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# I. The euro area recovery in perspective [1]

*This focus section compares the euro area recovery since the global financial crisis to two benchmarks: i) its recoveries from other major recessions and ii) the recoveries of other advanced economies since the global financial crisis. This twin perspective helps to draw some stylised facts about the current recovery and to better understand its particularities. Overall, the results indicate that the current recovery is weak both by the euro area own historical standards and in comparison with the recent recovery in other advanced economies, even those hit by systemic banking crises. The weakness has both structural and cyclical features. On the demand side, investment, both residential and non-residential, emerges as a key source of weakness in activity. The analysis also points to weaknesses in the euro area's labour market adjustment process. Due to slow growth, the euro area has also progressed less rapidly than other advanced countries hit by banking crises in tackling legacies of the crisis such as excessive private sector debt. Macroeconomic imbalances accumulated before the crisis and the incomplete architecture of the Economic and Monetary Union at the time have both aggravated the impact of the global financial crisis, transforming it into a sovereign crisis marked by damaging feedback loops between banks and sovereigns and sudden stops in capital flows. This has constrained macroeconomic policies and led to a less supportive macroeconomic policy response than in other advanced countries. In addition, repair of bank balance sheets has been comparatively slower than in other countries hit by systemic banking crises.*

## I.1. Introduction

Seven years since the beginning of the global financial crisis, the euro area's recovery remains subdued and fragile. This is despite improved framework conditions for growth since 2014, notably in terms of fiscal and monetary policy stances. To better understand the key features of the current recovery, this chapter presents a comparison of recent economic developments in the euro area with (i) similar cyclical episodes in the euro area over the past three decades and (ii) recent developments in other advanced countries. This combination of historical and cross-country perspectives sheds some light on the specific forces currently holding down growth in the euro area.

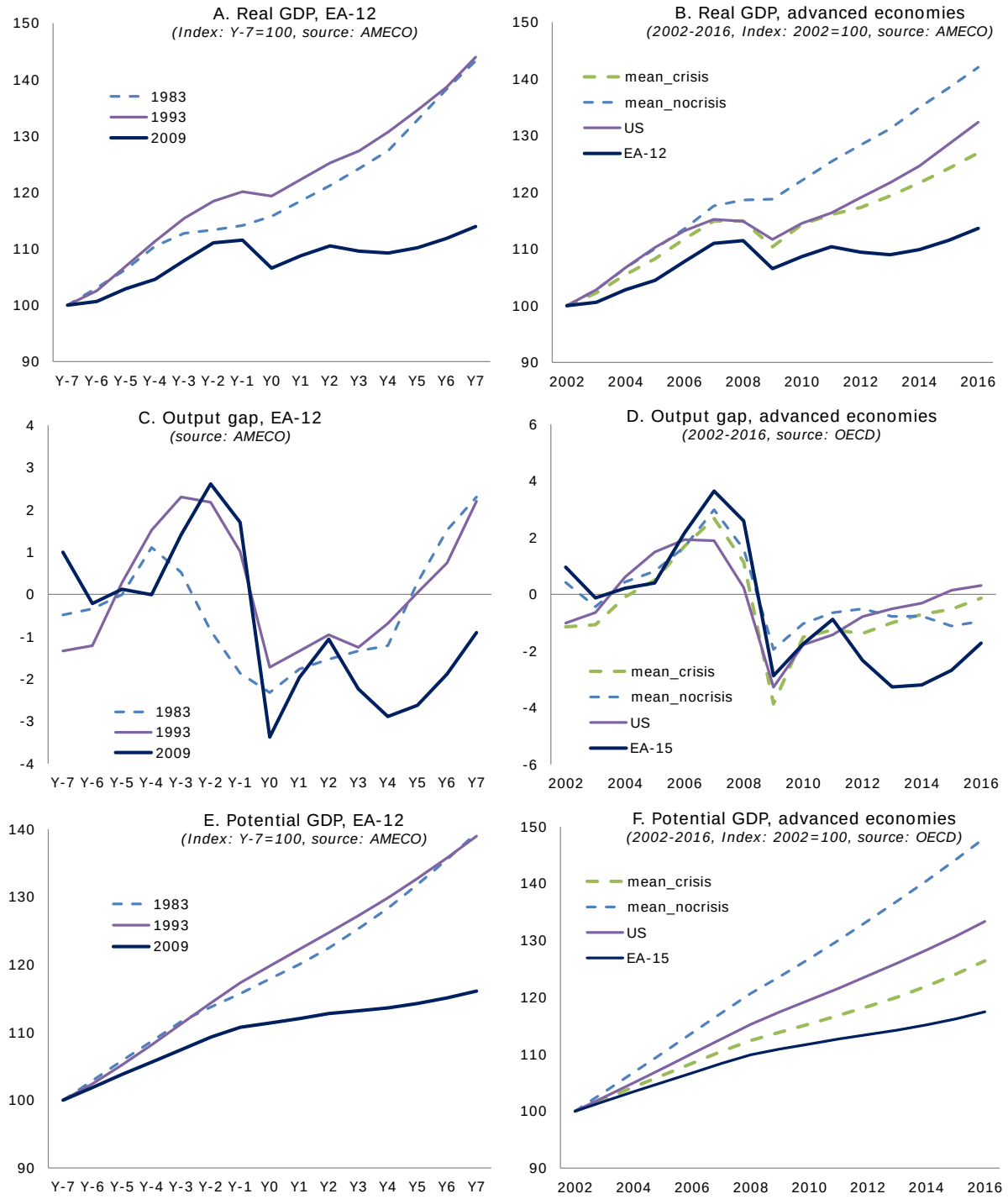
The chapter reviews a wide set of macroeconomic and financial indicators seven years before (Y-7) and after (Y+7) cyclical troughs (Y0). Due to data availability, coverage of the euro area is limited to the original 12 founders (or-quasi founders) of the euro (EA-12). In most advanced countries including the euro area, 2009 marks the low point of the latest business cycle (Y0). We first compare the ongoing euro area recovery to the recoveries following the two major recessions of the 1980s and 1990s (with troughs in 1983 and 1993). We then compare the recent performance of the euro area vis-à-vis selected advanced countries that were also hit by a systemic banking crisis during the global financial crisis (Japan, Sweden, Switzerland, the UK and the US) as well as others that were not (Australia, Canada, Korea, New Zealand and Norway). [2] This allows us to control for the global developments that all these advanced countries were exposed to and to evaluate the relative impact of the initial banking crisis in the euro area and the sovereign debt turmoil that ensued. [3]

[1] Section prepared by Eric Ruscher and Bořek Vašíček.

[2] The tracking of banking crises comes from Babecký, J. et al. (2014), 'Banking, debt, and currency crises in developed countries: stylised facts and early warning indicators', *Journal of Financial Stability*, Vol. 15, pp. 1-17 who identify crises by means of expert survey and Leaven, L. and F. Valencia (2013), 'Systemic banking crises database', *IMF Economic Review*, Vol. 61, No 2, pp. 225–270 who in turn use specific quantitative definition of banking crisis. Specifically there is an agreement between both sources that a systemic banking crisis took place in most EA-12 countries in 2008 (for some countries lasting even after 2008): Austria, France, Germany, Greece, Ireland, Luxembourg, the Netherlands, Portugal and Spain. From the remaining OECD countries were selected five most developed economies, where according to the former sources, banking crises occurred in 2008 and five where it did not. Whereas in the past the banking crises were more isolated with a lot of idiosyncrasies, there was an extraordinary synchronization of banking crises in 2008 and recoveries starting in 2009. This makes this recent period especially suitable for cross-country comparison.

