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Risks of Stagnation in the Euro Area

by Huidan Lin

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Abstract

This paper discusses the risks of stagnation over the medium term in the euro area. It examines the consequences of longer-term growth trends that predate the crisis and the progress made in addressing the crisis legacies of high unemployment and debt. The paper illustrates in a downside scenario, how low potential growth and crisis legacies leave the euro area vulnerable to a negative shock that tips the economy into a prolonged slowdown.

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I. MOTIVATION

Since the global financial crisis, growth in output per capita in the euro area has stalled and the gap with the United States has widened.[2] For the major advanced economies, per capita growth rates have fallen well below their pre-crisis levels, but the decline has been particularly severe for the euro area where output per capita in 2014 remained at the same level as in the mid-2000s (Figure 1). In PPP terms, nominal GDP per capita in the euro area is now nearly $15,000 below that in the United States, the highest gap since the start of EMU (text charts).

Real Output per Capita
(year-on-year percent change)

Real Output per Capita
(1991=100)

Nominal Output per Capita
(PPP dollar, thousands)
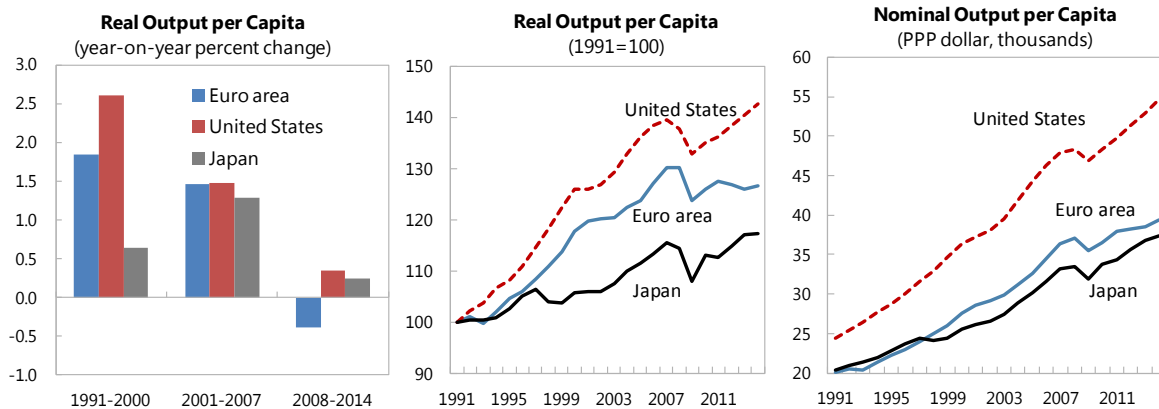
Sources: World Economic Outlook; and IMF staff calculations.

Recent IMF research (IMF, 2015a) points out that potential growth slowed in the advanced economies well before the global financial crisis, due mainly to declining total factor productivity (TFP) growth. Studies also suggest that potential growth is likely to increase only slightly and remain below pre-crisis levels in the medium term, due to population aging and slow progress in addressing crisis legacies. Indeed, potential output estimates for the major advanced economies have been revised down dramatically since the onset of the crisis (Figure 2, text chart).

Euro Area: Potential GDP Growth
(percent change)
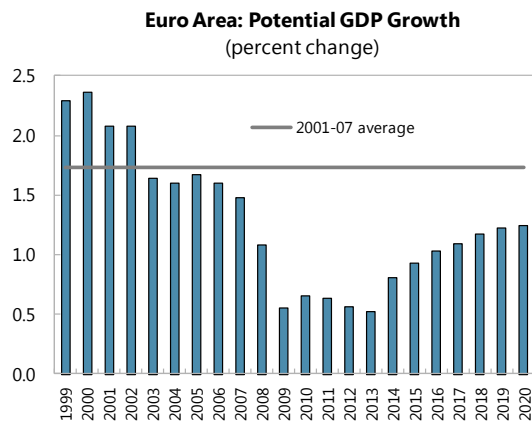
Sources: World Economic Outlook; and IMF staff estimates.

Low potential growth has raised concerns over the risks of stagnation. This is particularly relevant given the high levels of unemployment and public and private indebtedness, as well as limited policy space in many euro area countries. A prolonged

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[2] In this paper, euro area excludes Lithuania, unless stated otherwise.

Figure 1. Actual and Pre-crisis Trend Output[1]
(1991=100)

Euro Area

United States

Japan
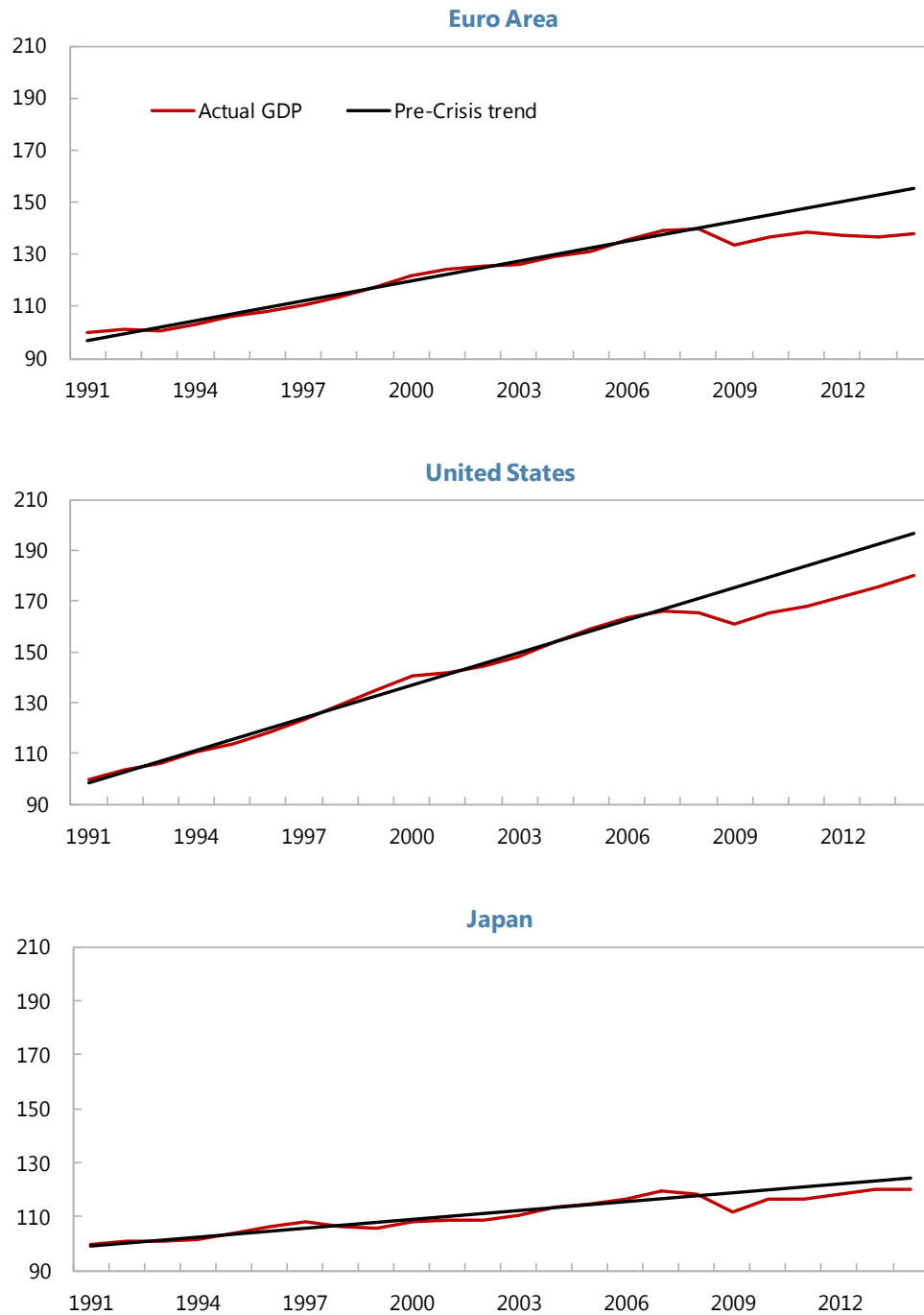
Sources: WEO; and IMF staff calculations.
1/ Pre-crisis trend is the trend growth over 1991-2007. Excluding the two years (2006 and 2007) before the recession does not change the trend.

