

Gros, Daniel

**Article**

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End of previous Forum article

Daniel Gros

## Understanding the Limitations of Maastricht

The first 20 years of the euro are not widely regarded as a resounding success. Many even argue that the Economic and Monetary Union (EMU) was a mistake, although most admit that the cost of dismantling the euro would be too costly.<sup>1</sup> However, a closer look at the evidence reveals that it does not confirm the impression of a significant underperformance of the euro area.

<sup>1</sup> W. Münchau: What Britain should do after a no-deal Brexit, in: Financial Times, 17 February 2019.

**Daniel Gros**, Centre for European Policy Studies, Brussels, Belgium.

What is less controversial is that the euro area was not prepared for the financial crisis and that only important institutional innovations, like the European Single Market and an (incomplete) Banking Union, ensured its survival.

This article focuses on these two key points: the performance of the euro area and the EMU architecture in the face of a crisis.

### The performance of the euro area: Was it that bad?

It is widely accepted that growth in the euro area has been disappointing in general and that the recovery from the financial crisis has been particularly disappointing in Europe, especially compared to the US. Alcidi and Gros

show that this impression is mostly due to lower headline real GDP growth. The picture changes considerably when the transatlantic differences in population growth are taken into account.<sup>2</sup>

A cross-country comparison of per capita GDP provides further evidence against the prevailing view of an underperforming euro area. Comparisons of GDP per capita across countries are always difficult to make because exchange rates can vary greatly. For this reason, comparisons of this type usually use so-called Purchasing Power Standards (PPS).<sup>3</sup>

Figure 1 shows the ratio of US GDP per capita to that of the (old) EU15 since the early 1990s. The comparison with the EU15 has the advantage that it is not influenced by the catch-up growth of the new Member States, which joined the EU in 2004 (some of which are now in the euro). The disadvantage is that the EU15 contains the UK, which is not part of the euro area. However, the GDP per capita at PPS of the UK relative to the EU15 has been very stable for most of the last 20 years, indicating that the euro area has not underperformed relative to a large EU country with a floating exchange rate.

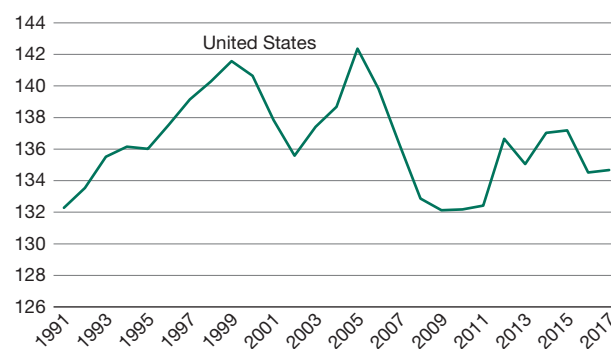
Figure 1 highlights that the GDP per capita at PPS is considerably higher in the US, but as a percentage of the EU15 it has fluctuated within the range of 132-142%. Given these fluctuations, one can draw very different conclusions by choosing different dates. For example, since the euro crisis of 2011-12, the US has indeed improved relative to Europe, but only by under two percent. However, it is a mistake to look only at the aftermath of a crisis without also considering the preceding boom. Taking this into account, the transatlantic comparison yields a different picture. The US still has a GDP per capita (in PPS) which is 35% higher than that of the EU15; however, it has not done as well as Europe in the longer-term. Compared to the start of the EMU (1999-2000), or to the boom year of 2005-06, the US had lost about six to eight percent of its advantage, with the latter shrinking from 42% to 35% in 2017.

A similar result occurs if one compares the euro area to the UK. The GDP per capita of the UK has been around 100% of that of the EU15, implying that there is little dif-

2 C. Alcidi, D. Gros: Twenty years of the euro: Resilience in the face of unexpected challenges, Study for the Committee on Economic and Monetary Affairs, European Parliament, Luxembourg, 2019.

3 The 'Purchasing Power Standards', employed to make cross-country comparisons of income possible, have the disadvantage that one has to apply a (relative) consumer price deflator to (national) GDPs. Both the consumer prices indices and the GDPs are likely to differ in terms of their composition. Any comparison of PPS adjusted GDPs should thus be made with great caution.

Figure 1  
US GDP per capita at Purchasing Power Standard (PPS), relative to EU15



Source: Own calculations based on AMECO data.

ference between the euro area and the UK.<sup>4</sup> At the start of the EMU, the GDP per capita of the UK was equivalent at PPS to about 98% of the EU15. One finds almost exactly the same value in 2017. The UK performed somewhat better during the boom years of global finance in between, but this advantage was lost during the first leg of the financial crisis.