[3] To construct these two country groups, we use *un-weighted means* in order to avoid the risks that reported developments are dominated by one or two large countries. Given the importance of the US for the global economy, we also plot this country separately in all charts (still being included in the mean of crisis countries so that both groups include the same number of countries and covers all possible regions). For the euro area in turn we use *GDP-weighted aggregate* of the selected 12 Member States.

Graph I.1: **Recoveries after major recessions and after the global financial crisis (1)**




(1) Y0 is the year of cyclical trough in the EA, i.e. 1983, 1993 and 2009. 2009 is also the year when most advanced economies started to recover from the global crisis. For the recovery after 2009, Y6 (2015) and Y7 (2016) are based on the European Commission's Spring Forecasts. EA12 (15) is GDP-weighted aggregate of BE, DE, IE, EL, ES, FR, IT, LU, NL, AT, PT, FI, (SI, CY, MT). 'mean_crisis' is the un-weighted mean of CH, JP, SE, UK, US. 'mean_nocrisis' is the un-weighted mean of AU, CA, KO, NO, NZ.

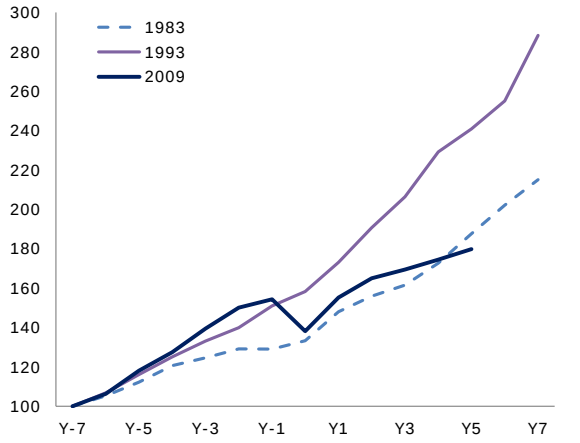
***Source:*** AMECO, OECD.

## I.2. The euro area recovery is weak from both an historical and a cross-country perspective

Recoveries from major recessions have always tended to be sluggish and hesitant in most euro area countries, especially when compared to the US. Yet, developments in the euro area since the global financial crisis clearly stand out. The GDP growth recorded since 2009 has been substantially weaker than in the previous recoveries (Graph I.1A). This historical underperformance is not surprising for at least two reasons:

- First, the recovery has taken place in a less supportive global environment than in the 1980s or 1990s. World trade bounced back strongly after the 2008-09 global recession and was a strong source of support for the short-lived 2009-2010 recovery but, since 2011, the momentum in world trade has been much weaker than at similar stages of the business cycle before the launch of the euro (Graph I.2).

Graph I.2: **World trade**
*(2002-2016, Index: 2002=100)*




(1) Y0 is the year of cyclical trough in the euro area, i.e. 1983, 1993 and 2009. 2009 is also the year when most advanced economies started to recover from the global financial crisis.
***Source:*** OECD.

- Second, during the global financial crisis, most euro area countries were hit by systemic banking crises and a large literature has highlighted the sluggishness of recoveries after banking turmoil. (4)

However, the underperformance of the euro area recovery also stands out in comparison with other advanced economies. This is true even when benchmarking the euro area against other advanced countries that were also hit by systemic banking crises during the global financial crisis, notably the US (Graphs I.1B). The major reason for this deviation is, of course, the so-called sovereign debt crisis that hit in 2011 and led to financial fragmentation within the euro area, early withdrawal of fiscal stimulus, and a double-dip recession. The sovereign crisis was, to a large extent, precipitated by the banking crisis. Despite some heterogeneity within the euro area itself, the majority of the euro area countries examined performed worse than their OECD peers. (5)

### The growth weakness has cyclical features …

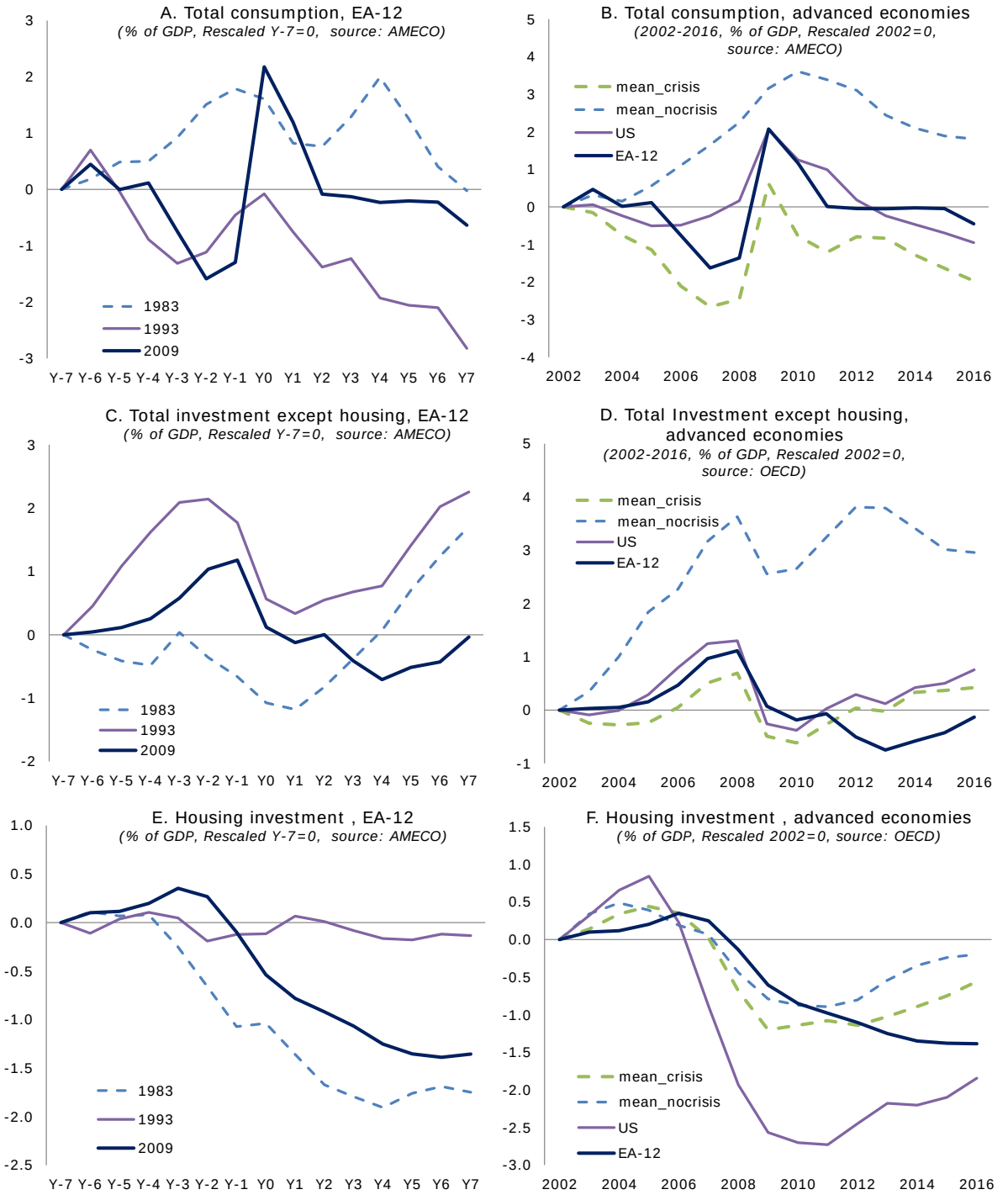
The weakness in the euro area's growth since the crisis is both cyclical and structural in nature. Whereas the immediate cyclical downturn triggered by the global financial crisis was deeper than in previous recessions (Graphs I.1C), it was quite similar to the experience of other advanced economies hit by systemic banking crises (Graphs I.1D). Indeed, until 2011 (Y2) the euro area negative output gap was closing in line with previous recoveries and other crisis-hit countries. However, as the sovereign debt crisis hit several Member States, cyclical developments in the euro area decoupled from other advanced countries. The deviation is all the more striking given that in the pre-crisis period, the euro area business cycle was relatively well aligned with other advanced economies. (6)

