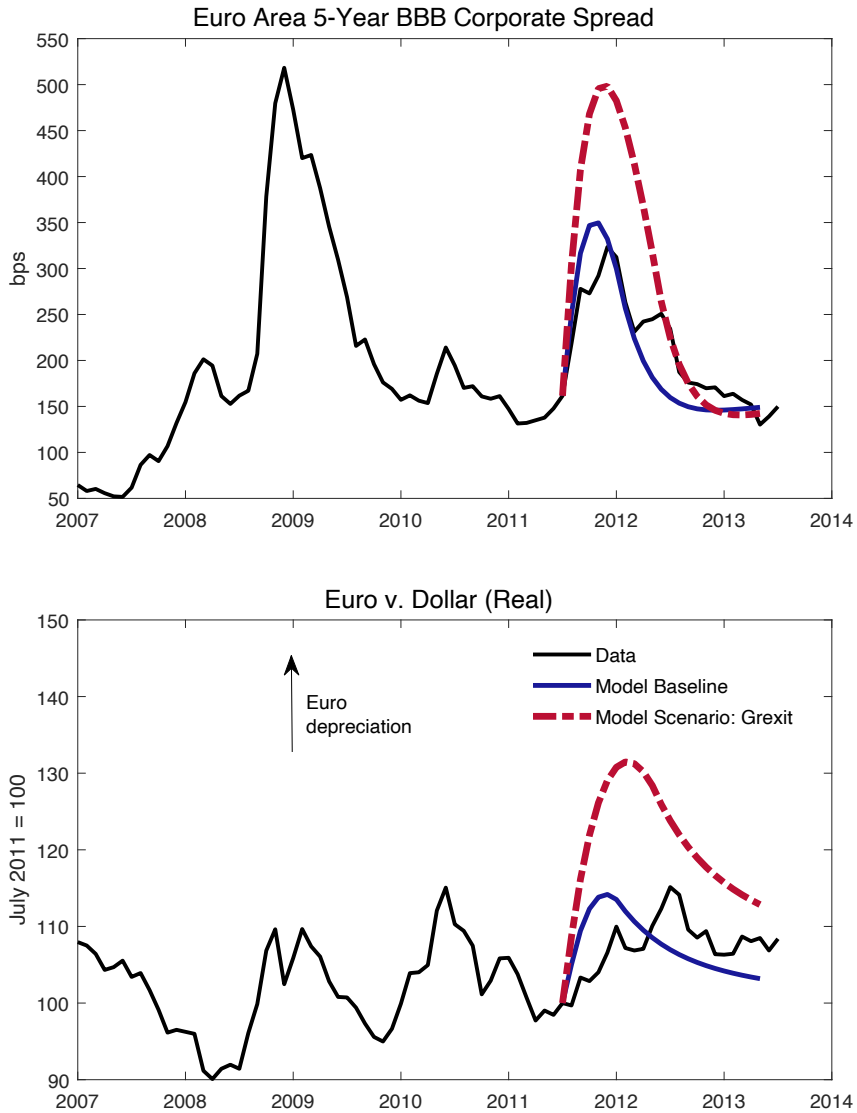
² Minutes of the Federal Open Market Committee, 12-13 September 2012.

³ The core of the model is based on Akinci and Queralto (2022). Unlike existing frameworks, such as the Federal Reserve Board's SIGMA model (Erceg et al. 2006), our model features both domestic and international financial constraints, making it well-suited to capture the effects of financial stress.

⁴ The financial shock in the model causes equity losses in the euro area banking sector, which eventually impairs the ability of the banking sector to extend credit to the private sector as banks' financial constraints become tighter, which in turn causes credit spreads to rise.

vis-à-vis the US dollar predicted by the model roughly matches what had occurred at that time as well. As shown in Figure 2, the model predicts output losses of around 2.5% (Q/Q at an annual rate) at the trough, consistent with the data.

FIGURE 1 CREDIT SPREADS AND THE EURO EXCHANGE RATE VIS-À-VIS THE US DOLLAR: DATA VERSUS MODEL



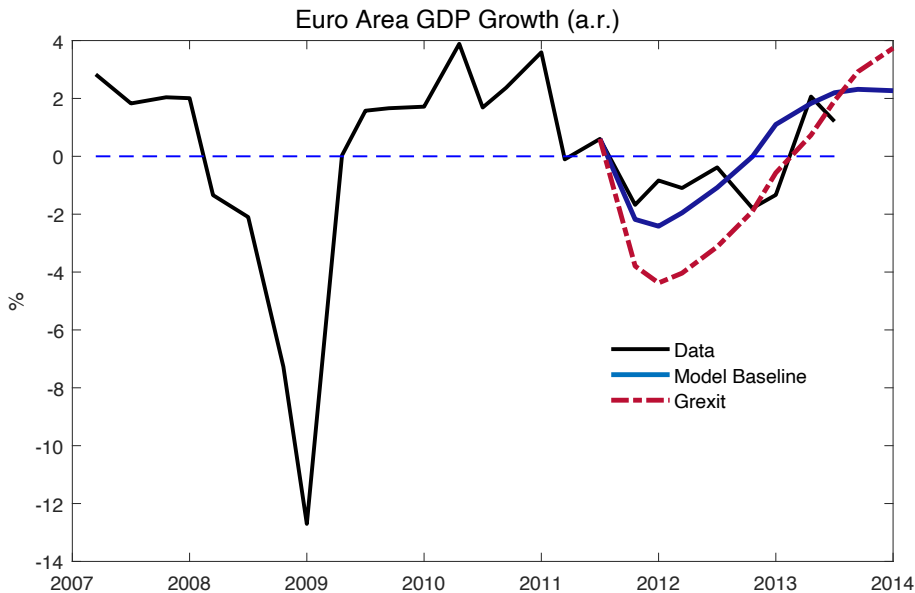
Source: ICE Data Indices, LLC (used with permission); Haver Analytics; authors' calculations.

The 'Grexit' scenario

At the time, the adjustment programme was particularly off-track in Greece. All funding options – official sector debt relief, additional official sector loans, restructurings of private debt – appeared politically challenging for Greece's European partners, posing significant risks to depositor confidence. Preservation of Greece's euro area membership was an openly debated question. Markets discussed the likelihood and impact of scenarios involving a sudden stop in disbursements, accelerating capital and deposit flights, redenomination of currency, sovereign default, as well as corporate and banking insolvencies. According to some euro area observers, in the summer of 2012 the probability of Grexit over the following 12-18 months was around 90%.

In this light, we consider a Grexit scenario depicting the evolution of financial stress in the euro area. In our model, Grexit is modelled as a larger and more persistent increase in the credit spread and a greater and more persistent depreciation of the euro vis-à-vis the US dollar. Credit spreads increase by around 330 basis points and the euro depreciates by 30% (red dashed lines in Figure 1). Note that the reactions of both credit spreads and the exchange rate were comparable to magnitudes seen during the GFC in 2008. As shown in Figure 2, the model predicts a decline of GDP at the trough of around 5% (annual rate) – twice as large as the decline observed in 2012. Importantly, the decline in the counterfactual 'Grexit' scenario is quite persistent.

FIGURE 2 EURO AREA GDP GROWTH: DATA VERSUS MODEL

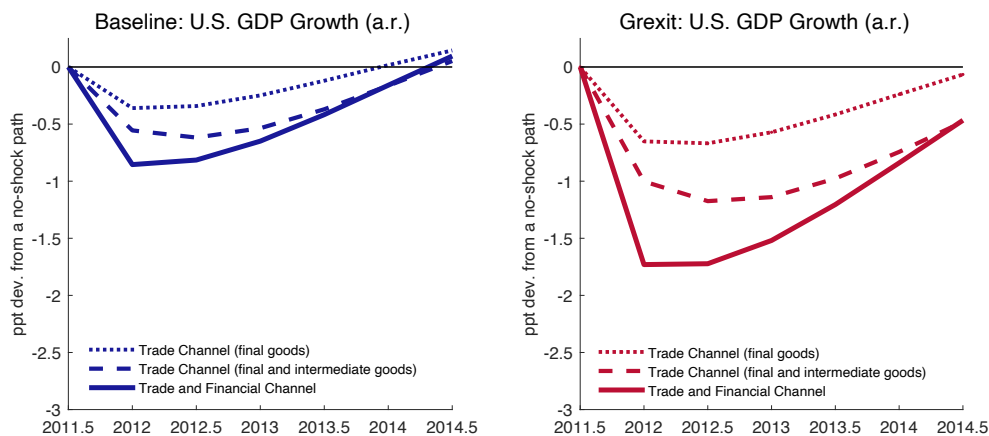


Source: Haver Analytics; authors' calculations.

Spillovers to the United States and the rest of the world

Our model quantifies two main channels through which the euro area debt crisis could impact the foreign economies: a trade channel (including trade in both final and intermediate goods) and a financial channel. Figure 3 displays how much US GDP growth would be affected through each channel in the ‘baseline’ scenario (left panel) and in the ‘Grexit’ scenario (right panel).

FIGURE 3 US GDP GROWTH: MODEL



Source: Authors' calculations.

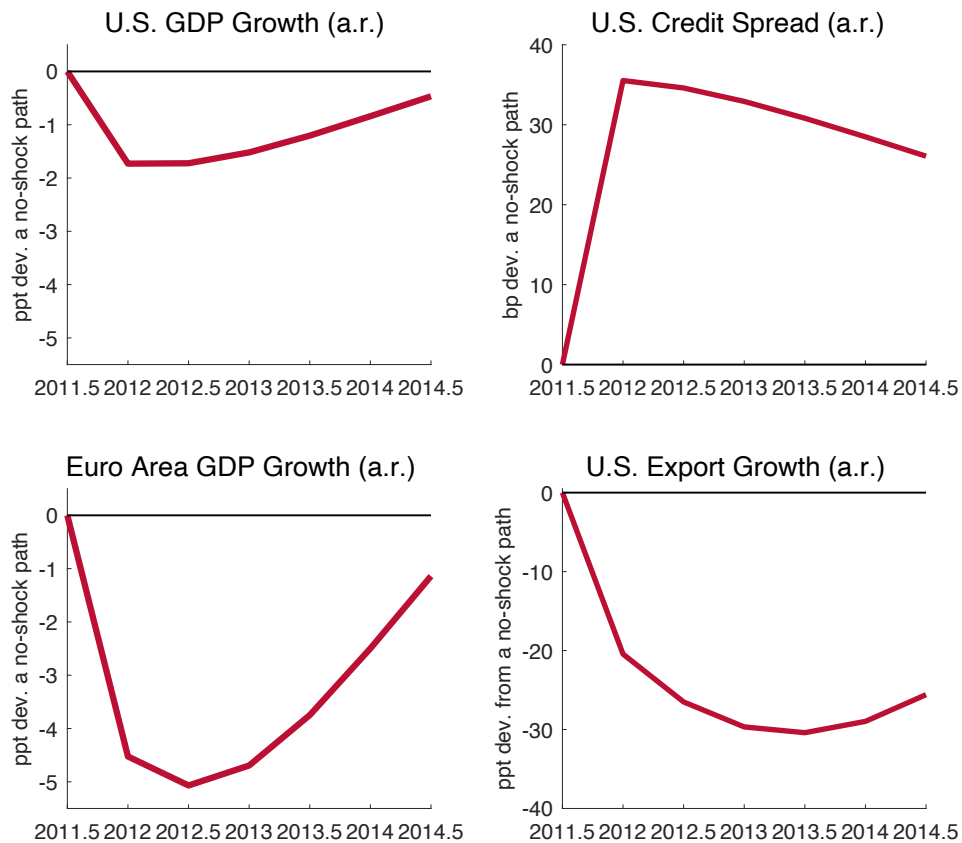
The trade (in final goods) channel operates through a fall in US final goods exports due to lower foreign demand, both because euro area domestic absorption plummets and because US goods become more expensive as the dollar appreciates. The shock in the model with input-output linkages causes US output to contract more (compared to a model without imported intermediates). This is because global demand shifts away from US intermediates towards foreign intermediates as the dollar appreciates, which in turn hits US producers further as part of those intermediates are domestically produced.