Given the imperfections of the data, one should be careful when drawing definite conclusions from these cross-country comparisons. But what seems clear is that if one takes the 20 year 'anniversary' view, the euro area has not done worse than the US or the UK. While it is true that the euro area has not done as well as these two since the euro crisis of 2011-12, this period of underperformance is more than compensated by the preceding period.

### Why was the architecture of the EMU not prepared for a financial crisis?

When the financial crisis started in 2007-08, it initially appeared that the euro area should be able to cope better than the US because there had been fewer 'sub-prime' mortgages in Europe and securitisation without proper incentives had also been much less widespread. However, when it became apparent in 2009 that Greece was unlikely to be able to service its debt, the doubts about the solvency of the euro area sovereigns spread to other countries. The risk premia demanded by investors on government bonds in countries such as Greece, Ireland, Portugal and Spain (the group was dubbed the GIPS) increased so much that even these countries came close to being unable to finance themselves in the market. In 2010-

4 Taking into account Denmark and Sweden, the two non-euro area countries in the EU15, would not change the result.

11, financial markets in Europe became ever more volatile, while the US seemed en route to a recovery.

Initially the euro area did not have any mechanisms to deal with the problem. The Maastricht Treaty contained the ‘no bail-out’ clause which stipulates clearly that Member States would not guarantee each other’s debt. What would happen if a Member State were to lose market access was not foreseen. A central selling point for the EMU in Germany (and more generally in Northern Europe) had been that the euro would not have any fiscal implications. The insistence that the EMU should not have any fiscal implications was also one of the key reasons why banking supervision and the rescue mechanisms for banking had been kept at the national level.

### One Market, One Money

The reason for these limitations in the euro area’s constitution was that it had been crafted with the past in mind. The main concern during the 1970s and 1980s had been high and variable inflation, which was often driven by double digit wage growth. This obsession with the control of inflation becomes apparent if one considers the landmark publication of the Commission of 1991/2, “One Market, One Money” (OMOM), which set out the main economic issues, as viewed at the time.

In modern terms, OMOM can be considered an ex-ante impact assessment of the EMU. It was prepared in 1990 before the political decision to go for the EMU had been taken, but after the publication of the so-called Delors Report, in which the Central Bank presidents of all (then) EU12 members had agreed on the terms upon which they could consider a Monetary Union. One year later, the political decision to pursue the EMU was solidified by the Maastricht Treaty, which largely reflected the analysis of OMOM.

The title has to be understood in its historical context. In the 1990s, the biggest integration project was the completion of the ‘internal’ market by 1992. The ‘1992’ project, as it was called, comprised hundreds of directives aimed at integrating the market through a novel approach, namely mutual recognition of national regulations, which were subject only to a minimum of common standards. This was a major innovation. Until the mid-1980s, integration stalled because it proved impossible to agree upon detailed common standards for many goods. A key element of the 1992 project was the abolition of all capital controls. This was key because up until this time France, Italy and Spain had extensive capital controls, which had naturally limited the growth of cross border finance. The Maastricht Treaty was concluded

**Table 1**  
**Textual analysis of “One Market, One Money”**

| Term                             | Word count | Term      | Word count |
|----------------------------------|------------|-----------|------------|
| Inflation (including variations) | 880        | Deflation | 2          |
| Inflation                        | 560        |           |            |
| Deficit                          | 190        | Surplus   | 36         |
| Debt                             | 223        | Stability | 290        |
| Liquidity                        | 10         | Leverage  | 0          |

Source: Own calculations.

one year before the abolition of capital controls under the 1992 program. This is one reason why financial stability was not a key concern.

A simple textual analysis of OMOM gives a clear indication of the dominant concerns at the time. Table 1 shows the number of times certain key concepts appear in the over 200 pages of this study. As shown, ‘inflation’ clearly tops the list, as it appears 880 times – about 560 times as ‘inflation’ and another 320 as ‘inflationary’ (14 times as ‘anti-inflation’). ‘Deflation’, by contrast, appears only twice (both in annexes). ‘Stability’ is mentioned 290 times, ‘deficit’ 190 times (‘debt’ over 220 times), but the word ‘surplus’ appears only 36 times.

An interesting finding is that the concept ‘leverage’ is not mentioned at all and ‘liquidity’ only appears 10 times. These were the two key problems that later came to the fore during the financial crisis.