(4) For recent references see for instance: Reinhart, C. M. and K. S. Rogoff (2014), 'Recovery from financial crises: Evidence from 100 episodes', *American Economic Review*, Vol. 104(5), pp. 50-55, May; Jorda, O., M. Schularick and A. M. Taylor (2013), 'Sovereigns versus banks: credit, crises, and consequences', *Federal Reserve Bank of San Francisco Working Paper Series,* No 2013-37; Jorda, O., M. Schularick and A. M. Taylor (2013), 'When credit bites back', *Journal of Money, Credit and Banking*, Vol. 45, Issue s2, pp. 3–28; Claessens, S., A. Kose, L. Laeven, and F. Valencia (2013), 'Understanding financial crises: Causes, consequences, and policy responses', *CEPR Discussion Paper Series*, No 9310.

(5) For recent discussion of different aspect of the euro area crisis see: CEPR, (2015), 'The Eurozone crisis: A consensus view of the causes and a few possible solutions', *A VoxEU.org Book, editors Baldwin, R. and F. Giavazzi.*

(6) Although the global financial crisis had a bigger negative effect on countries that were also hit by systemic banking crisis than those that were not, the gap between the two closed relatively quickly. This suggests that the cyclical effect of banking crises might not be that persistent.

Graph I.3: **GDP — The demand side (1)**




(1) Y0 is the year of cyclical trough in the euro area, i.e. 1983, 1993 and 2009. 2009 is also the year when most advanced economies started to recover from the global financial crisis. For the recovery after 2009, Y6 (2015) and Y7 (2016) are based on the European Commission's Spring Forecasts. EA12 is GDP-weighted aggregate of BE, DE, IE, EL, ES, FR, IT, LU, NL, AT, PT, FI. 'mean_crisis' is the un-weighted mean of CH, JP, SE, UK, US. 'mean_nocrisis' is the un-weighted mean of AU, CA, KO, NO, NZ. The ratios in the graphs have been rescaled to be equal to 0 in Y-7/2002.
***Source:*** AMECO, OECD.

### … but also structural ones

The euro area suffers from long-standing structural weaknesses that seem to have been reinforced since the global financial crisis. Contrary to previous recessions, a clear inflection is visible in estimates of potential output after the global financial crisis (Graphs I.1E). The global crisis also seems to have had some effect on the potential output of some other advanced countries hit by banking crises, although to a much lesser degree (Graphs I.1F). The difference with the US is particularly striking. On the other hand, the potential of the countries not hit by banking crises appears to have been barely affected. This is broadly in line with some recent studies which suggest that the effect of financial crises on potential output is generalised and persistent, although varying in intensity according to the severity of financial turmoil. ([7])

The effect of the crisis on potential output in the euro area reflects several factors, including slow capital accumulation, increases in the non-cyclical component of unemployment and, possibly, weaker total factor productivity (TFP). According to recent Commission analysis, the most likely scenario is that these factors should have a long but non-permanent effect. ([8]) However, hysteresis effects cannot be excluded at this stage and potential growth is, in any event, likely to remain lower than in most other advanced economies due to the combination of population ageing and sluggish TFP growth.

([7]) Ball, L. (2014), estimates the average loss of potential output in 23 OECD countries following the global recession of 2008-2009 on output at 8.4 %.

Ball, L. (2014), 'Long-term damage from the great recession in OECD countries', *NBER Working Paper Series*, No 20185.

Furceri, D. and A. Mourougane (2012), 'The effect of financial crises on potential output: New empirical evidence from OECD countries', *Journal of Macroeconomics*, Vol. 34, Issue 3, pp. 822-832.

([8]) European Commission (2014), 'ECFIN's medium term projections: the risk of 'secular stagnation'', *Quarterly Report on the Euro Area*, Vol. 13, No 4, pp. 23-29.
See also Ollivaud, P. and D. Turner (2014), who argue that adverse effects after the global financial crisis come from lower trend productivity, due to a combination of both lower total factor productivity (TFP) and lower capital per worker. The latter is in turn related to a substantial misallocation of capital in the pre-crisis period.

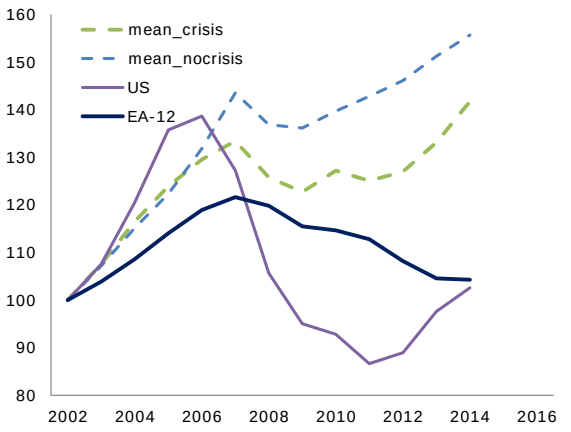
Ollivaud, P. and D. Turner (2014), 'The effect of the global financial crisis on OECD potential output OECD Countries', *OECD Economics Department Working Paper*, No 1166),

## I.3. Demand side: weak investment

A detailed look at the components of GDP sheds further light on reasons for the euro area weak growth. Consumption patterns do not show any distinctive differences compared to the previous recoveries (Graph I.3A). The share of consumption in GDP experienced an abrupt increase right after 2007, as spending on other GDP components, particularly non-residential and residential investment fell sharply. This pattern is also observed in the other crisis-hit countries (Graph I.3B). The euro area exports to the rest of the world by contrast, evolved comparatively better than in other crisis-hit countries.