The financial channel operates through the exposure of US banks' balance sheets to euro area risks. Lower returns on euro area assets erode the value of some of US bank assets, causing the financial accelerator to kick in: the initial drop to bank asset values is amplified through an economy-wide fall in asset prices, generating a further fall in bank assets values, which eventually generates noticeably higher US credit spreads and lower investment spending. Overall, in the ‘baseline’ scenario, the model predicts negative spillovers to US/ROW, reducing GDP growth by up to 85 basis points, mostly through the trade channel.

In the ‘Grexit’ scenario, weaker euro area growth and a stronger US dollar reduce growth by another 85 basis points, especially through lower intermediate goods exports. Also, the financial channel has larger and more persistent effects in the ‘Grexit’ scenario, as the US banking sector experiences equity losses through exposure to European banks,

resulting in much tighter financial conditions. Everything considered, GDP growth in the US/ROW could have been 170 basis points below the ‘no-shock’ path if Grexit had occurred. These results are shown in Figure 3. To help visualise the pattern of interdependencies, the lower-right panel of Figure 4 shows how US export growth is tied to euro area/foreign GDP growth. Moreover, US financial conditions are somewhat tied to foreign financing conditions (upper-right panel).

FIGURE 4 CHANNELS OF SPILLOVERS FROM GREXIT TO THE US



Source: Authors' calculations.

3 CONCLUSION

What did the euro area crisis mean (and what might future euro area crises mean) for the United States and the rest of the world? Ten years or so ago, this depended on the nature and modalities of the potential scenarios going forward. Spillovers ended up being negative but relatively contained, mostly related to a slowdown of trade in intermediate goods. To a large extent, this relatively benign outcome was related to the fact that US financial institutions had reduced their exposures and increased capital

against remaining exposures. Still, the implications of more disruptive scenarios (such as ‘Grexit’) were subject to extreme uncertainty. As Metternich would have put it, luckily the US just sneezed in 2012; it could have been pneumonia.

REFERENCES

Akinci, O and A Queralto (2022), “Exchange rate dynamics and monetary spillovers with imperfect financial markets”, Federal Reserve Bank of New York Staff Report.

Erceg, C J, L Guerrieri and C Gust (2006), “Sigma: A new open economy model for policy analysis”, *International Journal of Central Banking* 2(1).

ABOUT THE AUTHORS

Ozge Akinci is an Economic Research Advisor in International Studies within the Monetary Policy Research Division. Her research interests include the cross-border spillovers of fiscal and monetary policies, boom-bust cycles in credit and asset prices in open economies, capital flows and sudden stops. Her recent work focuses on the use of dynamic general equilibrium models as tools for analyzing the consequences of financial market disruptions for the real economy, and the role of macroprudential policies. She is a Research Affiliate of the Centre for Economic Policy Research. Prior to joining the Bank, Ozge was an Economist at the Board of Governors of the Federal Reserve System. Ozge holds a PhD in Economics from Columbia University.

Paolo Pesenti is the Director of the Monetary Policy Research Division in the Research and Statistics Group of the Federal Reserve Bank of New York. Before joining the Bank he taught Economics and International Affairs at Princeton. He also taught at New York and Columbia Universities and was a visiting scholar at several research institutions worldwide. He served as a scientific consultant to the European Central Bank and a resident scholar at the International Monetary Fund. Mr. Pesenti is a Research Fellow of the Centre for Economic Policy Research and a Research Associate of the National Bureau of Economic Research. His widely published research specializes in international macroeconomics and finance. He is a recipient of the Hicks-Tinbergen Medal of the European Economic Association for his work on international portfolio diversification, and he is coauthor of an award-winning monograph on the crisis of the European Monetary System. He has been a member of the editorial boards of the *Journal of International Economics*, the *Journal of Money, Credit, and Banking*, and the *Economic Policy Review*. Mr. Pesenti holds a *Laurea* in Economics and Social Studies from Bocconi University and a PhD in Economics from Yale University.

CHAPTER 14

Thirty years since the ERM crisis: The beginning of the end

Lorenzo Bini Smaghi

Société Générale and CEPR

The 1992 crisis of the Exchange Rate Mechanism (ERM) can be celebrated in different ways. I will focus on the key role it played in determining the end of the monetary agreement that had prevailed in Europe since the end of the 1970s, known as the European Monetary System, and the transition to a new era, which started in 1999 with the creation of the euro.

In fact, the 1992 crisis was much broader, and longer lasting, than the few weeks that preceded the devaluations and exit of the Italian lira and British pound on 16 September 1992. The crisis lasted until 3 August 1993, when the fluctuation bands between the Deutsche mark and the other currencies that had remained in the agreement, in particular the French franc, was widened to 15% on both sides of the parity.

Why was the crisis so fundamental that it determined the most dramatic change in monetary regime since the Second World War? The reason was that it showed unequivocally that the previous system was unsustainable, not only from an economic but also a political viewpoint. What economists often do not understand is that the 1992-93 crisis was much more of a political than an economic crisis.

Economists had known for a long time, at least since Robert Mundell's 1968 contributions on international economics, that monetary policy cannot be conducted autonomously by countries that fix their exchange rates, especially in the presence of free capital mobility. Monetary conditions are de facto 'imported' from the country with the largest economy, which plays the role of 'anchor'. This was the mechanism underlying the Bretton Woods fixed exchange rate regime. Tommaso Padoa Schioppa (1982) used this concept to elaborate on the 'inconsistent quartet', which would make it impossible for the European Union to achieve at the same time exchange rate stability, national monetary independence, free movement of capital and trade integration.

An important literature had also developed since the late 1970s, in particular by Paul Krugman (1979) and Robert Flood and Peter Garber (1984), explaining that fixed but adjustable exchange rate regimes are subject to destabilising speculative attacks when the fundamentals of the countries pegging their exchange rate become incompatible with the monetary conditions of the anchor country.

It was thus clearly established that the ERM would not be sustainable over time. The numerous currency crises experienced since the start of the system prompted the political authorities of the member states to agree on a major institutional change, leading to the creation of a common currency for the whole European Union, the euro. In October 1990, the European Council decided to launch an intergovernmental conference to change the Treaties for the adoption of a single currency. The Treaty was finally agreed and ratified in Maastricht in February 1992.

However, even though the final date for the full implementation of monetary union – including the introduction of the single currency – was set for 1999, very few believed that it would really happen.

The reason for this was that, in spite of its imperfections, the prevailing system had provided over the years a clear anchor of stability – the Deutsche mark – that would be very difficult to replace and to give up. The Deutsche Bundesbank was granted a high degree of independence to pursue monetary policy aimed at price stability in Germany. Furthermore, the responsibility for the exchange rate adjustments which took place over the years could be clearly attributed to the countries pegging their exchange rate to the German currency. The repeated devaluations of the Italia lira, for instance, were clearly due to higher inflation in Italy compared to Germany, and the consequent loss of competitiveness. The 1983 devaluation of the French franc was due to excessively expansionary French fiscal policy, which led to a current account deficit. According to the prevailing view, it would have been risky to move to a new regime without having previously achieved a high degree of convergence.

Governments that devalued their currency against the Deutsche mark had to pay a high political price, as they implicitly recognised the lack of convergence of their respective policies. On the other hand, it was difficult to ask the Bundesbank to intervene in foreign exchange markets or change its monetary policy to defend an exchange rate parity that had become out of line with other countries' inflation levels or economic policies. The convergence of policies and fundamentals was ultimately considered to be the only way to ensure exchange rate stability.

The 1992-93 crisis dramatically changed this paradigm. Germany was no longer the anchor for stability, at least for a certain period of time. As a result of unification, its economy was overheating, with inflation higher than in several other member countries – such as France and the UK – and a high budget deficit. The monetary policy implemented by the Bundesbank to restore price stability did not provide the desired stability to the rest of the system, as it required an excessive tightening of other countries' policies.

The crisis showed that the mandate of the Bundesbank, which confined its task to the internal stability of the German currency, was not necessarily consistent with the monetary stability of the whole continent. In order to safeguard the latter, the statute of the Bundesbank should have been modified to allow it to take the external consequences of its actions into account.

During the crisis, the Bundesbank showed no signs of flexibility in the implementation of its policy, continuing to devote priority to internal monetary indicators that were partly distorted by the strong capital inflows associated in particular with the weakening dollar. The sharp rise in interest rates took the German economy into recession in 1993, while inflation fell from over 6% to around 3% in less than six months. The costs of the overly restrictive policy were borne by all countries.

During the whole crisis, the Bundesbank appeared to be acting not only as a technocratic institution but also as a major political player. The president of the Bundesbank made several public statements, at times denigrating foreign officials – most notably, Norman Lamont during the 5 Sept 1992 meeting of finance ministers in Bath – and exciting market speculation. The Bundesbank ultimately decided to intervene to avoid a devaluation of the French franc, with a close majority decision of its Board, under strong pressure exercised by the German chancellor. Had the opposite decision prevailed, the Treaty might not have been ratified in France and monetary union would never have happened – a cost that neither Germany nor Europe could afford.

The 1993 decision to widen the fluctuation margins showed that the prevailing institutional system was not able to provide the necessary monetary stability to the Union and to safeguard the Single Market. The fact that the central parities between the major currencies of the ERM were kept unchanged thereafter, until the establishment of the euro, proved the view that exchange rates always reflect fundamentals to be wrong. In spite of the market tensions experienced in 1992-93, maintaining the prevailing exchange rate references unchanged proved to be correct.

The ERM crisis was first and foremost a political crisis, rather than an economic one. It pointed to the huge political risks that the Union and its member states were taking in delegating the management of their currencies to a technocratic institution with a limited mandate. It blasted the view that money is just a veil, because as John Gurley once said, “when the veil flutters the economy sputters”.