Figure 2. Actual and Potential Output
(2007=100)

Euro Area

Legend: 2008, 2010, 2012, 2015, Actual output

United States

Japan
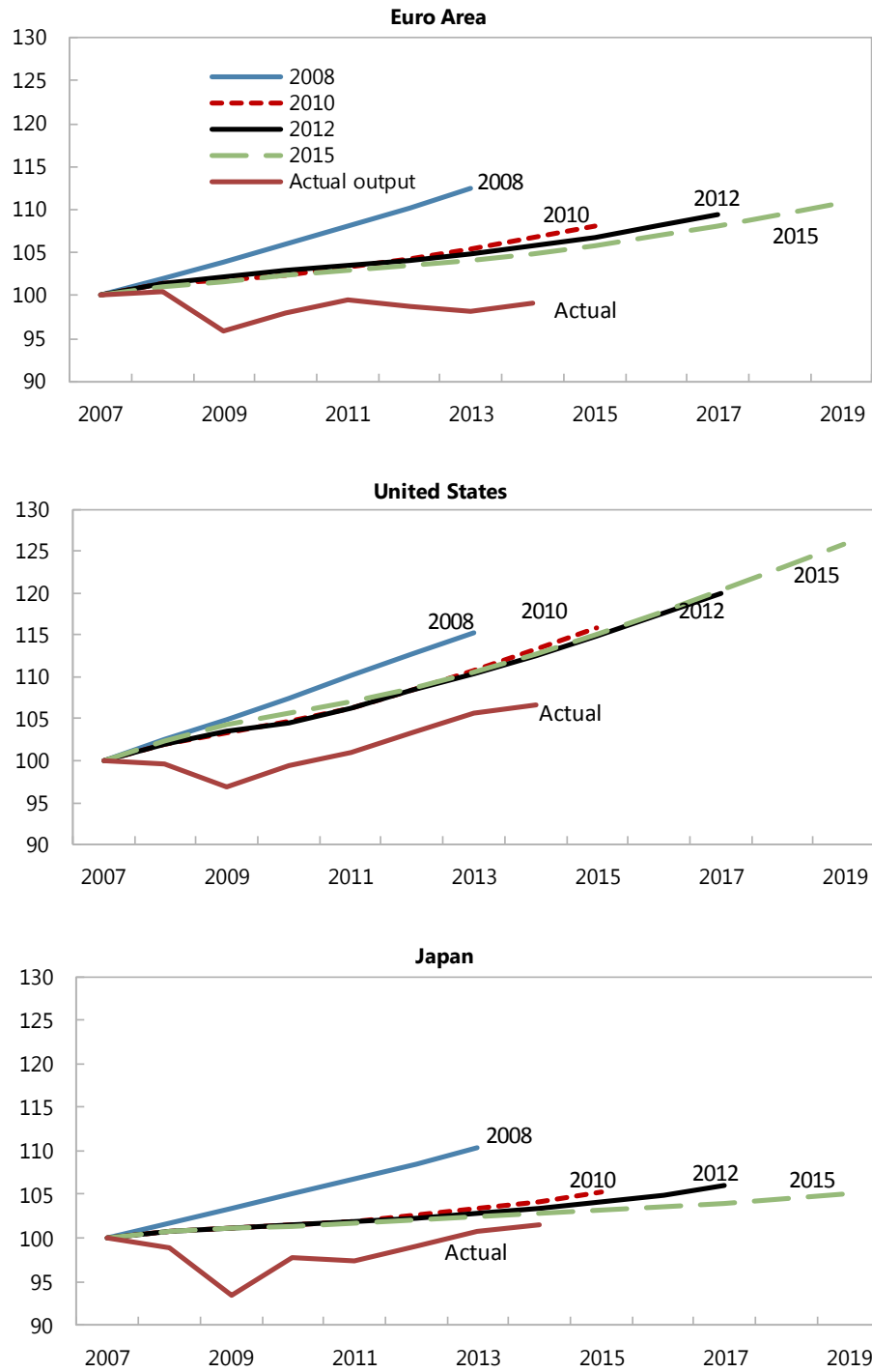
Sources: WEO; and IMF staff calculations.

period of low growth and inflation could exacerbate these weaknesses, leaving the euro area vulnerable to shocks. This paper examines the risks of stagnation for the euro area. Specifically, it asks the following questions: (i) what have been the main drivers of the slowdown in output per capita (Section II) (ii) how much progress has been made in addressing the crisis legacies of high unemployment and debt (Section III) and (iii) how vulnerable is the euro area to a prolonged slowdown given the subdued prospect for medium-term growth and unaddressed crisis legacies (Section IV).