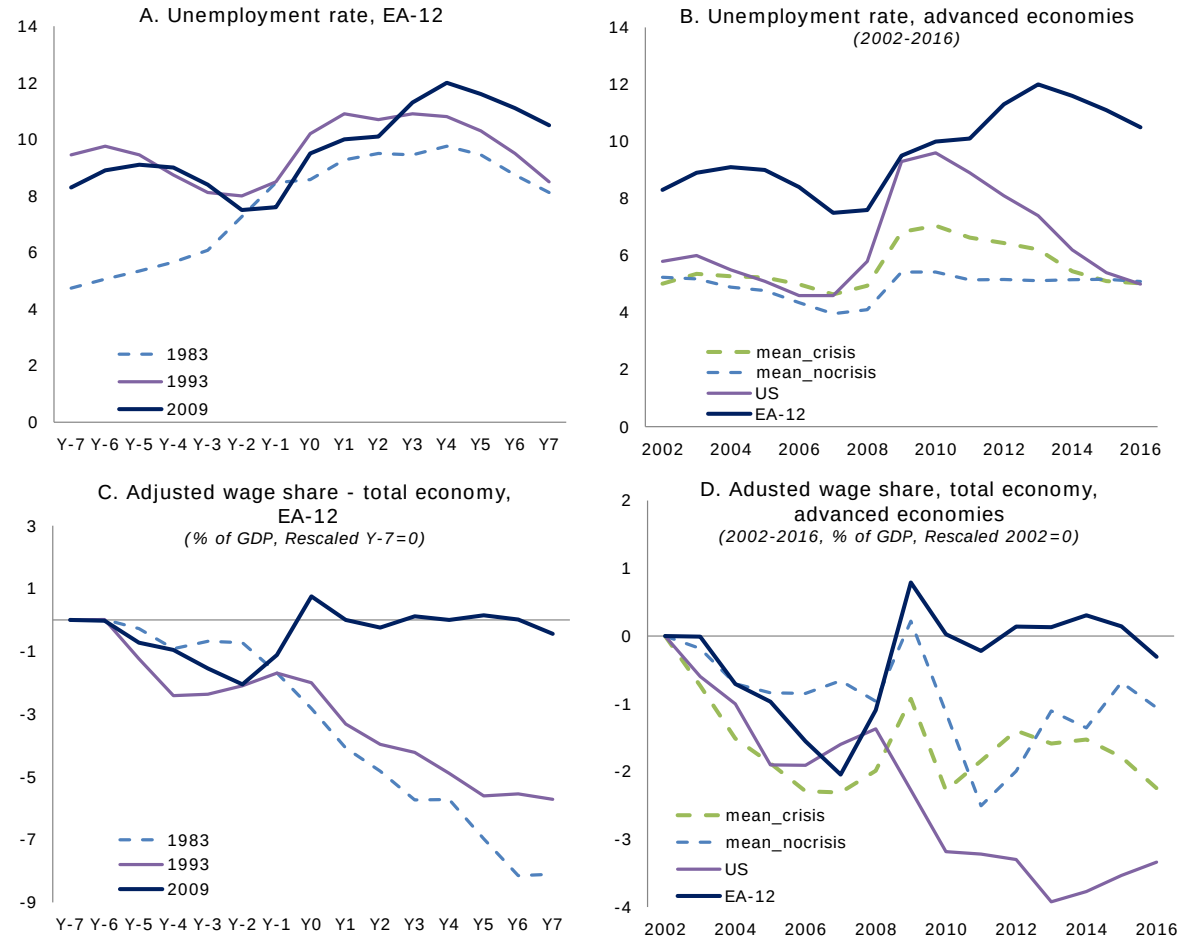
In contrast with consumption and exports, non-residential investment in the euro area appears distinctly weak compared both to previous recoveries and to other advanced countries. Unlike in previous recoveries, non-residential investment has not experienced a major rebound since the cyclical trough and remains below pre-crisis levels both in absolute terms and as a share of GDP (Graph I.3C). While in the immediate aftermath of the global financial crisis, euro area non-residential investment suffered a similar drop as in other advanced countries hit by banking crises, it did not rebound in 2011 as it did elsewhere. Moreover, euro area investment experienced an additional drop with the onset of the sovereign debt crisis and has since turned into the main drag on the euro

Graph I.4: **Real residential property prices, advanced economies (1)**
*(2002-2016, Index: 2002=100)*




(1) EA-12 comprises of BE, DE, IE, EL, ES, FR, IT, LU, NL, AT, PT, FI. 'mean_crisis' is an un-weighted mean of CH, JP, SE, UK, US. 'mean_nocrisis' is an un-weighted mean of AU, CA, KO, NO, NZ.
***Source:*** BIS.

Graph I.5: **Labour market (1)**




(1) Y0 is the year of cyclical trough in the euro area, i.e. 1983, 1993 and 2009. 2009 is also the year when most advanced economies started to recover from the global financial crisis. For the recovery after 2009, Y6 (2015) and Y7 (2016) are based on the European Commission's Spring Forecasts. EA12 is GDP-weighted aggregate of BE, DE, IE, EL, ES, FR, IT, LU, NL, AT, PT, FI. 'mean_crisis' is the un-weighted mean of CH, JP, SE, UK, US. 'mean_nocrisis' is the un-weighted mean of AU, CA, KO, NO, NZ. The ratios in the graphs C and D have been rescaled to be equal to 0 in Y-7/2002.
***Source:*** AMECO.

area recovery (Graph I.3D).

Residential investment has also been a clear source of demand weakness in the euro area but, here, the historical and cross-country perspectives are less clear cut than for non-residential investment. ( ) The ratio of residential investment to GDP in the euro area has declined almost steadily since its peak in 2007 and is not forecast to increase significantly in 2015-16. This compares unfavourably with the flatter developments in residential investment observed after the 1992-93 recession (Graph I.3E) but is broadly in line with the patterns seen in the recovery of the 1980s.

While adjustment after an unsustainable boom was arguably needed in some euro area countries, the boom-bust features of residential investment in the euro area as a whole appear less pronounced than in other advanced economies, particularly the US. The euro area is also alone among advanced economies in not having experienced a clear recovery in residential investment (Graph I.3F). The euro area protracted weakness is also reflected in a steady decline in real house prices since their peak in 2007 (Graph I.4). A price adjustment took place in most advanced economies after the crisis but, with the notable exception of countries such as the US, it has generally been relatively shallow and short-lived. House prices have generally been on an upward trend for several years now in most advanced economies but not in the euro area.

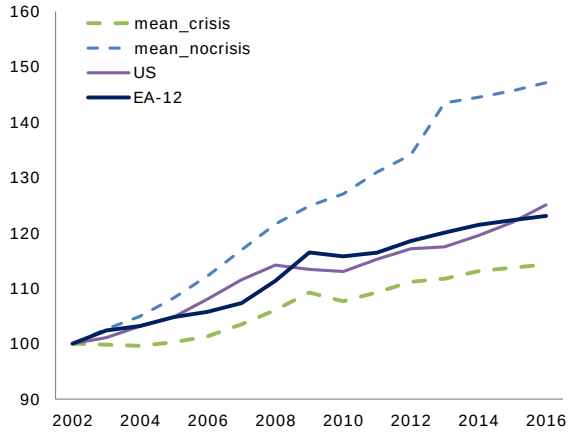
## I.4. Labour market: slow adjustment

Developments in the euro area unemployment rate in the aftermath of the global financial crisis deviate both from previous recoveries (Graph

I.5A) and, even more so, from other advanced countries (Graph I.5B). The immediate unemployment increase was relatively muted ([9]) arguably due to generally stronger employment protection and the implementation of flexible working schemes in some euro area countries. However, the unemployment rate did not stabilise around 2009 as it did in other advanced countries. Instead unemployment began rising again after 2011, reaching 12 %.

A notable feature of the current euro area recovery is that the weakness of the labour market has not been fully reflected in labour cost developments. Despite a more pronounced and lasting deterioration in the labour market, unit labour costs have grown at a broadly similar pace as in the other crisis-hit countries (Graph I.6). Furthermore, the share of wages in GDP (or real unit labour cost), that recorded an increase after 2007 due, among other things, to labour hoarding, has not experienced the decline seen in previous euro area recoveries (Graph I.5C) or in the current US recovery (Graph I.5D).