The 1992-93 experience reinforced the political conviction in the major capitals that a move from a hegemonic asymmetric monetary system to a common symmetric one, able to implement monetary stability for the whole European union, was ultimately needed. It started the beginning of a long transition for the Bundesbank, from being the key institution in charge of monetary policy for the whole of Europe to becoming just one of the several members of the European System of Central Banks.

REFERENCES

Flood, R and P Garber (1984), “Collapsing exchange-rate regimes: Some linear examples”, *Journal of International Economics* 17(1-2): 1-13.

Krugman, P (1979), “A model of balance-of-payments crises”, *Journal of Money, Credit and Banking* 11(3): 311-325.

Mundell, R (1968), *International Economics*, Macmillan.

Padoa Schioppa, T (1982), “European capital markets between liberalisation and restrictions”, speech at the National Economists’ Club, Washington, DC, 6 July.

ABOUT THE AUTHOR

Lorenzo Bini Smaghi is Chairman of Société Générale. He is a Senior Fellow at the LUISS School of European Political Economy and a CEPR Research Fellow. From June 2005 to December 2011, he was a member of the Executive Board of the European Central Bank. He holds a Bachelor’s degree in economics from the Université Catholique de Louvain in Belgium, a Master’s degree from the University of Southern California and a Doctorate from the University of Chicago.

CHAPTER 15

Lessons from the European Monetary System Crisis for European Monetary Union

Philip R. Lane

European Central Bank, Trinity College Dublin and CEPR

My focus in this contribution is on the lessons from the crisis of the European Monetary System (EMS) for the design of the European Monetary Union (EMU). Some of these lessons were learned in the run-up to the launch of the euro in 1999; some were only learned much later after the very costly dual crises of 2008–2012 (the global financial crisis of 2008–2009, followed by the euro area sovereign debt crisis of 2010–2012). Most recently, the EMS crisis experience has informed the policy response to the Covid-19 pandemic since 2020 and has renewed relevance today in the context of the exit from the long period of extraordinarily low policy rates.

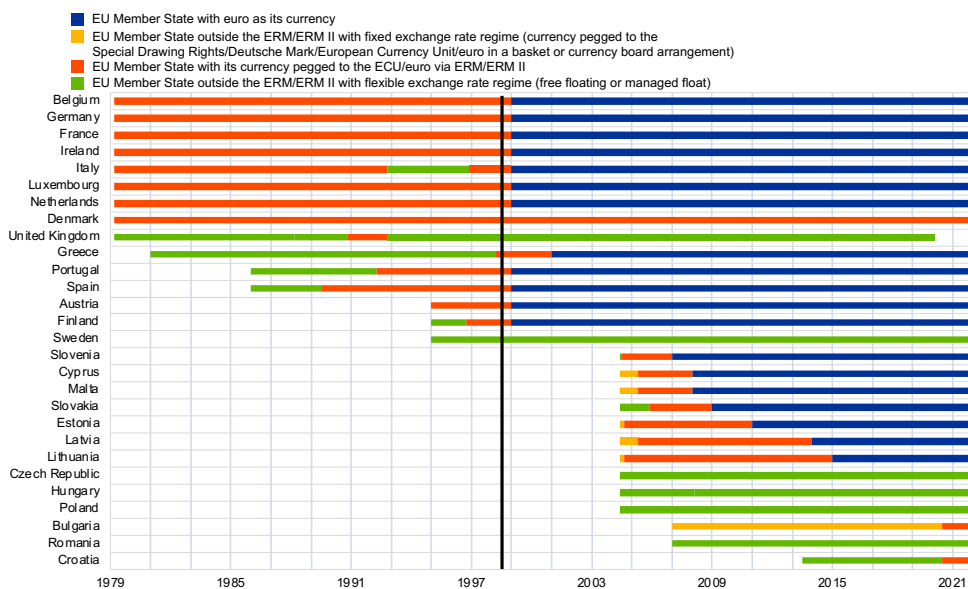
A primary lesson from the EMS crisis is that an exchange rate peg can only be durably maintained under very limited conditions (in the context of unrestricted international financial flows). Figure 1 shows the evolution of the exchange rate regimes of the EU member countries since 1979. Only Denmark and Bulgaria have remained as peggers in recent years, while the other member countries have either joined the monetary union or are operating a flexible exchange rate regime.¹ The cases of Denmark and Bulgaria might be viewed as ‘proofs by exception’, since the histories and institutional settings in these countries provide deep-seated peg commitments that do not necessarily provide much by way of a relevant example for other member countries.

Table 1 lists the currencies that have shown the least volatility against the euro in recent times. While Bulgaria and Denmark have formal peg commitments, the other countries in the list follow policy regimes that retain much greater optionality to tolerate exchange rate movements. Accordingly, these countries are not necessarily committed to defending the exchange rate in the event of a speculative attack, although only Albania has an exchange rate regime that can be characterised as free-floating. This optionality applies even more strongly to the set of countries listed in Table 2 that put some policy weight on the bilateral exchange rate against the euro but tolerate higher degrees of volatility. For completeness, Table 3 lists a group of microstates and developing countries that run exchange rate regimes linked to the euro.

1 In the runup to joining the euro on 1 January 2023, Croatia joined ERM II but ran a floating regime before then.

FIGURE 1 THE EVOLUTION OF THE EUROPEAN MONETARY UNION

Exchange rate regimes of EU Member States since the start of the European Monetary System

**TABLE 1 VOLATILITY OF EXCHANGE RATE CHANGES AGAINST THE EURO AND THE US DOLLAR**

Countries strictly anchored to the euro

Base currency	Euro	US dollar	IMF de facto classification	IMF de jure classification
	<i>Standard deviation of monthly % changes</i>		<i>De facto arrangements as identified by IMF staff</i>	<i>De jure arrangements as identified by IMF staff</i>
Bulgarian lev (ERMII)	0.001	1.67	Currency board	Currency board
Danish krone (ERMII)	0.04	1.68	Conventional peg	Conventional peg
Serbian dinar	0.12	1.68	Stabilised arrangement	Floating
Bosnian convertible mark	0.19	1.70	Currency board	Currency board
Macedonian denar	0.20	1.69	Stabilised arrangement	Floating
Romanian leu	0.30	1.66	Crawl-like arrangement	Managed floating
Croatian kuna (ERMII)	0.39	1.77	Stabilised arrangement	Stabilised arrangement
Albanian lek	0.73	1.73	Floating	Free floating
Tunisian dinar	0.80	1.27	Crawl-like arrangement	Floating
Moroccan dirham	0.98	1.63	Pegged exchange rate within horizontal bands	Pegged exchange rate within horizontal bands

Notes: The standard deviation of monthly percentage changes is calculated for the period from 31 January 2020 to 31 August 2022. The IMF classifications are as of 30 April 2021.

Sources: BIS, IMF Annual Report on Exchange Arrangements and Exchange Restrictions 2021 and ECB staff calculations.

TABLE 2 VOLATILITY OF EXCHANGE RATE CHANGES AGAINST THE EURO AND THE US DOLLAR

Countries loosely anchored to the euro or floating in the EU neighbourhood region

Base currency	Euro	US dollar	IMF de facto classification	IMF de jure classification
	<i>Standard deviation of monthly % changes</i>		<i>De facto arrangements as identified by IMF staff</i>	<i>De jure arrangements as identified by IMF staff</i>
Swiss franc	1.13	1.50	Crawl-like arrangement	Free floating
Swedish krona	1.21	2.20	Free floating	Free floating
Singapore dollar*	1.25	0.99	Stabilised arrangement	Other managed
Yuan renminbi*	1.45	1.12	Crawl-like arrangement	Managed floating exchange rate arrangement
Kuwaiti dinar*	1.51	0.30	Other managed arrangement	Conventional peg vis-à-vis a currency composite
Pound sterling	1.55	1.82	Free floating	Free floating
Polish zloty	1.56	2.75	Free floating	Free floating
Czech koruna	1.78	2.69	Free floating	Free floating
Algerian dinar*	1.82	1.12	Stabilised arrangement	Managed floating
Hungarian forint	1.85	3.05	Floating	Free floating
Iceland krona	2.35	2.87	Floating	Free floating
Norwegian krone	2.86	3.33	Free floating	Free floating

Notes: The highlighted currencies, identified by an asterisk (*), are less volatile against the US dollar than against the euro. The standard deviation of monthly percentage changes is calculated for the period from 31 January 2020 to 31 August 2022. The IMF classifications are as of 30 April 2021.

Sources: BIS, IMF Annual Report on Exchange Arrangements and Exchange Restrictions 2021, and ECB staff calculations.

TABLE 3 COUNTRIES AND TERRITORIES WITH EXCHANGE RATE REGIMES LINKED TO THE EURO (AS OF MARCH 2022)

Countries	Exchange rate regimes	Monetary policy framework
European microstates (non-EU members), some French overseas collectivities	Euroisation	Other ¹
CFA franc zone, CFP franc zone, Comoros, Cabo Verde, São Tomé and Príncipe	Pegs based on the euro	Exchange rate anchor
Samoa	"Pegs based on the SDR or other currency baskets involving the euro"	Monetary aggregate target
Fiji, Libya	"Pegs based on the SDR or other currency baskets involving the euro"	Exchange rate anchor

Notes: 1 No separate legal tender/no nominal anchor; various indicators are taken into account in the conduction of monetary policy.

Classification is based on the IMF's 2021 Annual Report on Exchange Arrangements and Exchange Restrictions. European microstates: Republic of San Marino, Vatican City, Principality of Monaco and Andorra are entitled to use the euro as their official currency. French overseas territories: Saint Barthélemy, Saint Martin and Saint-Pierre and Miquelon use the euro as their official currency. CFA franc zone: CEMAC (Cameroon, Central African Republic, Chad, Republic of Congo, Equatorial Guinea and Gabon) and WAEMU (Benin, Burkina Faso, Côte d'Ivoire, Guinea-Bissau, Mali, Niger, Senegal, Togo). In December 2019, a reform of the WAEMU was announced where the CFA franc would be replaced with a new unit -the eco- with a fixed exchange rate vis-à-vis the euro. CFP franc zone: New Caledonia and the French overseas territories of French Polynesia and Wallis and Futuna. The CFP Franc has had a fixed exchange rate against the euro since its introduction in 1999. Cabo Verde and São Tomé and Príncipe: both countries have had fixed exchange rates against the euro since 1998 (Cabo Verde) and 2010 (São Tomé and Príncipe). Samoa: the central bank maintains an exchange rate peg based on a basket of currencies that includes the euro, as well as the US dollar, New Zealand dollar and Australian dollar. Fiji: the currency was pegged to a basket of international currencies in May 2007. The external value of the Fiji dollar is officially determined on the basis of a weighted basket of currencies comprising the Australian dollar, Japanese yen, New Zealand dollar, euro and US dollar.