II.   OUTPUT PER CAPITA: DIAGNOSIS AND PROSPECTS

On the supply side, output per capita can be decomposed into: (i) labor input per capita; (ii) capital per capita; and (iii) total factor productivity.[3] While the growth rates of supply-side factors of differ significantly, this section abstracts from within-euro area differences and compares the euro area aggregates against those of Japan and the United States.
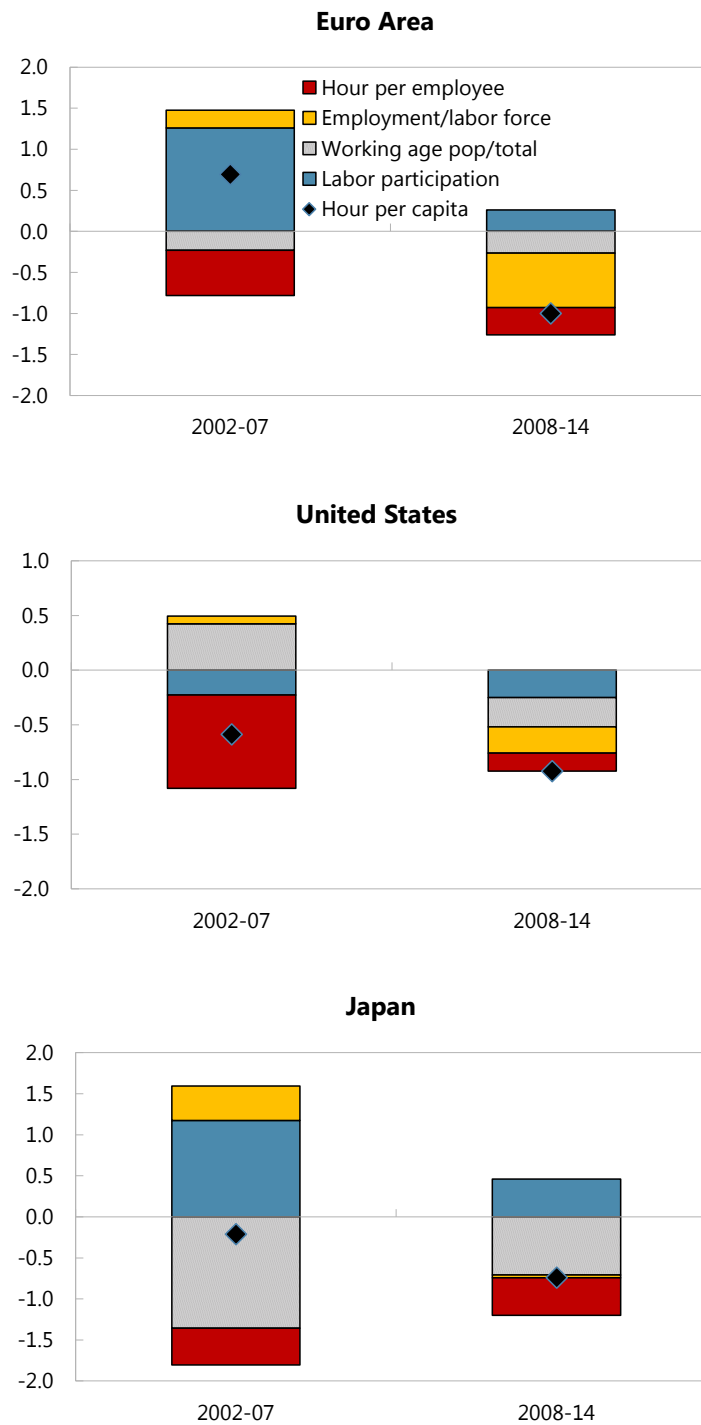
A.   Labor

Before the crisis, the euro area benefited from increasing labor force participation and declining unemployment, which more than offset the shrinking working-age population (aged 15-64 years, as a share of total population) (text charts). During the crisis, the contribution of labor to per-capita growth in the euro area turned negative. Labor force participation continued to rise but at a slower pace, while the working-age population grew more slowly than total population. All of these factors, combined with higher unemployment, led to a decline in total labor inputs for the euro area (Figure 3). Similarly, in the United States and Japan labor inputs also fell during the crisis, but for different reasons. In the United States, the decline in labor force participation, the shrinking working-age population, and rising unemployment contributed equally to the fall in labor inputs, while in Japan labor inputs declined due mainly to the shrinking working-age population (as a share of total population).[4]

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[3] A decomposition along a Cobb-Douglas specification of the output per capita would be

$Y/N = A(K/N)^{\alpha}(L/N)^{1-\alpha}$, where Y, N, A, K, L, α are output, population, TFP, capital stock, labor input (in hours), and capital share, respectively.

[4] For comparison purpose, the labor statistics of the United States and Japan are also from European Commission annual macroeconomic database (AMECO), if available. There are some differences between AMECO and the labor statistics bureaus of the United States and Japan. For instance, Japanese labor force participation increased from 82.7 percent in 2007 to 86 percent in 2017 according to AMECO, while it increased from 78.2 percent to 80.2 percent according to Statistics Bureau, Ministry of Internal Affairs and Communications.

Figure 3. Contribution to Growth in Hours Worked per Capita
(annualized average, percentage point)

Euro Area

United States

Japan

Sources: European Commission AMECO; and IMF staff calculations.

Labor Force Participation
(percent of working age population)

Working Age Population
(percent of total population)

Sources: AMECO; and IMF staff calculations.
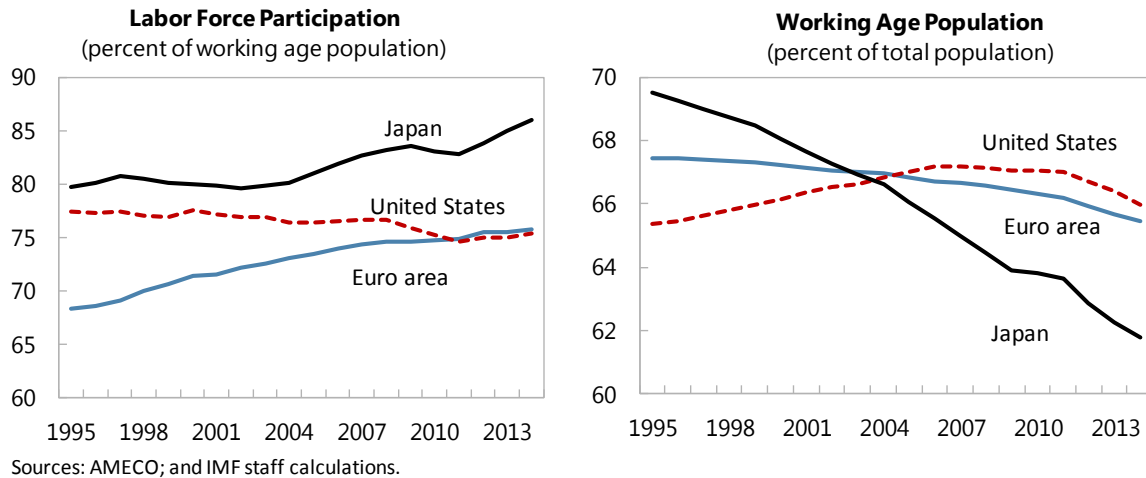
Population aging is expected to hold employment growth below pre-crisis levels, by lowering the growth of the working-age population and trend labor force participation rates. Working-age population growth is projected to decline significantly in advanced economies (text chart). Aging is also expected to reduce trend labor participation rates (the ratio of trend labor force to working-age population), offsetting the positive effect of continued population increase on overall labor supply (IMF, 2015a). For advanced economies, the net effect is little expansion in the labor force over the medium term, compared to annual growth of about 0.2 percent during crisis and 0.7 percent during 2002–07; for the euro area, the labor force is expected to expand by 0.3 percent annually over the medium term, about one-third of the level during 2002-07 (WEO, April 2014). Raising employment growth above the pre-crisis levels can then be achieved only through a significant reduction in structural unemployment (see Section C).