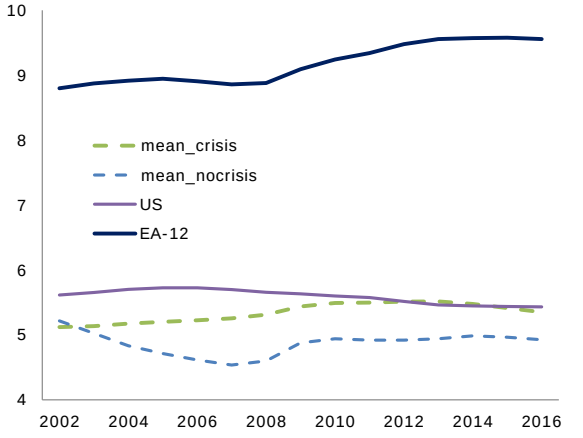
Graph I.6: **Nominal unit labour cost, advanced economies (1)**
*(2002-2016, Index: 2002=100)*




(1) EA-12 comprises of BE, DE, IE, EL, ES, FR, IT, LU, NL, AT, PT, FI. 'mean_crisis' comprises of unweight mean of CH, JP, SE, UK, US. 'mean_nocrisis' comprises of unweight mean of AU, CA, KO, NO, NZ.
***Source:*** AMECO.

Another evidence of the lack of wage adjustment is provided by the substantial increase in the non-cyclical part of unemployment with the NAWRU/NAIRU reaching a historical high of 10 % (Graph I.7). ([10]) There are several possible explanations for this increase in non-cyclical unemployment, including labour market rigidities, the need to reallocate labour away from sectors hit with long-term consequences from the banking crisis (e.g. housing) and hysteresis effects. As stressed before, European Commission analysis suggests that the most likely scenario is that the rise will last for some time but not be permanent. This analysis, however, depends crucially on the implementation of appropriate labour market policies and the risk of hysteresis effects should not be underestimated. ([11])

Graph I.7: **NAIRU, advanced economies (1)**
*(2002-2016)*




(1) EA-12 comprises of BE, DE, IE, EL, ES, FR, IT, LU, NL, AT, PT, FI. 'mean_crisis' comprises of unweight mean of CH, JP, SE, UK, US. 'mean_nocrisis' comprises of unweight mean of AU, CA, KO, NO, NZ.
***Source:*** OECD.

## I.5. A balance sheet perspective

### A comparatively slow private sector deleveraging process …

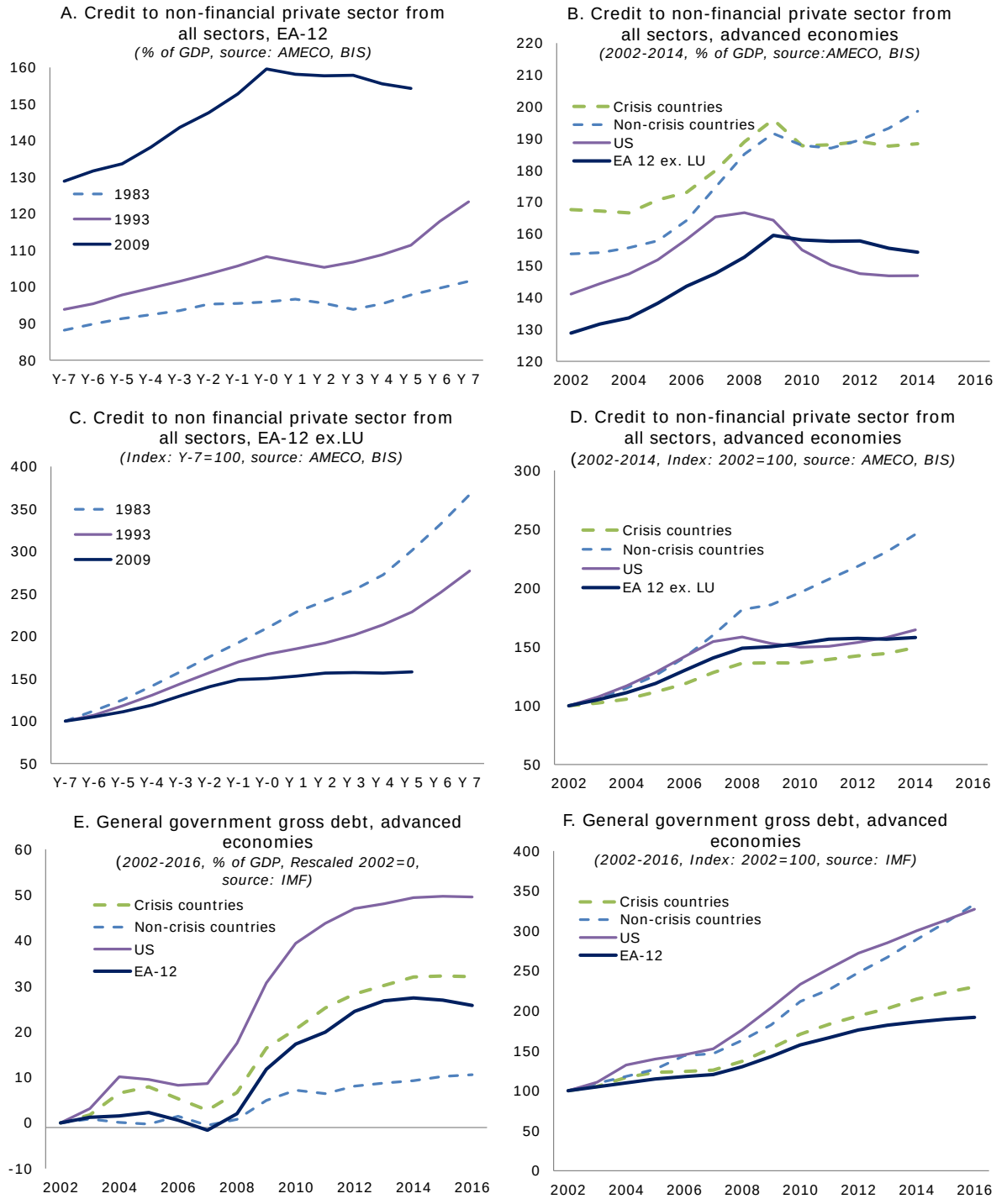
Financial factors have been key drivers of the latest business cycle in advanced economies. It is therefore not surprising that recent private sector debt developments look atypical by historical standards. As a share of GDP, debt in the euro area grew much faster in the years preceding the

([9]) The EA-12 unemployment rate increased from 7.5 % in 2007 to 9.5 % in 2009 as opposed to an increase in other banking-crisis hit countries from 4.6 % to 6.8 %, and especially in the US where it increased from 4.6 % to 9.3 %. .

([10]) See also European Commission (2014), 'New estimates of Phillips curves and structural unemployment in the euro', *Quarterly Report on the Euro Area*, Vol. 13, No 1, pp. 21-26.

([11]) For instance, Gali, J. (2015), 'Hysteresis and the european unemployment problem revisited', paper presented at ECB Forum on Central Banking, Sintra, 21-23 May 2015, for empirical evidence of past hysteresis effects in the euro area.

Graph I.8: **Private and public debt (1)**




(1) Y0 is the year of cyclical trough in the euro area, i.e. 1983, 1993 and 2009. 2009 is also the year when most advanced economies started to recover from the global financial crisis. EA12 is GDP-weighted aggregate of BE, DE, IE, EL, ES, FR, IT, LU, NL, AT, PT, FI. 'mean_crisis' is the un-weighted mean of CH, JP, SE, UK, US. 'mean_nocrisis' is the un-weighted mean of AU, CA, KO, NO, NZ. The ratios in graph E have been rescaled to be equal to 0 in 2002.