Focusing on the group of countries that joined EMU, the original institutional architecture lacked sufficient crisis management capabilities: the elimination of national currencies ruled out self-fulfilling speculative attacks in currency markets, but meant that such attacks could be transferred to sovereign bond markets and bank funding markets. The absence of crisis management capabilities was a calculated risk – deliberately taken at that time – that was intended to avoid the moral hazard inherent in any backstop facility (see James 2014 on the EMU design negotiations during the 1990s). However, in light of the many crises during the 1990s (the EMS crisis, the Scandinavian banking crisis, the Mexico crisis, the Asian financial crisis, the Russian crisis), this was a high-risk strategy, especially in view of the adverse interaction between fixed exchange rates and international financial flows in many of these episodes. In particular, the integration of EMU member countries with very different initial positions in terms of interest rates and growth prospects and the prospect of high international financial mobility in the absence of currency risk posed adjustment challenges from the beginning.

Reviewing the 2008–2012 twin crises, let me highlight several lessons.² First, in terms of the initial absorption of the global financial crisis shock, the monetary union provided a lot of insulation: compared to other similar countries, the area-wide provision of central bank liquidity eased the external funding pressure on the member countries experiencing liquidity runs. While this meant that acute crises were not initially experienced, the slower pace of macroeconomic adjustment without an independent currency did contribute to the persistent financial strains experienced by the euro area periphery that culminated in a series of crisis events over 2010–2012. With a number of countries requiring official funding support, this resulted in the establishment first of the European Financial Stability Facility (EFSF), and subsequently the permanent European Stability Mechanism (ESM). In turn, with fiscal positions and banking sectors underpinned by an ESM backstop (subject to policy conditionality) and a commitment by European leaders to establish Banking Union, the ECB could provide more comprehensive liquidity support with the announcement of the Outright Monetary Transactions (OMT) programme in 2012. Accordingly, the second lesson is that a stable monetary union does require crisis management capability (the ESM, the SRF), which in turn can enable the central bank to deter liquidity attacks, with the reassurance that an official funding backstop is in place.

Third, the high costs of these crises reinforced the importance of taking preventive measures to reduce crisis risks.³ An incomplete list includes an area-wide banking supervisor (SSM); a greater focus on macroprudential policy to lean against financial-sector imbalances; higher capital requirements on banks; a deeper commitment to prudent fiscal policy; and enhanced monitoring of macroeconomic imbalances. While these institutional reforms are considerable, the partial nature of the banking union (still lacking a European deposit insurance scheme) and the limited progress on capital markets union remain crisis risk factors for the monetary union, in view of the lack of cross-border risk sharing (Cimadomo et al. 2022).

The pandemic posed a severe crisis challenge for both the monetary union and the countries running independent currencies. Three inter-locked policy decisions were essential in ensuring that the pandemic did not generate a severe financial crisis. First, the ECB forcefully countered incipient fragmentation pressure (with investors exiting weaker member countries and turning to safe havens) by launching the Pandemic Emergency Purchase Programme (PEPP), which was designed to be flexible in its country-by-country purchasing allocations; this flexibility option calmed the nerves of investors.⁴ Second, the NextGenerationEU (NGEU) joint debt programme was very powerful in reassuring markets that the EU stood together in responding to the

2 This review is highly compressed. For a more comprehensive discussion, see Lane (2019, 2021).

3 See Martin and Philippon (2017) for a model-based counterfactual analysis of the fiscal and macroprudential policies that could have greatly reduced crisis risk during the first decade of the euro.

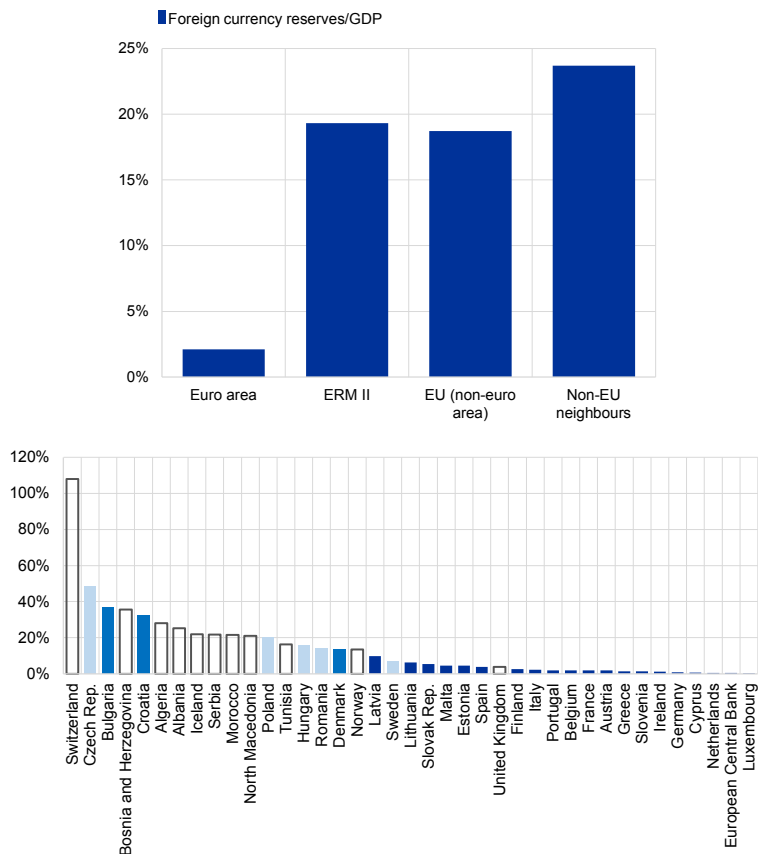
4 For a comprehensive discussion of the role of the PEPP, see Lane (2022).

pandemic common shock. Third, given favourable financing conditions, governments could support pandemic-affected households and firms, protecting the health of these key sectoral balance sheets.

The pandemic also highlighted once again that a flexible exchange rate regime does not protect a country from international financial shocks. Figure 2 shows that countries outside the euro area must self-insure by holding considerable foreign exchange reserves, while Figure 3 and Table 4 show that a number of countries agreed swap lines or repo lines with the ECB to enhance liquidity management capabilities.⁵

FIGURE 2 LEVEL OF FOREIGN EXCHANGE RESERVES (% OF GDP)

Foreign exchange reserves by region (top panel) and foreign exchange reserves by country (bottom panel)



Notes: Top panel: Euro area includes the ECB's reserve assets and those held by the national central banks of euro area countries; ERM II includes Bulgaria, Croatia and Denmark; EU (non-euro area) includes Czech Republic, Hungary, Poland, Romania and Sweden; Non-EU neighbours includes Albania, Algeria, Bosnia and Herzegovina, Iceland, Macedonia, Morocco, Norway, Serbia, Tunisia and the United Kingdom. GDP weighted averages. Bottom panel: Dark blue shows euro area countries and the ECB, blue shows ERM II countries, light blue shows EU (non-euro area) countries and white shows non-EU neighbour countries.

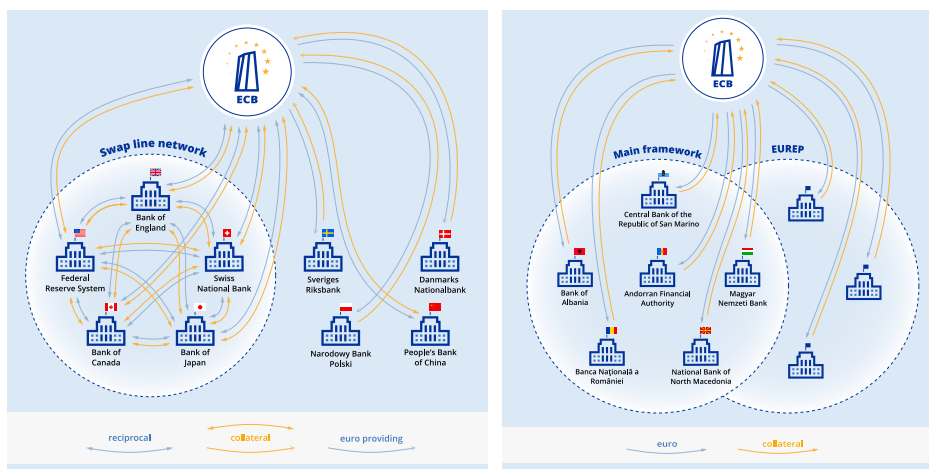
The latest observations are for August 2022.

Sources: IMF and ECB staff calculations.

5 Figure 3 also shows the swap lines among the world's largest central banks.

FIGURE 3 COUNTRIES RECEIVING SWAP/REPO LINES

Swap lines (foreign currencies that are accepted as collateral) and repo lines (adequate euro-denominated collateral accepted by the ECB)



Notes: Illustration of the agreements in place as of April 2022.

Source: ECB.

TABLE 4 COUNTRIES RECEIVING SWAP/REPO LINES

List of central bank liquidity lines the Eurosystem maintains under its main framework for swap and repo lines

Non-euro area counterpart	Type of arrangement	Maximum borrowable amount (millions of euros)	Expiry date	Reciprocal
Danmarks Nationalbank	Swap line	24,000	Standing	No
Sveriges Riksbank	Swap line	10,000	Standing	No
People's Bank of China	Swap line	45,000	8 October 2025	Yes
Narodowy Bank Polski	Swap line	10,000	15 January 2023	No
Magyar Nemzeti Bank	Repo line	4,000	15 January 2023	No
National Bank of Romania	Repo line	4,500	15 January 2023	No
Bank of Albania	Repo line	400	15 January 2023	No
National Bank of North Macedonia	Repo line	400	15 January 2023	No
Central Bank of the Republic of San Marino	Repo line	100	15 January 2023	No

Notes: The table does not include swap lines established within the swap line network. The table does not include repo lines established with non-euro area central banks under the Eurosystem repo facility for central banks (EUREP), for which the ECB does not disclose its counterparties. The maximum borrowable amount for the People's Bank of China is set to CNY 350 billion when CNY is provided to the ECB. This is an illustration of the agreements in place as of April 2022.

Source: ECB.

Finally, 2022 has seen another step in building the crisis prevention and crisis management capabilities of the ECB. The new Transmission Protection Instrument (TPI) provides the ECB with the capability to counter unwarranted, disorderly market dynamics that pose a serious threat to the transmission of monetary policy across the euro area. In particular, subject to fulfilling established criteria, the Eurosystem will be able to intervene in bond markets if it is assessed that a deterioration in financing conditions is not warranted by country-specific fundamentals. As such, the TPI represents further progress in containing speculative attack pressures within a monetary union.

REFERENCES

Cimadomo, J, E Gordo Mora and A A Palazzo (2022), “Enhancing Private and Public Risk Sharing,” ECB Occasional Paper Series No. 306.

James, H (2014), *Making the European Monetary Union*, Harvard University Press.