Working Age Population (1950=100)

Sources: United Nations; and IMF staff estimates.
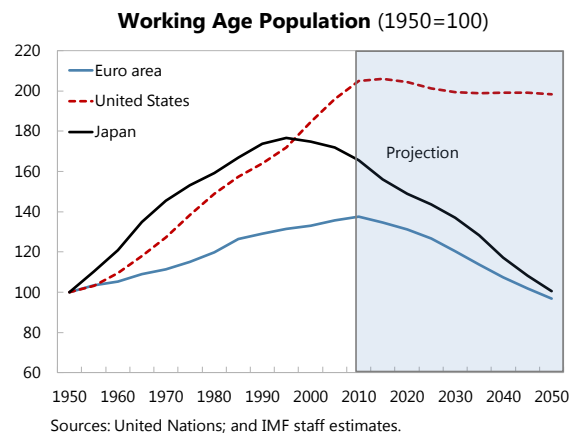
B. Capital

The slowdown in capital accumulation accelerated during the crisis. While the United States saw a larger decline in capital accumulation during the global financial crisis, investment and hence capital accumulation has since picked up strongly. In the euro area, investment has expanded only moderately since the second half of 2014. As a result, the capital is growing more slowly than the population, with the decline in capital accumulation particularly sharp in countries such as Greece and Italy (text charts).

Capital per Capita
(year-on-year percent change)
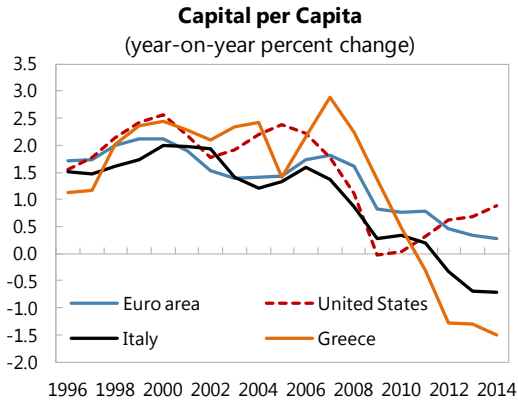
Sources: AMECO; WEO; and IMF staff calculations.

Private Non-Residential Investment Recovery to Date: 2015Q1 (2007 quarterly average=100)
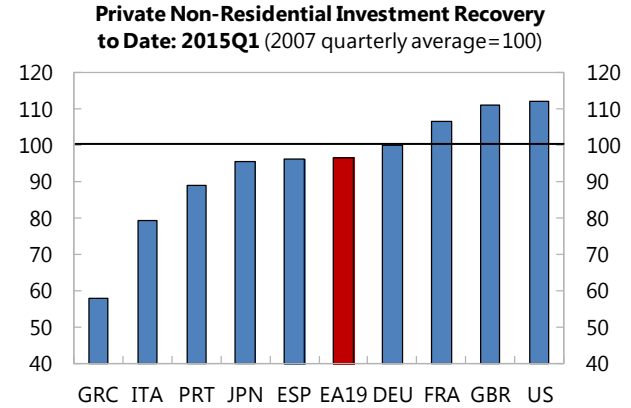
Sources: Eurostat; and IMF staff calculations.

Capital accumulation is likely to remain below pre-crisis levels over the medium term. The ratio of investment-to-capital (I/K) has fallen significantly since the onset of the crisis, reflecting the weak economic recovery (text chart). This decline is broadly in line with experience from past financial crises, which suggests the I/K ratio and hence capital stock growth will remain below pre-crisis levels for some time (IMF, 2015a). Country circumstances vary, but even for the United States where capital per capita growth has recovered partially, a complete recovery is likely to take a decade or more (Hall, 2014).

Investment-to-Capital Ratio
(percentage points; years on x-axis)

Sources: IMF (2015a) based on Laeven and Valencia (2014); euro area data from AMECO; and IMF staff calculations.

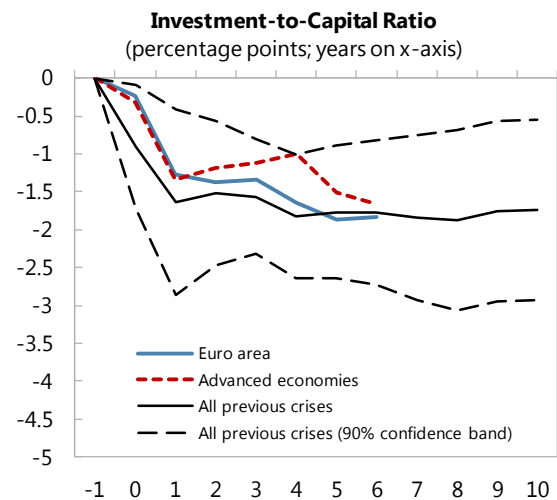### C. Total Factor Productivity

Labor productivity in the euro area (measured as output per hour worked) had grown steadily faster than in the United States until the mid-1990s, which helped narrow the productivity gap. Since the mid-1990s, however, productivity growth has diverged between these two blocks as euro area productivity growth fell consistently below that of the United States until the onset of the crisis. As a result, the labor productivity gap between the euro area and the United States widened again in the early 2000s (text charts).

Empirical studies suggest that the widening gap between the euro area and the United States reflects mainly slower TFP growth (see, e.g., van Ark and others, 2008). Indeed, within the euro area, TFP growth has slowed in most economies, and has been negative for Italy since the early 2000s and for Greece and a few other countries during the crisis (text charts).