The twin pillars of Maastricht were thus a need to fight against potentially double digit inflation and a subordinated role for financial markets. However, both of these elements would change radically just as the Treaty was signed. Starting with the mid-1990s, wage and price pressures abated all across developed economies. At the same time, financial market activity, especially cross-borders, grew exponentially (after having been repressed for decades). These two phenomena need to be analysed separately.

### The fight against inflation and its intellectual underpinnings

The design for the ECB had been based on the intellectual consensus developed at the time: An independent central bank was needed to achieve low and stable inflation. In addition, price stability was expected to deliver financial stability. During the 1970s and 80s, financial crises had

been almost always linked to bouts of inflation and were limited because financial markets were much smaller and less interlinked – given the pervasive capital controls in many countries. In short, inflation was seen as the ‘root of all evil’.

Early critics of the Maastricht Treaty had already asked – a quarter of century before the eruption of the crisis and years before the start of the EMU – whether the ECB was going to be a full central bank or just a ‘glorified’ monetary policy rule with the single objective of price stability. Folkerts-Landau and Garber emphasise that standard monetary policy tools no longer work when financial markets freeze and risk premia escalate to the point that systemically important institutions can no longer finance themselves, thereby putting the entire financial system in jeopardy.<sup>5</sup> A full central bank needs the tools necessary to maintain financial stability. But given the limited importance of financial markets at the time, this warning was ignored.

### The ECB as a ‘monetary rule’

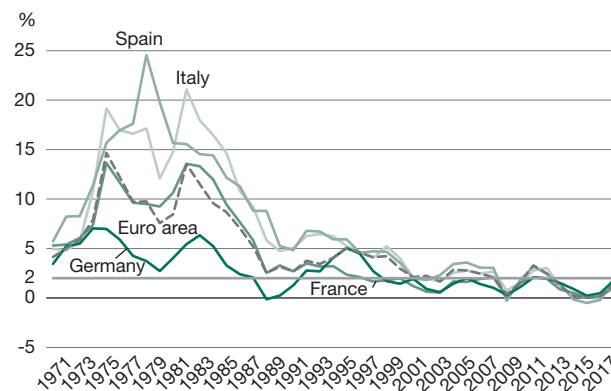
Viewed from today’s perspective of years of low inflation and forecasts of more of the same, the emphasis on inflation fighting in OMOM appears almost quaint. But the agreement on price stability as the main target for the future ECB represented a ‘condition sine qua non’ for the Maastricht Treaty. It would have been impossible to form a monetary union without an agreement on a precise objective for the future common monetary policy.

The implicit assumption behind the Maastricht Treaty was that a central bank can always achieve price stability. The underlying theory was simply that ‘inflation is a monetary phenomenon’ and that monetary policy can thus keep inflation under control.

Analytically, this was embedded in the quantity theory which says that the total amount of nominal transactions (or nominal GDP) must equal the money supply times the velocity of circulation (effectively how many times one unit of money could be used per year). The velocity of circulation was thought to be limited by payment technology, and real growth was assumed to be (and to a first order of approximation) independent of monetary policy in the long run. In this view of the world, there can be no inflation without a sustained increase in the money supply. It follows that the central bank can always limit infla-

5 D. Folkerts-Landau, P. Garber: The ECB: A bank or a monetary policy rule?, in: M. Canzoneri et al. (eds.): Establishing a Central Bank: Issues in Europe and Lessons from the US, Cambridge 1992, Cambridge University Press.

Figure 2  
Inflation in major EU countries over the last 50 years



Note: The dark grey line represents the ECB inflation target of two percent.

Source: World Bank Development Indicators.

tion by limiting the growth of the money supply. The experience of Germany, where the Bundesbank limited the growth of the money supply and inflation had remained low without leading to lower growth seemed to confirm this approach.