Lane, P R (2019), “Macrofinancial Stability and the Euro”, *IMF Economic Review* 67(3): 424-442.

Lane, P R (2021), “The Resilience of the Euro,” *Journal of Economic Perspectives* 35(2): 3-22.

Lane, P R (2022), “Monetary policy during the pandemic: the role of the PEPP”, speech at the International Macroeconomics Chair Banque de France – Paris School of Economics.

Martin, P and T Philippon (2017), “Leverage and the Great Recession in the Eurozone,” *American Economic Review* 107(7): 1904-1937.

ABOUT THE AUTHOR

Philip R. Lane is a member of the Executive Board of the European Central Bank since June 2019. Previously, he was the 11th Governor of the Central Bank of Ireland from 2015-2019. Prior to his appointment, he was on the academic staff at Trinity College Dublin and he remains affiliated with the university as Honorary Professor of Economics. He is also a Research Fellow of the CEPR. A graduate of Trinity College Dublin, he received a PhD in Economics from Harvard University in 1995 and was Assistant Professor of Economics and International Affairs at Columbia University (1995-1997) before returning to Dublin.

PART 5
THE NEXT DECADE

CHAPTER 16

Thirty years on, new frontiers for Europe's monetary cooperation

Martin Sandbu

Financial Times

At 30 years since the ERM crisis, the single most important observation we can make is to note how diametrically opposed the situation is from the 20th anniversary of that event. A decade ago, euro area countries were only just coming out of the second of three waves of runs on some members' sovereign debt, which quite plausibly could have torn the construct apart, or at least prompted the policy and political choices to allow it to unravel. Thankfully that didn't happen. But the key difference this time around is how much the integrity of the euro has been a non-issue.

The euro/ERM-2 countries' economies have been hammered by three new crises in as many years (actually a bit less): the pandemic, the energy and commodity price spike brought on by Vladimir Putin (as well as all the other instability caused by his crime of aggression against Ukraine), and the greatest inflationary challenge to monetary policy since the 1970s. None of these has caused any serious doubt about the euro's future. ERM-2 has held up to the point where a new country – Croatia – has adopted the euro, and another – Bulgaria – is likely to do so soon.

What this shows is that Europe's currency union is now an uncontested *acquis*. A big reason for this is that the single currency has acquired new mechanisms for risk-sharing (the European Stability Mechanism fund for emergency lending to member governments) and macroeconomic stabilisation in the presence of asymmetric shocks (the SURE reinsurance mechanism for national unemployment benefit systems). Another is that the ECB has become a 'normal' central bank, the central actor responsible for financial stability which of course includes preventing disorderly movements in sovereign bond markets. And after EU governments' Rubicon-crossing decision to engage in joint borrowing for the post-pandemic Resilience and Recovery Fund, the euro now has a sizeable safe asset.

Above all, the political unity around the commitment to keep the euro together has been put beyond doubt. The future of the euro is safe. No members will leave. More will join.

Instead, three other issues relating to European monetary cooperation remain contested, sometimes deeply and some would say irreconcilably.

The first is the actual conduct of the common monetary policy. While the ECB manages to set joint policy for a multi-country currency area with an impressive degree of harmony, monetary policy is very much in flux. There are several open questions that will in the next few years have to be given answers – and those answers are bound to lead to significant change in how monetary policy is carried out. This includes the core of that mandate – how to secure price stability – where a thorough strategy review seems to have become obsolescent barely a year after it was concluded. Inflation and growth developments in 2023–24 will shape perceptions about the wisdom of the ECB's choice to tighten policy strongly into a supply-side-driven recession – and therefore whether the inflation-targeting regime is seen as fit for purpose.

At a time of very high investment needs (for the energy, climate and digital transitions), it will also be necessary to devise forms for fiscal-monetary cooperation, which Europe's current institutional set-up makes almost impossible. Finally, how (if at all) monetary policy should take into account climate change and the EU's goal of decarbonising its economy by 2050 is a debate that could profoundly change the way monetary policy is done.

This set of contested issues is one Europe's monetary union shares with other currency areas. That is not true of the second set of issues, which relate to the performance of the euro area economy.

The euro is here to stay, but it is quite a different matter whether its economy is doing as well as it could. In fact, much criticism of 'the euro' and many of the accusations supposedly showing how bad an idea monetary unification was really reflect shortcomings in the real economy and the governing institutions that shape its functioning. One excuse for this conflation – blaming real economy problems on the currency – is that these shortcomings are largely coextensive with the currency union itself, given the degree of regulatory harmonisation both of the EU as a whole and in some cases especially in the euro area.

They include insufficient integration of banking markets that remain too national (especially at retail level, but also at wholesale level when interbank lending even within groups is preferred to full cross-border corporate integration). They also include the underdeveloped capital markets, for equity and venture capital above all. And they included the continued incompleteness of the single market for goods and services. There is a good case to be made that the full potential benefit of a common currency has been blunted because other barriers to trade are currently a greater brake on the dynamic gains from trade than what exchange rate volatility would entail. In economic jargon, the binding constraints on euro area economic performance are non-monetary and non-currency-related.

There are, certainly, valiant efforts underway to remedy these shortcomings, such as the banking union and capital markets union projects. But the sluggish progress, to put it mildly, achieved on these fronts is testimony to how disputed the required steps are.

The third contested policy area is the boosting international role of the euro. The policy objective, formally adopted although with only weak political capital behind it, will surely only be strengthened by the current geopolitical environment. Financial sanctions, dependence on US price and monetary developments, and vulnerability to US pressure on such political decisions as whether and how to decouple from China all increase the salience of the US dollar's domination of the global economy and financial system. So, there is all reason to think that greater monetary autonomy will be something Europe's leaders will find increasingly important.

But can they achieve it? Measures have been taken, although for unrelated reasons, that are necessary steps on the way to raising the euro's international use. One is the euro-denominated safe asset (the once-dreaded 'eurobond') that finances the Resilience and Recovery Fund. Another is a more serious effort at energy price benchmarking that works in Europe's interest.

But the real game changer will be a central bank digital currency (CBDC). The ECB has vaulted the euro area into the lead among major economies preparing CBDCs. The technical preparations are underway, and just as important, the political backing is nearing a point of no return. If a digital euro is launched – which could conceivably happen well within five years – it will make it easier to encourage use of the euro as an international transaction currency. It would help overcome banking fragmentation domestically. And it could help financial deepening and greater sophistication by enabling a leading European fintech industry developing smart contracts using safe programmable money. The first and the third of these probably come with important first-mover advantages. All three would make the euro a more attractive reserve currency.

Thirty years on from a crisis, then, the European monetary system is in rude health. With existential fears rightly buried, the policy questions that now have to be addressed are ones which, if the right solutions are chosen, could take it from safety to strength.

ABOUT THE AUTHOR

Martin Sandbu is the *Financial Times's* European economics commentator. He also writes Free Lunch, the FT's weekly newsletter on the global economic policy debate. He has been writing for the FT since 2009, when he joined the paper as economics leader writer. Before joining the FT, he worked in academia and policy consulting. He is the author of three books, on business ethics, the euro, and on the economics of belonging.

CHAPTER 17

The architecture of the euro: Prospects for the next decade

Jeromin Zettelmeyer¹

Bruegel and CEPR

In this note I examine the prospects for improving the architecture of the euro (the Economic and Monetary Union, or EMU) in the next decade. I take a mix of a normative and positive view – how the euro architecture should develop, and whether it is likely to develop as it should.

The likelihood of jumping over a bar does of course depend on how high the bar is set. If we define the ideal EMU as a near-utopia – for example, a fully-fledged European federal state with strong common political and economic institutions – it will not be achieved in the next ten years. But this is a near tautological statement. To make the note more interesting, I will set the bar as low as the original expectations of what the euro would deliver allow. I will then argue that absent another major crisis, even this relatively low bar will be hard – but not impossible – to meet in the next decade. One way to describe the chances is that success would require an additional exercise of political will of about the same magnitude as the 2012 decision to launch the Banking Union.

My starting point is the following question, attributed to Otmar Issing in Giancarlo Corsetti's contribution in this volume (Corsetti 2023): *What is the minimal economic constitution required for the euro to deliver stability and prosperity?* The emphasis on a 'minimal' economic constitution is necessary for injecting realism in the discussion – the aim is to meet a minimum standard, not to seek perfection. At the same time, 'stability' and 'prosperity' are big words which might be taken to suggest something utopian. To rule this out, I will define them in relative terms, i.e. compared to the stability and prosperity that an EU member state with strong economic and political institutions could expect to achieve outside the euro. This is a fair standard, as at least some EU member states had such institutions at the time of the Maastricht Treaty, and the euro is supposed to be an improvement for all its members.

We also need to make 'stability' and 'prosperity' more concrete. I will take 'stability' to include both cyclical stability – low inflation and low cyclical unemployment – and the absence of disruptive crises having to do with the balance of payments, sovereign debt, and

¹ I am grateful to Giancarlo Corsetti, whose presentation at the CEPR conference on 30 years since the ERM crisis inspired this contribution, and to Galina Hale, Martin Sandbu and Nicolas Véron for comments on an earlier draft. Any remaining errors are mine only.

the financial system. And I will identify ‘prosperity’ with a well-functioning single market for goods and services, including financial services. Again, the standard for success is not that EMU can single-handedly create the market or achieve stability – only that creating such a market, or achieving stability, should be materially easier with than without the euro.

THE PRE-CRISIS VISION OF EMU

As elaborated in the earlier contributions in this volume, the expectation in the years leading up to the Maastricht Treaty was that EMU would clear this bar. The outsourcing of monetary policy to an independent central bank would take away the monetary punch bowl from governments, removing one source of boom-bust cycles and currency crises. Pegging national currencies irrevocably (by making the euro a requirement of EU membership) would remove the possibility of second-generation currency crises inside the euro area, of the sort that had bedeviled the members of the ERM.

By this logic, ensuring stability under the euro hinged on addressing just one remaining conundrum: how to constrain fiscal policy. The externalities of fiscal crises are arguably higher inside the euro area than outside. A euro area member that runs out of fiscal headroom might pressure the ECB to raise inflation, at the expense of all members of the currency union. If this does not happen, or is not enough, a sovereign debt crisis might ensue, *in extremis* triggering euro exit. Euro exit in turn would remove one of the stability pillars that distinguishes the euro from the ERM: the expectation of irreversibility.

Avoiding this problem requires fiscal rules that ensure that all members remain solvent. But these rules must be reconciled with room for independent anti-cyclical fiscal policy, which is also more important in a currency union than outside. This poses a conundrum: the higher cross-country spillovers of fiscal risks inside the euro argue for restricting national fiscal policies, while the higher value of discretionary fiscal policy to each euro member argues for the opposite. The answer to the conundrum was the Stability and Growth Pact (SGP) – a set of rules that were expected to lead to fiscal buffers, in the form of low debt and low deficits in normal times, while allowing temporarily higher deficits in response to economic shocks (Article 126(2) of the present TFEU).