***Source:*** BIS, AMECO and IMF.

peak of the current cycle than at similar stages of previous business cycle. Another defining feature of the ongoing recovery has been a deleveraging process marked by a protracted fall in the private sector debt ratio (Graph I.8A). By contrast, only short-lived falls in debt were registered during the recoveries of the 1980s and 1990s.

The private sector deleveraging process is also visible in other advanced economies hit by a systemic banking crisis but the pace of deleveraging has been somewhat faster in this group, particularly in the US, than in the euro area (Graph I.8B). By contrast, those advanced economies not hit by a banking crisis have mostly seen an inflexion in the rate of debt accumulation since the crisis rather than a persistent deleveraging process. Interestingly, both groups of countries (those that had banking crises and those that did not) experienced a similar pace of private debt accumulation before the global financial crisis, with debt ratios peaking at similar levels in 2009. This is at odds with a large empirical literature underlying credit expansion as one of the most reliable forerunners of banking crises. ([12])

Differences in the speed of deleveraging between the euro area and other advanced economies hit by systemic banking crises mostly reflect differences in the speed of economic recovery. The deleveraging processes in advanced economies have been mostly 'passive' rather 'active' in nature. The global financial crisis has, at best, brought a stabilisation of credit levels (Graph I.8D) and drops in credit ratios can mostly be ascribed to increases in GDP. ([13])

Overall, this suggests that the euro area may be locked into a vicious circle in which deleveraging leads to persistent investment weakness and slow growth, which in turn limits progress with deleveraging and further hampers investment. ([14])

### … against a background of rapidly increasing public debt ratios

In sharp contrast to developments in private debt, the public debt ratio has increased sharply as a share of GDP since 2008 in the euro area as well as in other countries hit by systemic banking crises, notably the US (Graph I.8E). This reflects a number of factors, including the use of automatic stabilisers, some discretionary support to the economy, and the fiscal cost of the banking crises. Unsurprisingly, the situation appears much more benign in the advanced countries not hit by a systemic banking crisis, where public debt ratios have increased only modestly in recent years. ([15])

The rises in public debt ratios following the global financial crisis are broadly similar in the euro area and in the other countries hit by banking crises. From 2014 onwards, debt ratios have started to diverge somewhat in the two regions, with a downward inflection of the euro area ratio and broad stabilisation of the ratio in the other crisis-hit countries. Differences in GDP developments between the two regions mean that differences in consolidation efforts have been more visible when looking at debt levels rather than ratios (Graph I.8F).

## I.6. Policies and institutions

### Severe constraints on the economy's response to the crisis

A critical element to bear in mind, when comparing the euro area current recovery to the recoveries in other advanced economies, is that there have been severe constraints on the euro area policy response to the global financial crisis. The original institutional setup of the Economic and Monetary Union, with a centralised monetary policy and largely decentralised economic policies, turned out to have no mechanisms to avoid the build-up up of large macroeconomic imbalances or to cope with

([12]) See e.g. Babecký, J. et al. (2014), 'Banking, debt, and currency crises in developed countries: stylised facts and early warning indicators', *Journal of Financial Stability*, Vol. 15, pp. 1-17; Drehmann, M., C. Borio and K.Tsatsaronis (2011), 'Anchoring countercyclical capital buffers: the role of credit aggregates', *International Journal of Central Banking*, Vol. 7, Issue 4, pp. 189–240.

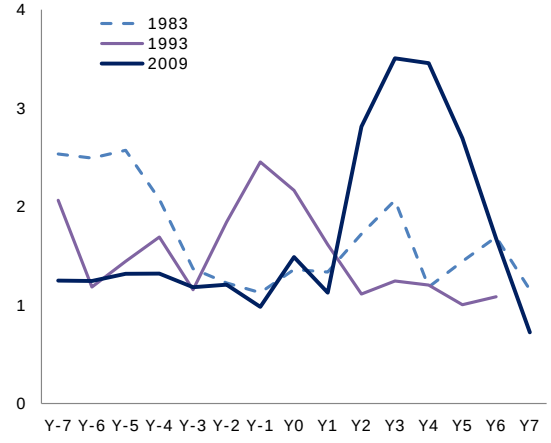
([13]) The deleveraging process has been clearer when restricting the analysis to credit issued by banks (as opposed to total credit). In the euro area, a genuine decrease in the level of private credit by banks was observed between 2001 and 2014 as non-financial corporations moved away from bank financing.

([14]) Barkbu, B. et al. (2015) argue that low growth per se is a significant determinant of low investments in the euro area coupled in some countries with high corporate leverage, financial constraints, and policy uncertainty.
Barkbu, B. et al. (2015), 'Investment in the euro area: why has it been weak?', *IMF Working Paper,* No 15/32.
European Commission (2015), ' Investment dynamics in the euro area since the crisis', *Quarterly Report on the Euro Area*, Vol. 14, No 1 , pp. 35-43, additionally points to high real interest rates as a reason for weak investment dynamics.

([15]) Moreover, the average levels of debt in countries that were not hit by the banking crisis was substantially lower, standing in 2007 at 34 % of GDP vs. 76 % for crisis-hit countries and 65 % for the euro area.

large financial shocks. The macroeconomic imbalances, accumulated in some Member States in the public and private sectors during the expansion phase and combined with a lack of crisis-fighting mechanisms and risk-sharing tools, acted as powerful shock amplifiers. Since 2011, the combination of pre-crisis policy mistakes and the incompleteness of the EMU's original governance architecture has hampered the adoption of optimal macroeconomic policies and entailed noxious feedback loops between the financial and the public sector, confidence crises, sudden stops in capital flows, and strong cross-border financial contagion effects. (16) This has led to significant centrifugal forces between Member States. Between 2011 and 2014, for example, cyclical divergences between Member States reached levels never seen at similar stages of the business cycle in the 1980s and 1990s (Graph I.9), thereby further complicating the design of macroeconomic policies. (17)

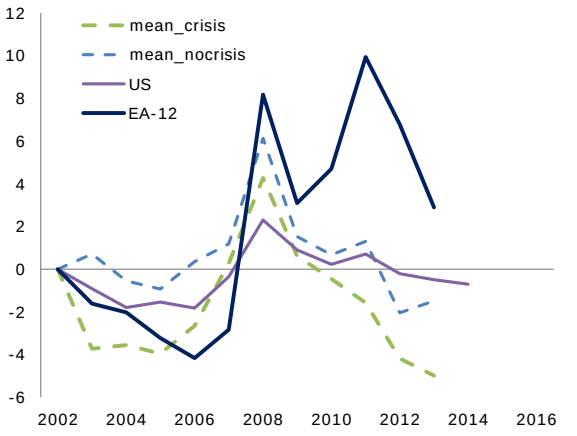
Graph I.9: **Cyclical divergences between euro area Member States**
*(standard deviation of output gaps in %))*




***Source:*** AMECO.

The banking sector offers a typical example of a sub-optimal policy response. The impairment of private balance sheets and the asset quality deterioration that occurred during the global financial crisis led to an increase in the leverage of the banking sector in all advanced economies, but particularly in the euro area (Graph I.10). (18)

Graph I.10: **Leverage of the banking sector, advanced economies (1), (2)**
*(2002-2016, Rescaled 2002=0)*




(1) EA-12 comprises of BE, DE, IE, EL, ES, FR, IT, LU, NL, AT, PT, FI. 'mean_crisis' comprises of unweight mean of CH, JP, SE, UK, US. 'mean_nocrisis' comprises of unweight mean of AU, CA, KO, NO, NZ. The ratios in the graph have been rescaled to be equal to 0 in 2002.
(2) The leverage of the banking sector is computed as the ratio of selected financial assets to total equity.
***Source:*** OECD.