### Price stability: Was it the euro?

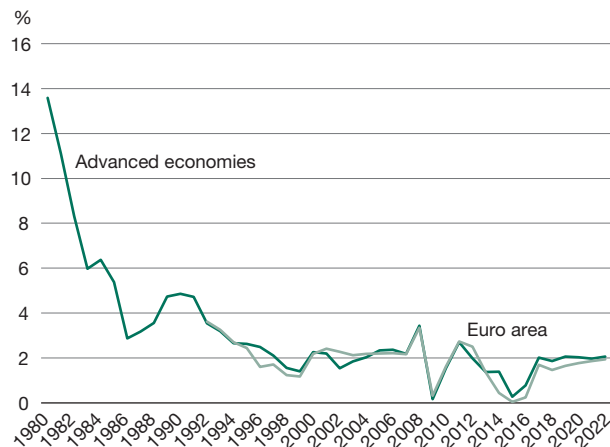
Figure 2 shows that there was a strong convergence in inflation just before the start of the EMU. After 1999–2000 inflation stayed low and around the ECB’s target of two percent. This created the impression that this convergence to low and stable inflation was the result of the introduction of the euro and the skillful implementation of monetary policy by the ECB. However, the euro area was by far not the only region to experience this degree of price stability.

Figure 3 shows inflation for the euro area and the average for all advanced economies (as defined by the IMF). It is apparent that inflation tended to fall since reaching its peak in 1980. The average for the euro area (available only since the early 1990s) follows the global trend very closely. There is very little difference between the evolution of inflation in the euro area and advanced economies overall. It is thus difficult to argue that price stability was brought to Europe by the euro. Disinflation was a global phenomenon.

### Financial market liberalisation and growth

Cross-border capital movements were fully liberalised only after the Maastricht Treaty had been signed. This

**Figure 3**  
Disinflation as a global phenomenon



Source: IMF WEO data.

liberalisation initiated a period of rapid growth in cross-border activity.<sup>6</sup>

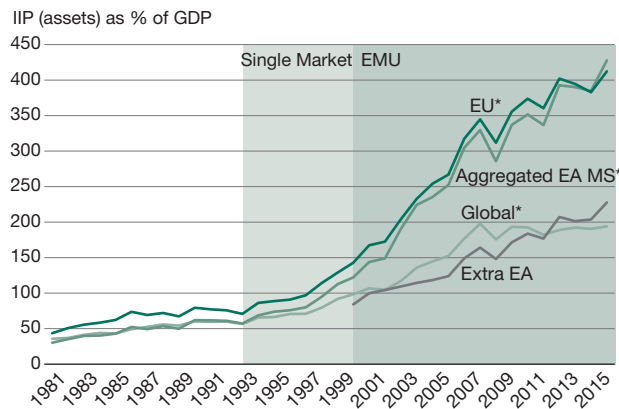
As Figure 4 shows, external assets of the euro area countries amounted to little more than one-half of GDP when the Maastricht Treaty was signed. By the time the EMU started this had more than doubled, lifting the ratio of external assets-to-GDP to over 100%. At the outbreak of the financial crisis, the figure had again more than doubled, exceeding 300% of GDP in 2007-08.

Figure 4 also shows the same ratio of external assets to GDP at the global level. It is apparent that until about the mid-1990s Europe was not special in terms of cross-country financial activity. However, starting a few years after the completion of the internal market (and thus the complete lifting of capital controls in the EU) the European line increases much more sharply than the global one. At the global level, cross-border assets peaked at close to 200% of GDP just before the outbreak of the financial crisis, considerably lower than the value of over 300% for the euro area countries mentioned above.

A large – and increasing – part of the cross-country assets of the euro area countries concerned intra-area financial activity, as can be seen from the third line in Figure 4, which shows the ratio of external assets to GDP of the euro area. The difference between the line for the euro

6 D. Gros: One Market, One Money – A Mistaken Argument (post factum)?, *Revue d'Économie Financière*, 60 ans du Traité de Rome, 25 ans de Maastricht, 2017.

**Figure 4**  
Cross-border financial activity: global and inside the euro area



Note: \* For each year all available International Investment Position (IIP) data from the country.

Source: Own calculations based on IMF IIP data.

area and that for euro area countries considered individually shows the importance of intra-area cross-border financial activity. These cross-border claims increased from about 50% of GDP at the start of the EMU, to over 150% of GDP just before the outbreak of the euro crisis (and have now risen above 200% of GDP).

The euro area was of course not the only economy to have been surprised by the financial crisis, which had its origin in the US with supposedly safe securities based on sub-prime mortgages. But the US was better equipped to weather the crisis because it had a unified financial (and political) system. ‘Cross-border’ claims (i.e. claims between residents of different US States) do not create particular problems in the US. But they were, and remain, a key issue in the euro area.

A further difference between the US and the euro area is that the European financial system is centred on banks. The acceleration of cross-border financial activity, which accelerated after the start of the EMU, often took the form of bank and other short-term credits. This source of financial instability was magnified by the fact that the banks themselves refinanced their own lending via (short-term) market instruments. This made the banks themselves highly vulnerable to market sentiment.