Hence, the original answer to the stability part of Otmar Issing’s question was that the minimal economic constitution required for the euro to deliver stability is an independent ECB committed to price stability in combination with the SGP. As to the prosperity part of the question, the hope was that the removal of trade costs associated with floating rates would be an automatic driver of economic and financial integration. And the experience of the 2000s prior to Global Financial Crisis (GFC) seemed to bear out this view, with booming cross-border financial flows in the euro area and real interest rates dropping sharply in the countries in its periphery.

Then came the GFC and the euro crisis, a stability catastrophe that gave rise to a reversal of financial integration gains. What had gone wrong? The answers can be divided in two categories.

- Where obstacles to stability and prosperity had been correctly identified by the creators of the euro, some of the original assumptions about how these obstacles could be overcome proved incorrect. The SGP failed to contain sovereign debt risks, mostly because it was not implemented – the political economy of building large buffers is hard. And the assumption that the removal of exchange rate volatility would per se be a major driver of trade and financial integration turned out to be incorrect – at least in a structural sense.
- Some obstacles were not identified by the time the euro was launched – at least in the prevailing policy consensus.² In 2010–2011, Europe discovered a new type of balance of payment crises, well-known in emerging markets, triggered by a sudden stop in centre–periphery capital flows. An irrevocable currency union does not rule out such crises, it merely implies that they will take the form of sovereign and banking system stress rather than currency collapse. Nor does low sovereign debt rule out crises of this type. If the banking system is exposed to high private debt, the sudden stop leads to a tightening of financial conditions, and banks are an implicit liability of the sovereign. The closer sovereigns and national banking systems are linked through direct and indirect exposure to each other, the greater the amplification effects (the so-called doom loop between banks and sovereigns), and the worse the economic consequences.

Europe also discovered that eliminating national control over money not only reduces opportunities for mischief, but also takes away instruments to mitigate mischief (such as lending to fiscal authorities in last resort). This is another point that the creators of the euro had missed, presumably because the type of crises that such instruments might address were not regarded as relevant.

THE POST-CRISIS VISION OF EMU

The crisis proved the original answer to Otmar Issing's question wrong. But what is the right answer? In the aftermath of the crisis, some economists – particularly in the UK and the US – argued that the needed economic constitution to make the euro a success required US-style fiscal federalism. Given the low chances of this happening in the EU, this was essentially the same as saying that the euro had been a mistake.

Not surprisingly, European policymakers opted for a different answer – one that sought to 'complete' the architecture of EMU by reforming the SGP and adding a collection of common crisis prevention and crisis management institutions while stopping short of

2 Some academic observers did better; see Begg et al. (1998).

fiscal union. This consisted of a Macroeconomic Imbalance Procedure (MIP) to exercise surveillance over national policies that might lead to crisis vulnerabilities, a harmonised EU rulebook for bank regulation, common banking supervision, and common institutions and policies for crisis management. The latter include a new IMF-style crisis lender, the European Stability Mechanism (ESM), ECB instruments for the conditional liquidity provision to governments,³ the Single Resolution Mechanism (SRM) for banks, backed by a Single Resolution Fund (SRF), and – prospectively – a European deposit insurance system (EDIS). To this, a programme to integrate capital markets (Capital Markets Union, or CMU) was later added. We refer to this vision of the minimal EMU architecture to deliver stability and prosperity as ‘Banking Union plus’.

The logic behind Banking Union plus is sound:

- With respect to stability defined as the absence of crises, Banking Union plus should put the euro area at least on a par with a well-run EU country outside the euro area and Banking Union. The combination of a reformed SGP and MIP, harmonised bank regulation and common banking supervision should contain crisis vulnerabilities. ECB liquidity instruments and the ESM should do at least as well at preventing self-fulfilling crises as central banks in advanced countries issuing their own currency. Common resolution and deposit insurance should contain the hazards of cross-border resolution. To the extent that they go along with a reduction of bank exposure to the domestic sovereign, they should also eliminate the doom loop.⁴
- With respect to cyclical stabilisation, Banking Union and Capital Markets Union should also make a contribution, as private cross-border risk sharing substitutes (at least to some extent) for risk sharing through cross-border fiscal transfers of the kind that would be expected in a federal state (Alcidi et al. 2017, Farhi and Werning 2017, van Dijk et al. 2018, Stráský 2019). With private risk sharing doing some of the work, fiscal policy carries a lower burden.
- Finally, Banking Union and Capital Markets Union should create the structural conditions for deep financial integration, benefiting the single market.

3 Namely, Outright Monetary Transactions (OMT), a 2012 policy to purchase the bonds of distressed countries implementing the conditionality attached to ESM programs in potentially unlimited amounts; and the 2022 Transmission Protection Instrument (TPI), a similar policy that replaces the need to comply with ESM programme conditionality with ex ante conditions including compliance with the EU fiscal framework, absence of severe macroeconomic imbalances, and fiscal sustainability.

4 With high exposure of banks to domestic sovereigns, one leg of the doom loop – from sovereigns to banks – would remain in place. While common resolution and deposit insurance mitigate the second leg – from banks to sovereigns – this is not fully eliminated, as banking crises impose a fiscal burden even in the absence of recapitalisation needs, through their impact on economic activity, tax revenue, and stabilization-related spending. Hence, full elimination of the doom loop may require regulation that limits sovereign exposures of banks (Bénassy-Quéré et al. 2018, Beck et al. 2022, Véron 2023).

The post-crisis vision – Banking Union plus – hence seems to clear the bar. If implemented, it would meet and perhaps surpass that minimum conditions for the euro to deliver stability and prosperity, without requiring the additional steps associated with fiscal integration, such as a large federal budget and federal-level democracy that provides the associated legitimacy and accountability.

EMU IN THE NEXT DECADE

Banking Union plus may be the answer to Otmar Issing’s question—and thankfully, it is an answer that stops well short of fiscal union. But there is a problem. The EU has been trying to build Banking Union plus for more than a decade now and is still far from achieving the goal. Notwithstanding the SRM and SRF, bank resolution remains largely national (Beck et al. 2022). European deposit insurance has not happened. Domestic sovereign exposures remain high in several large EU countries. Financial integration and capital market union remain far below the standard set by the US. And the 2011–13 reform of the SGP has not been very successful (Arnold et al. 2022).

On the upside, the Union took a step toward fiscal integration with the 2020 NextGenerationEU (NGEU) programme, funded by common borrowing. But this is a one-off emergency instrument. Its legal and political basis would not support an EU budget funded by debt and taxes, fundamentally, because the EU does not have taxing powers (Maduro et al. 2021).

The fact that fiscal union remains remote is not surprising, but why has the implementation of Banking Union plus been so difficult? One reason is that some of the big steps that would be required to complete it conflict – or are seen as conflicting – with national fiscal interests. Germany has blocked EDIS because of its fear of fiscal transfers to countries with weak banks. Italy has blocked regulatory treatment of sovereign exposure for fear of losing its traditional safety net in the sovereign debt market: its banking system as a purchaser of last resort. Reform of the fiscal rules is hard because of trade-offs between restricting fiscal autonomy and constraining fiscal externalities. And the obstacles to Capital Markets Union include lack of alignment of pension systems, business taxation and the taxation of investment income – all of which are related to fiscal sovereignty.

This leads to a depressing thought. While Banking Union plus may not require fiscal union, lack of fiscal union may be rendering Banking Union plus politically unfeasible. This would imply that completing Banking Union plus is as difficult as building a fiscal union – and hence very likely out of reach in the next decade, and perhaps forever.

While this is a plausible reading, the same facts can be read in a slightly less depressing way. True, fiscal union would remove several obstacles that have been holding up Banking Union and Capital Markets Union. But it may not be necessary to overcoming these obstacles. EDIS can be designed in a way that practically shields sovereigns from banking system risk (Schnabel and Véron 2018, Carmassi et al. 2018). Italy may overcome

its fear of the sovereign debt market with some combination of lower debt, longer maturities, and access to official safety nets. The ECB's recent Transmission Protection Instrument may help (by improving the safety net, but also by creating fiscal discipline). And while national fiscal sovereignty may make Capital Markets Union harder, many of the obstacles to CMU (as identified by High Level Forum on the Capital Markets Union 2020, for example) relate to lack of regulatory and legal alignment due to some combination of special interests, interests of national bureaucracies, and coordination failures. The same is true with respect to some aspects of Banking Union (for example when the latter conflicts with the interests of national banking champions, large or small).

These are standard obstacles to European integration that can be overcome without creating a federal state.

Even the less depressing interpretation requires policymakers to break national taboos, confront special interests, and achieve compromise. This is tough. But it has been done before, most recently in the 2012 decisions leading to Banking Union (Véron 2023). Hence, one plausible prediction for the next decade is that Banking Union plus will remain stuck until EU policymakers achieve a similar degree of common purpose as they did in 2012. The EU's best hope is that this will not require another divisive crisis, but rather will come from a shared sense of what it stands to lose. Banking Union plus is essential to the EU's ability to maintain its prosperity, increase its resilience and defend its autonomy.

REFERENCES

- Alcidi, C, P D'Imperio and G Thirion (2017), "Risk-sharing and consumption smoothing patterns in the US and the Euro Area: a comprehensive comparison", CEPS Working Document 2017/04.
- Arnold, N G, R Balakrishnan, B B Barkbu, H R Davoodi, A Lagerborg, W R Lam, P A Medas, J Otten, L Rabier, C Roehler, A Shahmoradi, M Spector, S Weber and J Zettelmeyer (2022), "Reforming the EU Fiscal Framework: Strengthening the Fiscal Rules and Institutions", IMF Departmental Paper DP/2022/014.
- Beck, T, J P Krahnén, P Martin, F Mayer, J Pisani-Ferry, T Tröger, B Weder di Mauro, N Véron and J Zettelmeyer (2022), "Completing Europe's banking union: economic requirements and legal conditions", Bruegel Policy Brief and CEPR Policy Insight No. 119.
- Begg, D, P de Grauwe, F Giavazzi, H Uhlig and C Wyplosz (1998), *The ECB: Safe at Any Speed?*, Monitoring the European Central Bank 1, CEPR Press.

Bénassy-Quéré, A, M Brunnermeier, H Enderlein, E Farhi, M Fratzscher, C Fuest, P-O Gourinchas, P Martin, J Pisani-Ferry, H Rey, I Schnabel, N Véron, B Weder di Mauro, and J Zettelmeyer (2018), “Reconciling risk sharing with market discipline: A constructive approach to euro area reform”, CEPR Policy Insight No. 91.

Carmassi, J, S Dobkowitz, J Evrard, L Parisi, A Silva and M Wedow (2018), “Completing the Banking Union with a European Deposit Insurance Scheme: who is afraid of cross-subsidisation?”, ECB Occasional Paper No. 208.