In several euro area countries, bank balance sheets were further undermined by the sovereign debt turmoil and the associated feedback loop between banks and sovereigns. (19) Until the launch of the Banking Union, the policy response to the excessive leverage of banks was typically slow and uncoordinated (as illustrated by previous stress tests). (20) Leverage has started declining only recently with the launch of the Banking Union and the associated asset quality review (AQR) and bank recapitalisation. (21) As a result, the euro area

(16) There is a vast economic literature discussing this issue. See for instance:
de Grauwe, P. (2013): 'Design failures in the eurozone: can they be fixed?', *LSE 'Europe in Question' Discussion Paper Series,* No 57
Obstfeld, M. (2013), 'Finance at center stage: some lessons of the euro crisis', *European Economy, Economic Papers,* No 493.

(17) For a discussion of the drivers of these cyclical divergences, see: European Commission (2014), ' Growth differences between EA Member States since the crisis', *Quarterly Report on the Euro Area*, Vol. 13, No 2, pp. 7-20.

(18) Due to differences in accounting standards, e.g. different treatment of derivatives in the US and the EU, the levels are not fully comparable across countries. Neither there is an agreement on the best way to compute the leverage and capital ratios. Therefore, the OECD leverage ratio is different from the one used by EBA/IMF/BIS. Basel III agreement broadly suggests using the leverage ratio as a supplement to risk-weighted capital ratios. The capital requirements based on the Basel III capital ratio are supposed to be broadly implemented only in 2018. Therefore, in the current context the attention is to be paid only to the time evolution of leverage ratios rather than cross-country differences in their levels.

(19) Acharya V. et al. (2014), 'A Pyrrhic victory? Bank bailouts and sovereign credit risk', *The Journal of Finance*, Vol. LXIX, No 6, pp. 2689-2739.

(20) OECD (2014)', OECD Economic Surveys: Euro Area'.

(21) Greenwood, R. et al. (2015) show that banks commonly use asset sales in order to decrease leverage. During financial turmoils (such as the euro area sovereign debt crisis), the number of potential

economy has had to cope with an impaired banking sector for a substantially longer period of time than the other advanced economies hit from the banking crisis.

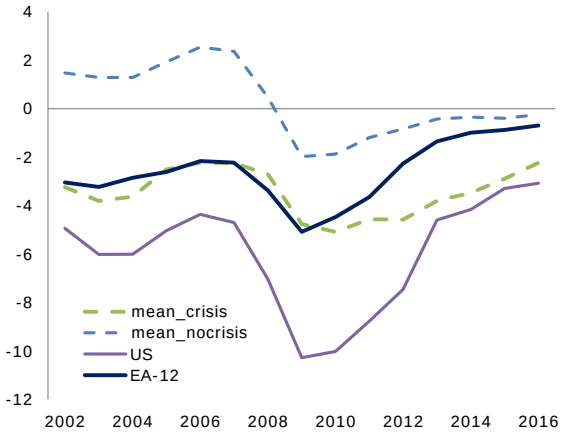
EU authorities have responded to the crisis by engaging in far-reaching reforms, including a strengthening of macroeconomic surveillance, the creation of crisis resolution mechanisms and the launch of the Banking Union. The implementation of these reforms has progressively lifted part of the constraints on macroeconomic policy, providing support to the euro area recovery. Nevertheless, while some of the macroeconomic imbalances accumulated before the crisis are gradually being corrected, public and private debt levels remain high in a number of Member States and continue to weigh on the recovery and restrict policy choices.

## Front-loaded fiscal consolidation

The fiscal position adjusted for the impact of the economic cycle can be tracked by the underlying government net lending on the potential GDP (Graph I.11). All advanced economies responded to the global financial crisis with a substantial fiscal stimulus. The stimulus, which peaked in 2009, was then followed by varying degrees of fiscal tightening, reflecting differences in the fiscal framework and availability of fiscal space.

The tightening was more front-loaded in the euro area than in other advanced economies hit by a systemic banking crisis due to factors such as severe debt sustainability concerns and the loss in market access experienced by some Member States. To prevent contagion to the whole euro area and restore confidence and stability, euro area leaders affirmed on several occasions their commitment to implement consolidation measures. While this commitment was crucial in a context of very high tensions, it also resulted in periods of pro-cyclical fiscal stance, as the public and the private sectors simultaneously deleveraged while growth was very weak.

Graph I.11: **Underlying government net lending, advanced economies (1)**
*(2002-2016, % of potential GDP)*




(1) EA-12 comprises of BE, DE, IE, EL, ES, FR, IT, LU, NL, AT, PT, FI. 'mean_crisis' comprises of unweight mean of CH, JP, SE, UK, US. 'mean_nocrisis' comprises of unweight mean of AU, CA, KO, NO, NZ.
***Source:*** OECD.

In contrast, policy sequencing has been more supportive in most other advanced economies that were not under considerable financial stress. On average, the fiscal stimulus of 2008-09 was of a similar size in the group of countries hit by a banking crisis and in the euro area. But the subsequent consolidation was considerably faster in the euro area. This has given the private sector more breathing space and allowed a more rapid reduction in private debt ratios. ([22]). The US stands out somewhat, with a larger stimulus in 2009-09 than in the rest of group of advanced countries hit by a banking crisis or in the euro area. For the 2010-12 period the US and the euro area consolidated at broadly similar paces although the US started from a fiscal stance that was considerably more supportive.

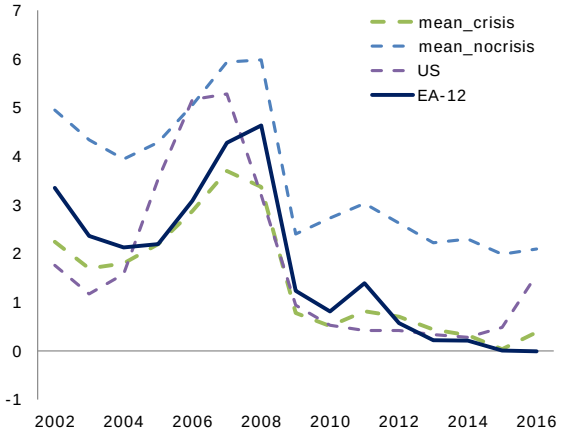
## Monetary policy: constrained choices at the zero lower bound

After the global financial crisis, short-term money market interest rates in the euro area quickly fell to historical lows (Graph I.12).

buyers can be limited and fire sales of bank assets can spread further distress across financial institutions.
Greenwood, R. et al. (2015), 'Vulnerable banks', *Journal of Financial Economics*, Vol. 115, Issue 3, pp. 471–485

([22]) Bornhorst F. and M. Ruiz-Arranz (2014) argue that deleveraging processes have much more damaging effects on growth when involving simultaneously the public and the private sectors.
Bornhorst F. and M. Ruiz-Arranz (2014), 'Chapter 2: growth and the importance of sequencing debt reductions across sectors', *IMF, 'Jobs and growth: Supporting the European recovery', editors: M. Schindler, H. Berger, B. B Bakker, A. Spilimbergo.*