Output per hour worked
(average annual growth rate, percent)

Output per hour worked
(in ppp dollar)
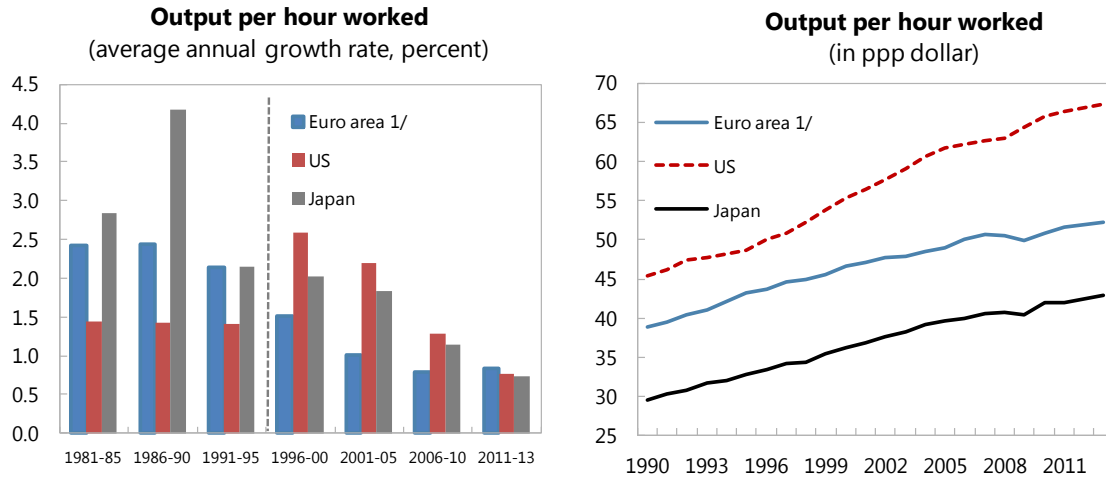
Sources: The Conference Board *Total Economy Database*, January 2014; and IMF staff calculations.
[1] Excludes Estonia, Latvia, Lithuania, Slovak Republic, and Slovenia.

Total Factor Productivity
(average of annual growth, percent)

Total Factor Productivity
(average of annual growth, percent)
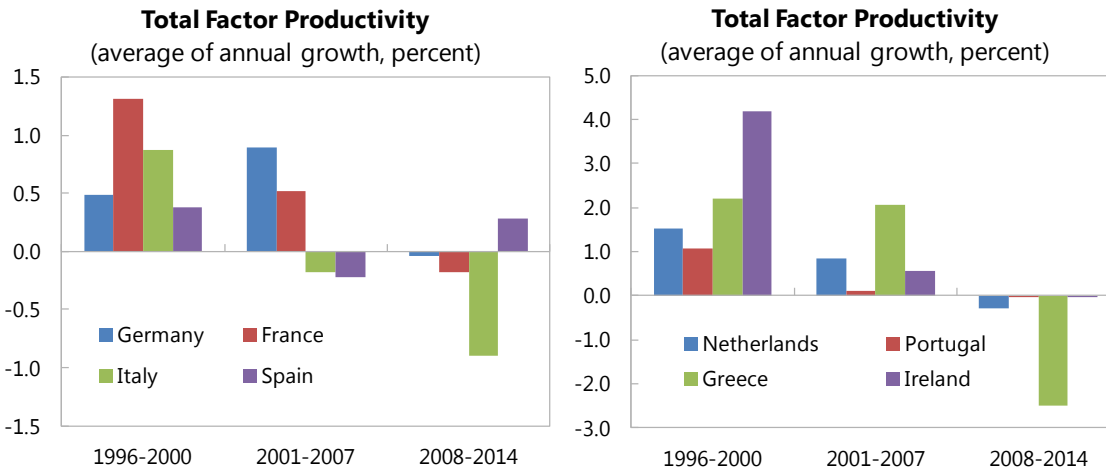
Sources: European Commission AMECO.
Note: Total factor productivity is estimated where the labor input is measured as hours worked.

The productivity slowdown in services explains most of the decline in TFP growth of the overall economy. Lower productivity growth in services, especially due to slower adoption and diffusion of information and communications technology (ICT), is found to be an important factor in explaining the slowdown in TFP growth in Europe since the mid-1990s (van Ark and others, 2008; Dabla-Norris and others, 2015). Reversing the productivity slowdown in service sectors is therefore essential to raising TFP growth. However, unlike the United States where service sector productivity has picked up and surpassed its pre-crisis peak, it is growing only very gradually in the euro area and remains well below its pre-crisis peak in countries such as Germany and Italy (text chart).
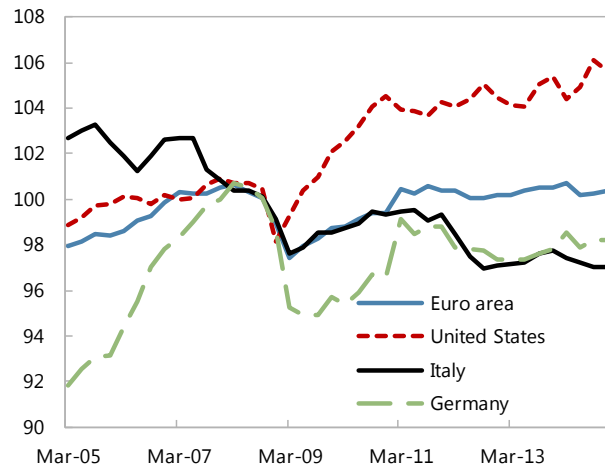
Looking forward, overall productivity growth in the euro area is likely to remain weak.[5] First, TFP growth in the United States is likely to slow as growth in ICT-producing sectors already started to decline prior to the crisis (Fernald, 2014), leading some to conclude that the productivity frontier is likely to expand less quickly (Gordon, 2012).[6] This slowdown in the expansion of the productivity frontier in the United States, if it happens, is also likely to spill over to the rest of the world (IMF, 2015a). Second, although convergence is still possible, adopting and promoting innovations requires flexibility and adaptability, and the slow progress in addressing structural gaps in the euro area may delay the diffusion of technology.

Service Sector Productivity
(2008 = 100)

Sources: Eurostat; national statistics offices; Bureau of Labor Statistics; and IMF staff calculations.
Note: Measured as per person employed. Euro area service sector covers travel, trade, accommodation & food, information & communication, finance and insurance, real estate, professional, science & technology; and for the United States trade, transportation & warehousing, information, finance, insurance, real estate, rental and leasing.