Corsetti, G (2023), “Why is the European currency and financial crisis of the 1990s relevant today?”, in G Corsetti, G Hale and B Weder di Mauro (eds), *The Making of the European Monetary Union: 30 Years Since the ERM Crisis*, CEPR Press.

Farhi, E and I Werning (2017), “Fiscal Unions”, *American Economic Review* 107(7): 3788-3834.

Maduro, M P, P Martin, J-C Piris, JeaJn Pisani-Ferry, L Reichlin, A Steinbach and B Weder di Mauro (2021), “Revisiting the EU framework: Economic necessities and legal options”, CEPR Policy Insight No. 114.

Schnabel, I and N Véron (2018), “Completing Europe’s Banking Union means breaking the bank-sovereign vicious circle”, VoxEU.org, 16 May.

Stráský, J (2019), “A European fiscal capacity can avoid permanent transfers and improve stabilisation”, VoxEU.org, 28 January.

Véron, N (2023), “The first decade of Europe’s banking union: Much achieved, much still to do”, Bruegel and Peterson Institute for International Economics, forthcoming.

van Dijk, T, J Hanson, M Heijdra and T Aarden (2018), “A more stable EMU does not require a central fiscal capacity”, VoxEU.org, 30 November.

ABOUT THE AUTHOR

Jeromin Zettelmeyer is Director of Bruegel and a CEPR research fellow. He was previously Deputy Director of the IMF’s Strategy and Policy Review Department (2019-2022), Senior Fellow at the Peterson Institute for International Economics (2016-19), Director-General for Economic Policy at the German Federal Ministry for Economic Affairs and Energy (2014-16); Director of Research and Deputy Chief Economist at the European Bank for Reconstruction and Development (2008-2014), and an IMF staff member, where he worked in the Research, Western Hemisphere, and European II Departments (1994-2008). His research interests include EMU governance, financial crises, and sovereign debt.

CHAPTER 18

Future challenges to European sovereign debt markets

121

Leonardo D'Amico, Francesco Giavazzi, Veronica Guerrieri and Guido Lorenzoni

Harvard University; Bocconi University and CEPR; University of Chicago Booth School of Business; University of Chicago Booth School of Business

In the last two years, as the economy recovered from the acute phase of the pandemic, Europe has faced a new set of macroeconomic challenges and, in particular, high levels of inflation not seen in the last three decades. From the point of view of European fiscal and financial stability, an important open question is: what are the implications of this new inflationary environment for debt sustainability? The answer is ambiguous.

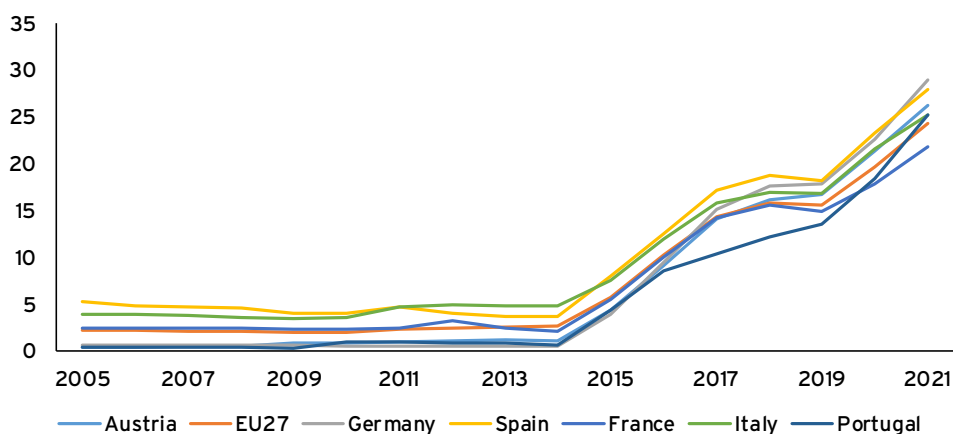
On the one hand, a relatively short-lived period of inflation and high nominal GDP growth helps to reduce debt-to-GDP ratios – given that only a fraction of outstanding debt was indexed and that real rates are only gradually catching up. There are also immediate benefits from unexpected inflation for the primary balance, as various spending items are not indexed or partially indexed, while tax revenues tend to grow with nominal output.

On the other hand, the current inflationary environment may be a sign that we have entered a new macroeconomic phase, characterised by higher natural interest rates relative to the very low rates of the pre-pandemic years. A high natural rate regime affects debt sustainability calculations going forward and could re-open the possibility of self-fulfilling spirals in sovereign debt yields.

These risks have important consequences for the conduct of monetary policy and asset purchases by the ECB. In a low-inflation environment, the expansionary objective of the ECB and the need to carry out quantitative easing (QE) are aligned with the objective of stabilising debt markets. Figure 1 shows the large accumulation of sovereign bond holdings by the ECB driven by QE purchases and pandemic-driven purchases. In a high-inflation environment, in contrast, the ECB needs to tighten monetary policy and scale down asset purchases. This creates a potential trade-off with the objective of debt market stability. With this in mind, the ECB has introduced a new anti-fragmentation tool, the Transmission Protection Instrument (TPI). While the design of the TPI clearly identifies the conditions under which an intervention by the ECB is justified, this requires the ECB to separate sustainability problems from market malfunction, which may not always be easy. Given these difficulties and in order to give more freedom to the ECB to focus

on monetary stability, it is a good moment to reconsider the benefits of more radical solutions, such as the creation of a European Debt Agency, that we and others have advocated in the past.¹

FIGURE 1 ECB HOLDINGS OF SOVEREIGN BONDS (% OF TOTAL DEBT)



Source: ECB

To highlight the risks associated with a reduction of the ECB's sovereign debt holdings in a high-interest-rate environment, we use some simple simulations

We consider the case of Italy and use as baseline the World Economic Outlook 2022-2027 projections for output, primary balance and government debt. To extend our projections to 2032, we make simple assumptions reported in Table 1. For nominal growth we assume 3%, and for the safe nominal interest rate we assume 3%. Assuming inflation goes back to target, we have 1% real growth and a 1% real rate. We assume that Italy pays the riskless rate plus a spread, which in our baseline is constant at 150 basis points. We also assume that the cost of debt service depends on the average rate (riskless + spread) in the past seven years, to capture in a simple way the gradual effect of interest rates on debt service through the maturity structure.

In our baseline, we assume the ECB holdings of Italian debt remain constant at 25% of total Italian debt. We subject our baseline to two potential adverse events: one where the safe rate settles at 5% (so 3% real); and one where the ECB gradually reduces its holdings of Italian debt, following the path in the table.

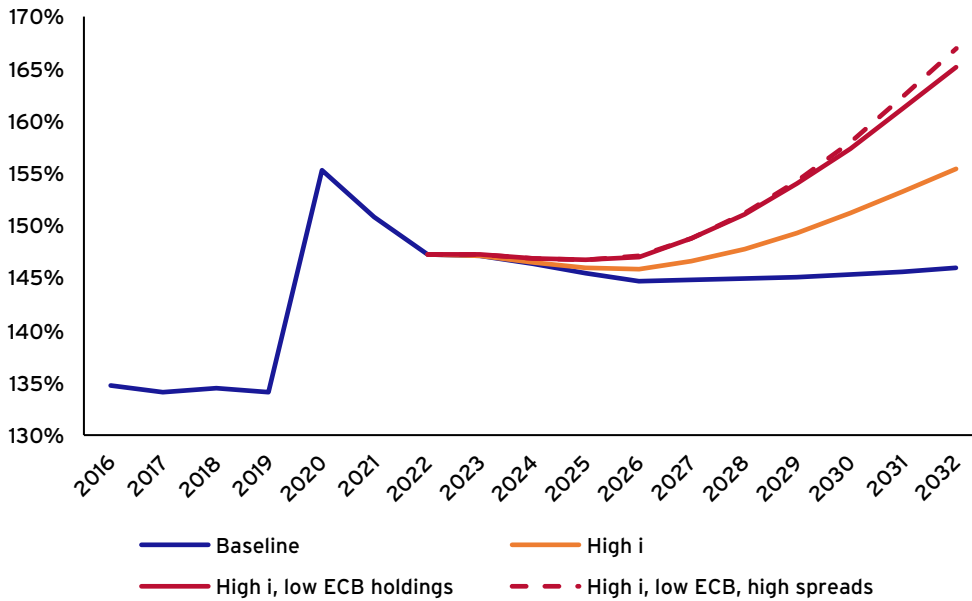
¹ See Corsetti et al. (2015) for an early proposal. More recent proposals that discuss the creation of a Debt Agency are Avgouleas and Micossi (2021), Amato et al. (2022), Amato and Saraceno (2022), and D'Amico et al. (2022). See Leandro and Zettelmeyer (2019) for an excellent overview of different options to create a European safe asset.

TABLE 1 ASSUMPTIONS FOR SIMULATIONS

Year	Primary balance (% of GDP)	Nominal GDP growth	Safe nominal interest rate			Spread			Debt held by ECB (% of total)		
			Baseline	High	Low	Baseline	High	Low	Baseline	High	Low
2022	-2.94%	6.41%	1.08	1.08	196	196	196	25%	25%	25%	
2023	-1.47%	2.81%	1.56	2.06	150	150	150	25%	25%	22%	
2024	-1.15%	3.16%	2.04	3.04	150	150	151	25%	25%	19%	
2025	-0.65%	2.97%	2.52	4.02	150	150	155	25%	25%	16%	
2026	-0.68%	3.11%	3.00	5.00	150	150	161	25%	25%	13%	
2027	-0.68%	2.76%	3.00	5.00	150	150	170	25%	25%	10%	
2028	-0.67%	3.00%	3.00	5.00	150	150	185	25%	25%	7%	
2029	-0.67%	3.00%	3.00	5.00	150	150	205	25%	25%	5%	
2030	-0.67%	3.00%	3.00	5.00	150	150	230	25%	25%	5%	
2031	-0.67%	3.00%	3.00	5.00	150	150	261	25%	25%	5%	
2032	-0.67%	3.00%	3.00	5.00	150	150	297	25%	25%	5%	

Figure 2 shows the path of the debt-to-GDP ratio in four scenarios. The blue line corresponds to the baseline; the orange line to a scenario with higher interest rates. The red line combines higher interest rates and a declining path of ECB holdings. The dashed red line includes feedback from the debt to the spread, leading to the spreads in the “high spread” column in Table 1.² To make the illustration especially stark, we keep the path for the primary balance unchanged in all cases.