The tendency of the banks to leverage themselves can be seen by the loan-to-deposit ratio. Deposits are, in the aggregate, a rather stable source of funding. But short-term market funding can evaporate overnight if the funders start to distrust the banks. This is particularly the case

for cross-border funding because when an entire country experiences financial stress, foreign lenders will become very reluctant to provide financing – exactly when it is needed most. Within the euro area, the problem was compounded by the attitude of national regulators, which tried to ring fence their own banks. In the so-called creditor countries (Germany, the Netherlands) national regulators discouraged ‘their’ banks from cross-border lending, especially to entities (banks or non-banks) in the GIPS countries.

This created a negative spiral in the GIPS countries because the difficulties in refinancing forced local banks to cut their own lending, thereby further reinforcing the recession.

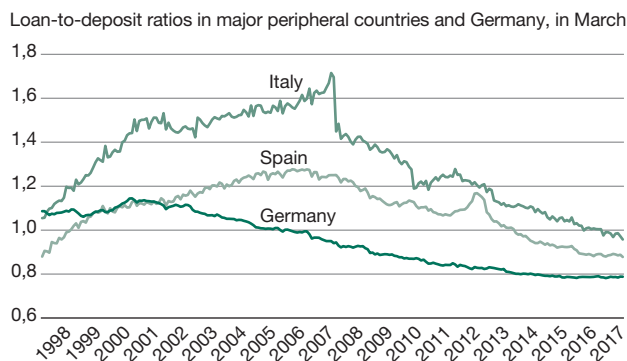
Figure 5 demonstrates the divergence in the behaviour of the banking system in the two largest countries under financial stress (Italy and Spain) compared to Germany. It is apparent that the local banking system in both Italy and Spain expanded rapidly during the boom years, with the loan-to-deposit ratio increasing rapidly until the downturn in 2008. Somewhat surprisingly, the increase was more pronounced for Italy, which did not experience the construction boom that happened during this period in Spain. The fall in the loan-to-deposit ratio was also steeper in Italy, which again is surprising given the collapse of construction activity in Spain that did not have a pendant in Italy. A partial explanation of this strong increase in the loan-to-deposit ratio for Italy might have been the large amounts of politically-inspired or connected lending which led to a spate of bank failures in Italy (Venetian banks, Carige, etc.).

Germany provides an interesting contrast, as the loan-to-deposit ratio of its banks fell continuously starting around the turn of the century. It would have been difficult at the start of the EMU to predict these developments since, at that time, banks in all three countries had very similar loan-to-deposit ratios.

However, the result was that, at the peak of the boom, the banks in the peripheral countries were very vulnerable to any change in market sentiments towards them; whereas German banks did not depend on market financing and were among the funders of banks in the periphery as their loan-to-deposit ratio fell below one.

The more encouraging message from the data is that – at least for the short to medium run – there is little danger of a renewed systemic crisis as the loan-to-deposit ratios have converged again and are now all below one. This is the case also for the euro area average, which has an overall loan-to-deposit ratio of about 0.9. This implies that

**Figure 5**  
**Exposure of banks to market financing**



Source: ECB, statistical warehouse, loan-to-deposit ratio defined as non-MFI loan/non MFI deposits.

most banks now have little, or no, need for market financing, making another run on banks highly unlikely.

## Conclusion

The first twenty years of the euro were very different from what had been anticipated. This should be the most important lesson: The future is likely to be different from the past.

The entire design of the economic policy for the euro, as embodied in the Maastricht Treaty, was based on the explicit assumption that inflation was the main enemy and needed to be kept under control by an independent central bank devoted to price stability. The unspoken, implicit assumption was that financial instability can only arise alongside inflation and that the stability of financial markets should remain a national task. Both of the latter assumptions turned out to be untenable.

This financial crisis was the first crisis in living memory (in fact, since the 1930s) that was deflationary. Low inflation made it more difficult to reduce the mountain of debt, which had accumulated in the meantime.

The biggest challenge today might be to avoid the rear mirror view again in reforming the euro area. Most contributions to the debate about the reform needs for the euro area start with the need to avoid another financial crisis, like the one ten years ago. But this might not be the most important challenge. The more pressing problems may be the sluggish growth in key technological sectors due to the lack of an integrated market or an increasing gulf between those countries that have successfully brought their public finances under control and those for whom this goal seems increasingly elusive.