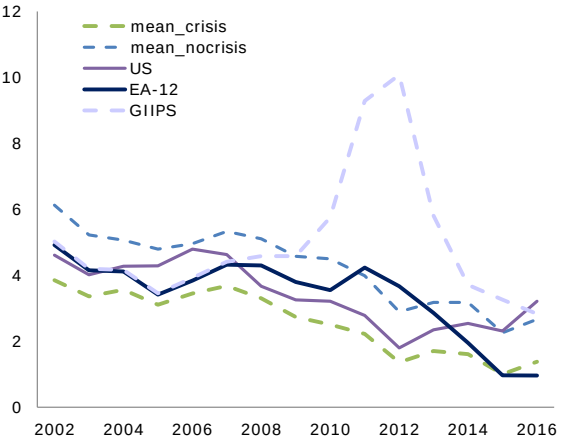
Graph I.12: **Nominal short-term interest rates, advanced economies (1)**
*(2002-2016, %)*




(1) EA-12 comprises of BE, DE, IE, EL, ES, FR, IT, LU, NL, AT, PT, FI. 'mean_crisis' comprises of unweight mean of CH, JP, SE, UK, US. 'mean_nocrisis' comprises of unweight mean of AU, CA, KO, NO, NZ.
***Source:*** OECD

Monetary policy in the euro area was, however constrained by a weakening of the interest rate transmission mechanism, as the sovereign debt crisis led to financial fragmentation and an endogenous tightening of monetary conditions, especially in the Southern or peripheral Member States (Graph I.13).

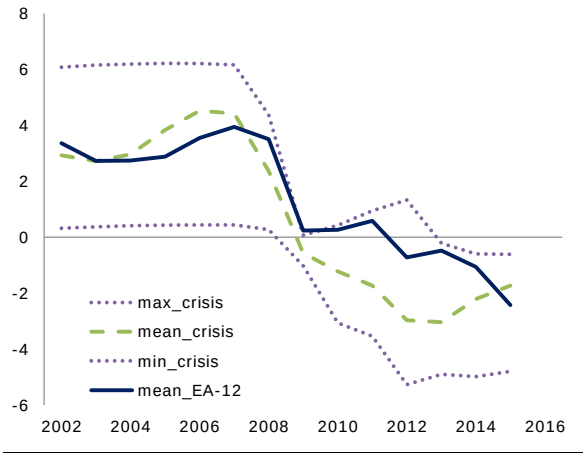
Graph I.13: **Nominal long-term interest rates, advanced economies (1)**
*(2002-2016, %)*




(1) EA-12 comprises of BE, DE, IE, EL, ES, FR, IT, LU, NL, AT, PT, FI. 'mean_crisis' comprises of unweight mean of CH, JP, SE, UK, US. 'mean_nocrisis' comprises of unweight mean of AU, CA, KO, NO, NZ.
***Source:*** OECD.

The presence of the zero lower bound and the adoption of diverse and successive unconventional monetary policy measures complicate the evaluation of monetary policy stances across major currency areas. The shadow rates that are constructed using term-structure models represent a useful indication of where policy rates might have been in the absence of the zero lower bound (Graph I.14). Conditional on the fact that these model-implied estimates carry a significant degree of uncertainty, the results suggest that notional policy rates in the euro area have been higher than in the other crisis-hit countries for most of the time since the global financial crisis. ([23])

Graph I.14: **Shadow (short-term) policy rates, advanced economies (1)**




(1) 'max_crisis' is the maximum value of 5 shadow policy rates: for JP, UK and US (Krippner) and UK, US (Wu-Xia) and 'min_crisis' is correspondingly the minimum. 'mean_EA-12' is mean value of 2 shadow policy rate for the EA (Krippner and Wu-Xia)
***Source:*** Website of L. Krippner, Reserve Bank of New Zealand and J.C.Wu, Chicago Booth.

Convergence in shadow rates between the euro area and other advanced countries hit by a systemic banking crisis occurred only recently. The ECB introduced a negative deposit facility rate in June 2014 and subsequently launched a fully-fledged quantitative easing programme, while the US Fed concluded its asset purchases in late 2014.

In this context, it is important to note that due to the different funding structure of the euro area economy, several unconventional measures implemented by the ECB were specifically aimed at alleviating the liquidity position of the banking sector (e.g. introducing fixed-rate, full-allotment mode in its refinancing operations, expanding the

([23]) The interpretation of the shadow rate as a proxy for the monetary stance should be subject to appropriate caution, though, as it may not fully capture the impact of unconventional measures along the yield curve.

list of eligible collateral or extending the maturity of its refinancing operations) and thus might not be reflected fully in shadow rate models developed for assessing the impact of monetary policy on capital-market-based funding costs.

## I.7. Conclusions

The comparative analysis of recoveries allows us to derive some general conclusions about the euro area current situation. The current weakness in growth has both structural and cyclical roots. Potential growth appears to have been more affected by the crisis than in previous recoveries or in other advanced countries, even those hit by banking crises. The output gap closure has also been slower than in the past and slower than in other advanced economies, as the sovereign debt crisis of 2011 substantially decoupled the euro area from the global business cycle.

The current recovery also stands out in terms of the weakness of domestic demand. Both from a historical and cross-country perspective, investment is the key source of current demand sluggishness. Developments in both residential and non-residential investment appear unusually sluggish. The vicious circle that seems to have developed between deleveraging, weak investment activity and slow growth is of major concern.

The analysis also points to weaknesses in the euro-area adjustment process, notably in terms of labour market. Labour cost adjustments have been slow in relation to the observed surge in unemployment, pointing to a more substantial increase in the non-cyclical component of unemployment than in most other advanced economies.

The euro area has also progressed less rapidly than other advanced countries hit by banking crises in tackling the crisis legacy of excessive private sector debt. However, this largely reflects lower GDP growth ('denominator effect') and developments in private debt levels have been broadly similar across the two regions.

In terms of policy mix, it seems that in the years since the global financial crisis, the euro area has faced tighter financing conditions than other crisis-hit countries, a difficulty that has been further exacerbated by periods of pro-cyclical fiscal policy. The euro area policy response has been constrained by the macroeconomic imbalances accumulated before the crisis as well as the incompleteness of the EMU original. The comparatively slow repair of bank balance sheets has been an impediment to growth and a good example of how sub-optimal policy responses were, partly as the result of the EMU's original design.

Looking ahead, the analysis offers both sources of comfort and causes of concern. On the positive side, the fact that reforms have been (or are being) put in place to improve labour and product markets in some Member States, and that the EMU works better, should support growth in the short to medium term. The reforms implemented in Member States such as Spain and Ireland are already starting to show positive results. Progress can be also seen in the euro area's banking sector, which has recently seen acceleration in deleveraging. Finally, after the strong consolidation phase of the sovereign crisis, the euro area overall fiscal stance has now turned broadly neutral. On a more cautious note, the euro area weak adjustment capacity and sluggish potential growth have so far shown only limited signs of improvement. Similarly, there has been only scant evidence so far that the main source of demand has shifted from external to domestic components. Further reforms are needed both at Member State and European level to put the euro area recovery on a more solid growth path. Further structural reforms in Member States should go hand-in-hand with resolute steps to complete the EMU architecture, with particular emphasis on completing the financial union.