To sum, potential growth in the euro area is expected to be subdued in the baseline, rising only slightly from 0.7 percent during 2008-14 to about 1.1 percent during 2015–20, significantly lower than the 1999–2007 average of 1.9 percent (WEO, April 2015). In addition to low potential growth, the slow progress in addressing crisis legacies is also likely to weigh on aggregate demand.[7]

III.   CRISIS LEGACIES: PROGRESS AND PROSPECTS

This section looks into the demand-side factors behind the subdued prospect for medium-term growth—unaddressed legacies from the global financial crisis and in particular the sovereign debt crisis in several euro area countries. Therefore, this section zooms into individual countries and highlights the variation within the euro area. While crisis legacies are cyclical, if left unaddressed, they would become structural: high unemployment would

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[5] See IMF (2015a) for policy recommendations on increasing potential output.

[6] However, J. Mokyr argues that technology progresses tend to contribute little to measured output even if their impact on consumer welfare is very large. (http://www.wsj.com/articles/joel-mokyr-what-todays-economic-gloomsayers-are-missing-1407536487). See also Brynjolfsson and McAfee (2014).

[7] European Commission (McMorrow and Roeger, 2014) also expects that EU growth rates are likely to be substantially weaker over 2014-2023 at an annual average rate of about 1.5%, a full percentage point lower than in the decade leading up to the crisis (1998-2007). Low future growth rates will essentially reflect the influence of weak pre-crisis trends, most notably for TFP, as well as the economic realities of aging populations and the fallout from the financial crisis.

hamper human capital accumulation through the hysteresis effect and low investment would delay capital accumulation.

A. High Unemployment

The euro area unemployment rate remains high, especially for youth and the long-term jobless, raising the risks of hysteresis. Despite recent improvements, the unemployment rate remains nearly 11 percent in the euro area and 25 percent in Greece (text charts). The share of long-term unemployed, defined as the proportion of unemployed for longer than 12 months among the total unemployed, continues to increase, raising the risks of skill erosion and entrenched high unemployment. High youth unemployment could also damage potential human capital, and give rise to a "lost generation." While weak demand plays a major role, more spending on active labor market policies would help increase employment opportunities, especially for the young (Banerji and others, 2014).

Unemployment Rate (Percent)

Unemployment and Long-term Unemployment Rate (Percent)
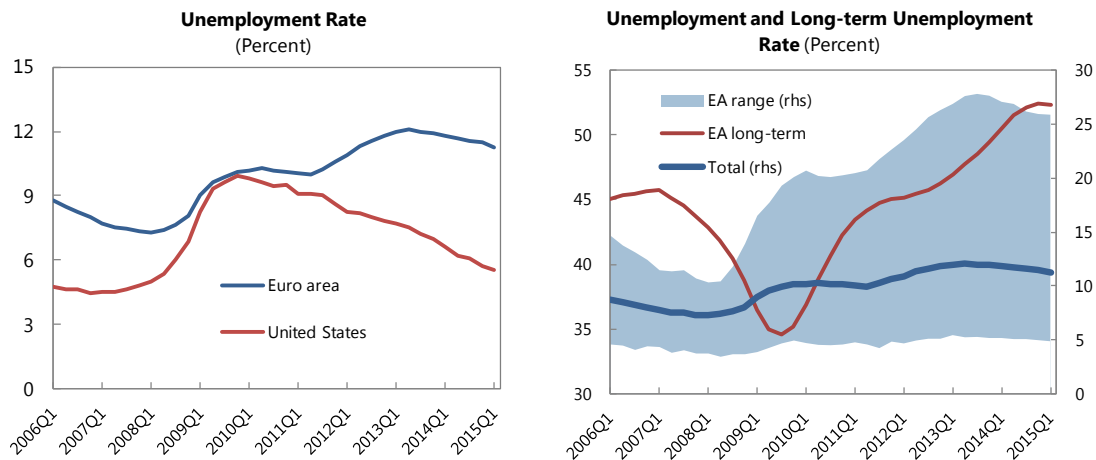
Sources: Eurostat; and IMF staff calculations.

High unemployment is likely to persist for some time. Looking at some key euro area countries, the natural rate of unemployment (non-accelerating inflation rate of unemployment or NAIRU) is projected to remain higher than during the crisis in Italy, and at the crisis level in France over the medium term (WEO database, April 2015). While the NAIRU is expected to decline significantly from unprecedented levels in Spain, it would still remain above 15 percent over the medium term. An illustrative scenario based on historical relationships between output and unemployment suggests that, without a significant pick-up in growth, it could take around 7 to 10 years for Italy and Spain to reduce the unemployment rate to pre-crisis levels.[8] Faster implementation of ongoing and other structural reforms could reduce that time significantly.

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[8] These estimates are sensitive to the forecast growth rates and the relationship between output and unemployment (the Okun's coefficient). For example, the Okun's coefficient, while stable over time for most

(continued…)

B. High (Private Sector) Debt[9]

In addition to high public sector debt in many euro area countries, which limited fiscal policy responses to negative shocks, countries also face the need for further deleveraging in private sector. Non-financial corporate debt-to-equity ratios have been falling in most euro area countries, supported by a continuous build-up in financial surpluses to pay down debt (text charts). Spain and Ireland stand out among the countries that have gone through a relatively strong reduction in non-financial corporate (NFC) debt-to-GDP ratios. In the case of Spain, the NFCs' debt reduction of nearly 20 percentage points from the peak has been driven mainly by declining corporate borrowing and debt repayment through asset sales (IMF, 2015b). The adjustment in net lending flows was accompanied by a fall in investment, a sharp increase in savings, and a significant reduction in employment (see chart; Murphy, 2014).[10] A recent study by the European Commission (Pontuch, 2014) also finds that the fall in corporate and household debt-to-GDP ratios has been increasingly driven by debt repayment with adverse knock-on effects on economic activity.
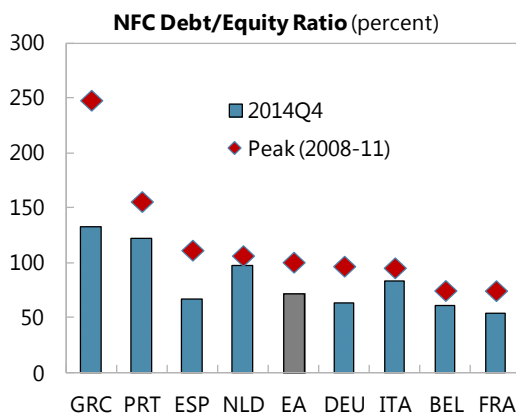
NFC Debt/Equity Ratio (percent)

Non-Financial Corporate and Household Financial Surplus (percent of GDP)

Sources: Haver Analytics; and IMF staff calculations.
Note: Non-consolidated; debt defined as loans and debt securities excluding financial derivatives.
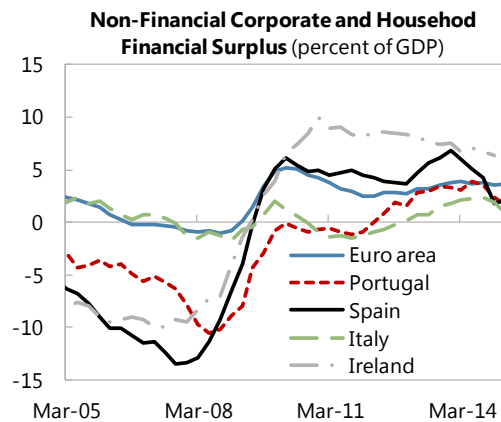
Sources: ECB; Eurostat; and IMF staff calculations.