FIGURE 2 DEBT-TO-GDP PATHS FOR ITALY UNDER FOUR SCENARIOS



The reason for the distance between the first two scenarios (blue and orange lines) is just higher interest payments. The reason for the distance between the second and third scenarios (orange and red lines) is that if the ECB keeps its debt holdings equal to 25% of total debt, this removes a constant fraction of interest payments from the debt accumulation equation. This happens because the interest payments made on debt held by the ECB are essentially returned to the national governments.³ In the solid red line, the ECB scales down its debt holdings and the interest payments returned to national governments are smaller. The dashed red line adds to this effect an endogenous change in spreads that further increases the cost of debt. This additional effect is relatively

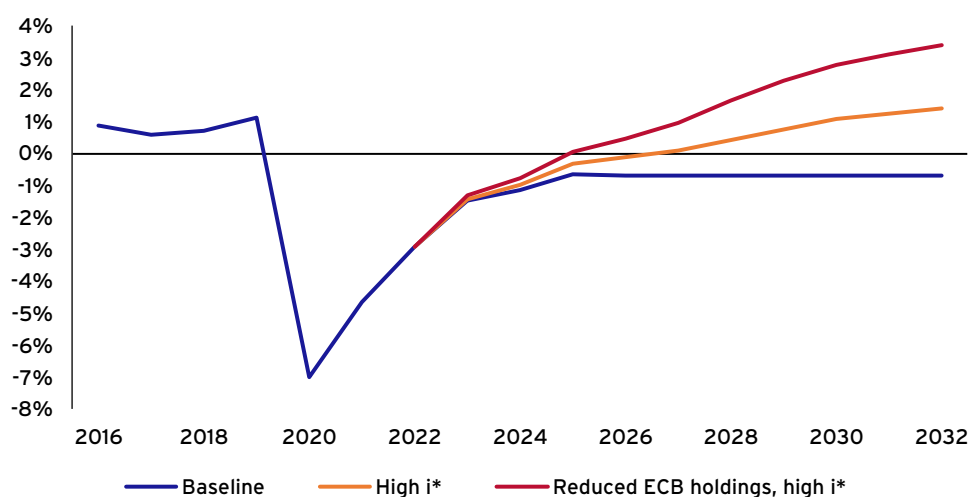
² We use a simple relation between the spread and the debt-to-GDP ratio squared, using a coefficient of 0.0003 in line with a regression in Pamiés et al. (2022).

³ In the simulations, this is captured by keeping fixed the primary balance in the first column of Table 1, which is defined as the primary balance *minus* a transfer equal to the interest on debt held by the ECB. The underlying assumption is that these interest payments go to the national central bank and are transferred back to the national treasury. The debt accumulation equation adds the primary balance in the first column plus this transfer.

small. However, the higher spreads in the table – which are based on a simple empirical extrapolation – are likely to be too optimistic, as the debt dynamics in the red scenario are likely to trigger a self-fulfilling spiral.

So far, we have assumed that the primary balance path is fixed. We now consider the other extreme case in which fiscal policy fully adjusts to the adverse scenarios considered above, so as to keep the debt level on the same path as in the baseline. In that case, the path for the primary balance is plotted in Figure 3. To prevent the debt increases shown in Figure 2 requires a substantial increase in fiscal effort.⁴

FIGURE 3 PRIMARY BALANCE FOR ITALY UNDER THREE SCENARIOS



WHAT ARE THE BENEFITS OF A EUROPEAN DEBT AGENCY GIVEN THIS OUTLOOK?

A debt agency would have a role different from the ECB, but it could play a fundamental stabilising role, especially to stabilise expectations in the medium/long run.

A debt agency would issue European debt instead of relying on money financing at the ECB. This means that the cost of debt held by the agency would typically be higher than in the case of debt held by the ECB. The resources needed by the agency to cover its interest payments would need to be financed by contributions of member states. But the

4 There is no dashed red line in this figure as, by construction, the debt path is kept constant.

nature of the agency's liabilities is precisely its advantage, as the agency's acquisitions of national debt would not be tied directly to the creation of money for the euro area and so would be less constrained by the needs of monetary expansion and contraction.⁵

While the reduction in the cost of borrowing is not as large as in the case of monetary financing, the reduction can still be significant, as the capacity of the agency to extract contributions from member states would rest on the enforcement capacity of the EU. In D'Amico et al. (2022), we discuss a specific way in which national contributions could be designed and argue that they can be designed in such a way that all countries benefit. The early experience of NextGenerationEU highlighted the appetite for supranational debt in the euro area. More recently, EU bonds have experienced a worrisome increase in spreads (Bonfanti and Garicano 2022). This is likely a symptom of market illiquidity and irregular scheduling of issuances of EU bonds or of broader uncertainty about the future of European fiscal integration. Both problems would be ameliorated by the creation of the agency. However, understanding better the market for EU debt is a crucial step for the effective design of the agency.

The ECB would maintain its lender-of-last-resort role and would intervene to tackle market disruptions in sovereign debt markets, but in normal times it could more easily reduce its holdings if on the other side there is a debt agency capable of absorbing national debt.

Summing up, the ECB has played a *de facto* role of the main debt stabiliser in the euro area. Looking forward, maintaining this role will face new challenges. A European Debt Agency could use the power of common debt issuance to separate the problem of preventing debt crises from the needs of monetary stability.

REFERENCES

Amato, M, E Belloni, C A Favero, and L Gobbi (2022), "Creating a Safe Asset Without Debt Mutualization: The Opportunity of a European Debt Agency", CEPR Discussion Paper No. 17217.

Amato, M and F Saraceno (2022), "Squaring the Circle: How to Guarantee Fiscal Space and Debt Sustainability with a European Debt Agency", BAFFI CAREFIN Centre Research Paper No. 2022-172.

Avgouleas, E and S Micossi (2021), "On selling sovereigns held by the ECB to the ESM: institutional and economic policy implications", CEPS Policy Insight.

5 An additional consideration is that for the ECB to carry out a monetary contraction without reducing its asset holdings, it needs to increase the interest it pays on reserves. This means that, in a high-interest-rate scenario, the cost of debt for the ECB is not actually zero (as implicitly assumed in the simulations above), thus making the baseline path not attainable even under the assumption of a constant proportion of ECB holdings.

Bonfanti, G. and L. Garicano (2022), “Do financial markets consider European common debt a safe asset?”, Bruegel blog.

Corsetti, C, L P Feld, P R Lane, L Reichlin, H Rey, D Vayanos and B Weder di Mauro (2015), *A New Start for the Eurozone: Dealing with Debt*, CEPR Press.

D’Amico, L, F Giavazzi, V Guerrieri, G Lorenzoni, and C-H Weymuller (2022) “Revising the European Fiscal Framework”.

Pamies, S, N Carnot, and A Patarauk (2022), “Revisiting the link between government debt and sovereign interest rates in the euro area”, *Quarterly Report on the Euro Area* 20(4): 39-46.

Leandro, A and J Zettelmeyer (2019), “The Search for a Euro Area Safe Asset”, PIIE Working Paper 18-3.

ABOUT THE AUTHORS

Leonardo D’Amico is a PhD Candidate in Economics at Harvard University. His research focuses on regional macroeconomics and political economy. Before the PhD, he received a MSc and a BSc degree in Economics from Bocconi University. In 2021-22 he worked as a junior economist in the staff of the Prime Minister of Italy, Mario Draghi.

Francesco Giavazzi is Professor of Economics (emeritus) at Bocconi University, a Research Associate of the National Bureau of Economic Research (NBER) and Research fellow of the Centre for Economic Policy Research (CEPR). He was Vice-Rector of Research-Assessment-Human Resources Development (2000-2002) and previously he taught econometrics, mathematical economics and political economics at the Universities of Essex, Padova, Venezia and Bologna. He was Co-editor of the *European Economic Review* from 1991 to 1999, Visiting professor at MIT (1999 to 2012), Adviser to the Italian Government for its Spending Review (2012) and Adviser to the Federal Reserve Bank of New York (2013). His interests are in international monetary economics, in particular issues related to European monetary integration, public debt sustainability and fiscal stabilisation, and monetary policy and financial institutions.

Veronica Guerrieri is the Ronald E. Tarrson Professor of Economics at the Booth School of Business at University of Chicago, where she studies macroeconomics, search theory, labor and financial market frictions, dynamic contracting, and growth theory. Guerrieri is an editor of the *Review of Economic Studies* and a member of editorial board of the *Journal of Economic Literature*. She is also the co-director of the Macroeconomic Initiative of the Becker Friedman Institute. She earned her Bachelor’s degree *summa cum laude* and Master’s degree in Economics from Università Commerciale Luigi Bocconi in Milan in 2000 and 2001, respectively, and a PhD in Economics from Massachusetts Institute of Technology in 2006. She has been a Research Associate of the National

Bureau of Economic Research since 2013 and a consultant at the Federal Reserve Bank of Chicago since 2014. She has been a visiting professor at MIT, Yale, LSE, NYU, CREI and EIEF and a Visiting Scholar at the Federal Reserve Bank of Minneapolis.

Guido Lorenzoni is the Joseph Sondheimer Professor of Economics at the University of Chicago Booth School of Business. He is also a Research Associate at the National Bureau for Economic Research and a consultant for the Federal Reserve Bank of Chicago. His fields of research are macroeconomics and international finance. His recent work has focused on financial crises, on sovereign debt, and on the effects of housing wealth and household debt on aggregate consumption. Lorenzoni received a PhD in Economics from MIT in 2001. Before joining the University of Chicago in 2022 he worked at Princeton, MIT and Northwestern. In 2009 he received the Alfred P. Sloan Research Fellowship. In 2019 he was elected a Fellow of the Econometric Society. He is a co-editor of the Journal of the European Economic Association and an associate editor of the American Economic Review. In 2021 he served as consultant for the Italian PM Mario Draghi.

September 2022 marked the thirtieth anniversary of the Exchange Rate Mechanism (ERM) crisis, a seismic event which shook the continent and caused a severe recession to spread rapidly across European economies. To mark the occasion, CEPR organised a two-part webinar to reflect on the potential lessons from the crisis. These insightful discussions led to the creation of this eBook, which brings together eminent scholars and CEPR researchers who witnessed first-hand the fallout, both economic and political, of countries in the European Union. Many of the contributors have since been involved in managing, designing and debating the making of the European monetary system over the last three decades.

The eBook discusses the origins of the crisis and frames it within a broader European historical and political perspective. It considers the underlying causes – German reunification, the struggle for monetary cooperation, the instability of a fixed exchange rate regime under capital mobility – which ultimately led to the breakdown of a flawed system. From disaster to revival, the eBook explains why the crisis was such a watershed moment for European economic policy formation and traces the growth and subsequent construction of a more robust European monetary system. It highlights how the trauma of the ERM crisis may have been the impulse needed to reinforce the ultimate adoption of a single, common currency in the form of the euro. In the following decades, the eBook shows how lessons from the crisis have remained pertinent, influencing theories of currency crisis and the development of instruments and institutions able to adequately respond to subsequent financial instability and debt crises. The final section reflects on the need for changes to further strengthen the institutional setup.

ISBN: 978-1-912179-68-8



33 Great Sutton Street | LONDON EC1V 0DX | UK
187 boulevard Saint-Germain | 75007 Paris | France
TEL: +44 (0)20 7183 8801 | EMAIL: CEPR@CEPR.ORG
WWW.CEPR.ORG