The pressures for further corporate deleveraging will likely remain high in a number of countries. IMF research (Bornhorst and Ruiz-Arranz, 2013) finds that, based on past episodes of significant corporate deleveraging, two-thirds of the increase in debt on average is

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countries, was estimated to have been higher for Italy after 1995 (Ball and others, 2013). The WEO projections for the medium-term growth also may not fully incorporate the impact of recent structural reforms.

[9] See Bornhorst and Ruiz-Arranz (2013) for detailed discussion of policy options for dealing with high debt in the euro area.

[10] The deleveraging process of NFCs has been uneven within the economy. Debt reductions have been more intense in the construction/real estate sector than in other sectors, and by SMEs rather than by large firms. More generally, the decline in debt, investment, and employment has been appropriately more acute in those sectors that were more leveraged before the crisis (Mendez and Menendez, 2013).

subsequently reduced. If deleveraging in the euro area follows a similar path, it would imply still sizable deleveraging needs for firms in a number of countries, and a significant headwind for an investment recovery (text chart).[11] Barkbu and others (2015) find that in addition to weak demand, expectations of low future growth and continued deleveraging also reduced investment decline during the crisis. Looking forward, in countries where the recovery has been stronger (such as Spain), faster growth is expected to facilitate deleveraging more by increasing nominal output, and thereby reduce the burden on spending.
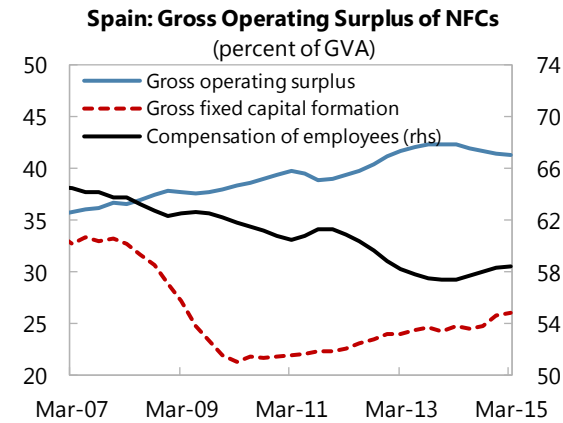
Spain: Gross Operating Surplus of NFCs
(percent of GVA)

Sources: Haver Analytics; and IMF staff calculations.
Note: Non-consolidated; debt defined as loans and debt securities excluding financial derivatives.

Non-Financial Corporate Deleveraging Episodes
(Corporate debt[1], percent of GDP)
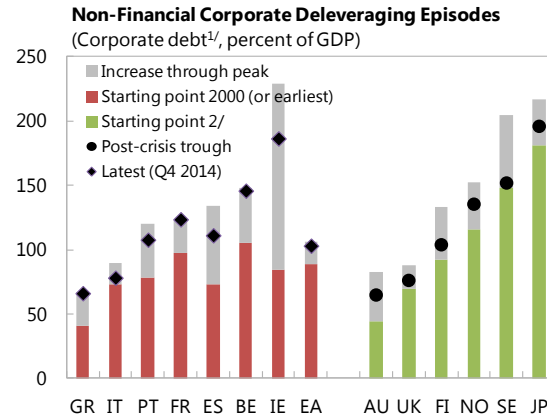
Sources: updated from Bornhorst and Ruiz-Arranz (2013).
[1] Non-consolidated; ESA2010 for euro area countries.
[2] Historic episodes: JP 89-97, UK 90-96, AU 88-96, FI 93-96, NO 00-05, SE 01-04.

Households in some countries also suffer from high debt, following a large housing boom-bust cycle. After five to seven years of adjustment, housing prices seem to be nearing a trough, similar to past episodes of house price declines (IMF, 2015c). However, domestic demand has been much weaker than in the past. This is due possibly to higher household debt both at the peak and a large increase in debt during the boom (IMF, 2015b). Although household debt-to-GDP ratios have come down by 10-20 percentage points in high debt countries, they remain significantly above their pre-boom levels, raising the risks that the debt overhang will continue to weign on spending for some time (text charts).

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[11] For instance, if the accumulated debt were to be fall by two-thirds, it would imply a further reduction of nine percentage points of GDP for the euro area as a whole.

Real House Price
(Index = 100 at real house price peak)

Real Credit by All Sectors to Households
(t = 0 at real house price peak; Percent of GDP)
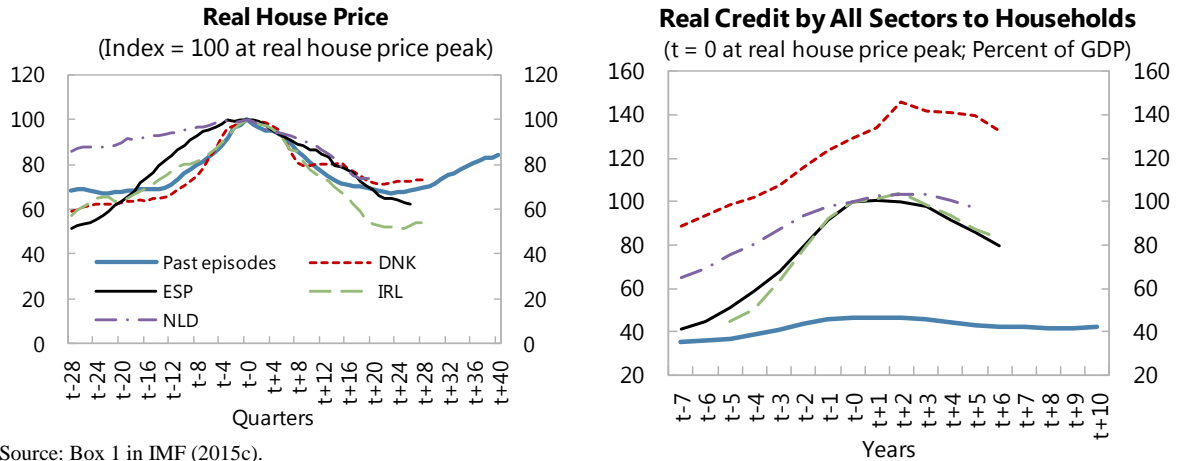
Source: Box 1 in IMF (2015c).

IV.   AN ILLUSTRATIVE DOWNSIDE SCENARIO[12]

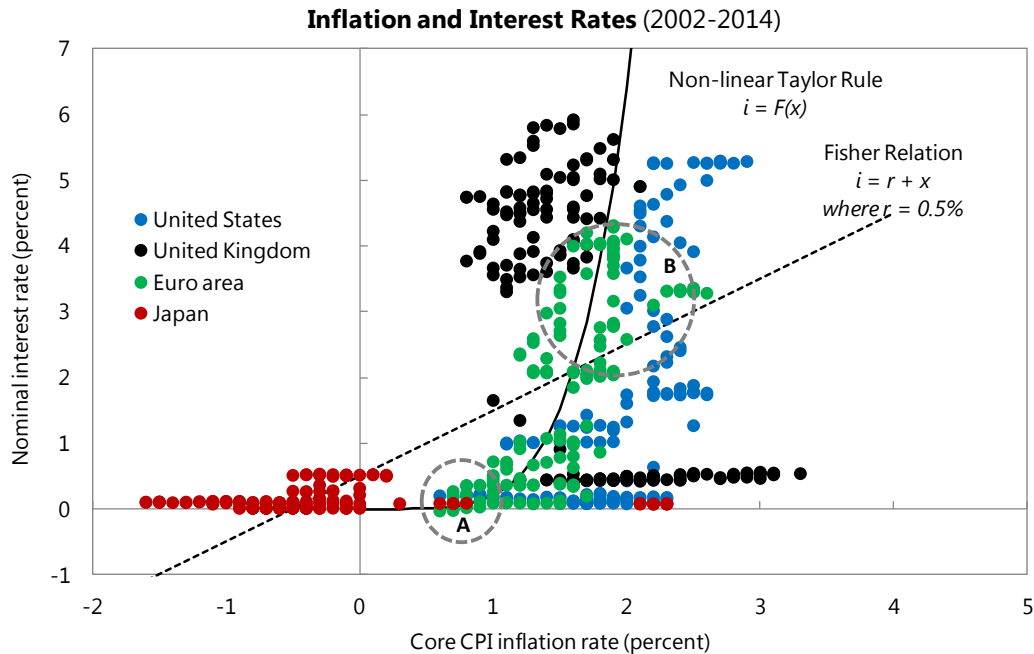Notwithstanding the cyclical upturn, the baseline projection is for subdued growth and inflation over the medium term. This baseline reflects the impact of long-standing structural weaknesses that lower potential growth, as well as high unemployment, heavy real debt burdens, and weak balance sheets that suppress demand. These factors are also intertwined: lower potential growth makes it harder to reduce debt, while high unemployment and low investment due to the debt overhang delay capital accumulation and lower potential growth.

Subdued medium-term prospect thus leaves the euro area susceptible to negative shocks, which combined with limited policy space (see below), could push the economy into stagnation. For instance, while the interest rate-inflation pairs (in the text chart on the next page) are expected to move gradually towards the equilibrium in circle B (where inflation is close to 2 percent) in the baseline, it would remain in circle A in face of negative shocks. In particular, shocks that dampen confidence about future prospects for a solid recovery could push the economy into a bad equilibrium of prolonged low growth and inflation. In such a situation, policy space in the euro area is limited. Although further unconventional monetary policy could be considered, the policy rate cannot be lowered further below zero. And while a few countries have some fiscal space, overall, scope for fiscal policy to provide stimulus to raise inflation rate is limited. This illustrative scenario assumes no further monetary or fiscal support, and without these tools, a negative shock could push the euro area into a self-reinforcing low growth-low inflation equilibrium (Bullard, 2013).

Unaddressed crisis legacies could amplify shocks through various channels. For instance, markets could take a disproportionately negative view of countries with higher debt, leading to greater increases in borrowing costs and raising the chance of a debt-deflation spiral. Low inflation could also hinder the unwinding of external imbalances in countries with a large

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[12] Simulations are provided by B. Hunt and S. Mursula (IMF).

output gap by making it harder for real prices and wages to fall or by forcing countries to adjust through painful cuts in nominal wages, prices and/or employment.

Inflation and Interest Rates (2002-2014)

Sources: Bloomberg; and Haver Analytics.
Note: Nominal interest rates are overnight EONIA for the euro area; the overnight call rate for Japan; federal funds rate for the United States; and SONIA for the United Kingdom.

To highlight some of these channels, two illustrative simulations are considered: (1) private investment shock; (2) private investment shock plus risk premium shock. In these scenarios, unconventional monetary policy is assumed to have reached its limit, that is, no more unconventional monetary action than is incorporated in the baseline. Instead, the policy responses rely only on conventional monetary policy and fiscal policy. However, due to the zero lower bound and limited fiscal space, monetary policy cannot be eased further in response to shocks and fiscal policy cannot provide stimulus beyond the operation of automatic stabilizers in the short run (and stabilizing debt-to-GDP ratio in the long run).[13] The simulations were conducted using the Flexible System of Global Models (FSGM) in coordination with the IMF's Research Department.[14] Simulation outcomes are measured against the April 2015 WEO baseline. In this baseline, growth is projected to rise from

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[13] If fiscal stance were allowed to respond beyond the role of automatic stabilizers in countries with low debt levels, the growth impact on these countries and the euro area aggregate would be smaller than presented in the text.

[14] FSGM comprises three core models (G20MOD, EUROMOD, and EMERGMOD), each of which captures the global economy. FSGM is semi-structural with a single good, but private consumption and investment are structural (micro-founded); trade, labor supply and inflation are reduced form representations; supply is determined by an aggregate Cobb-Douglas production function; and monetary and fiscal policies are endogenously set with simple rules (Andrle and others, 2015).

1.5 percent this year to 1.6 percent next year, and stay at this level throughout the medium term. Given the still large output gap (-2.3 percent of potential GDP), inflation is expected to remain low, close to zero this year, before rising to one percent next year and to 1.7 percent over the medium term. The output gap is expected to close around 2020.

Model simulations first consider a shock to real private sector investment. Such a shock could be triggered by a sudden drop in investor confidence (for instance, due to the intensification of geopolitical tensions, or lower expected future output) that reduces equity prices and private investment demand so that the euro area countries' investment growth is cut by one-fourth relative to baseline projections (text chart)—equivalent to a half-percentage-point reduction per year or three percent cumulatively over the medium term (about half of the decline in euro area business investment during 2007–14.)
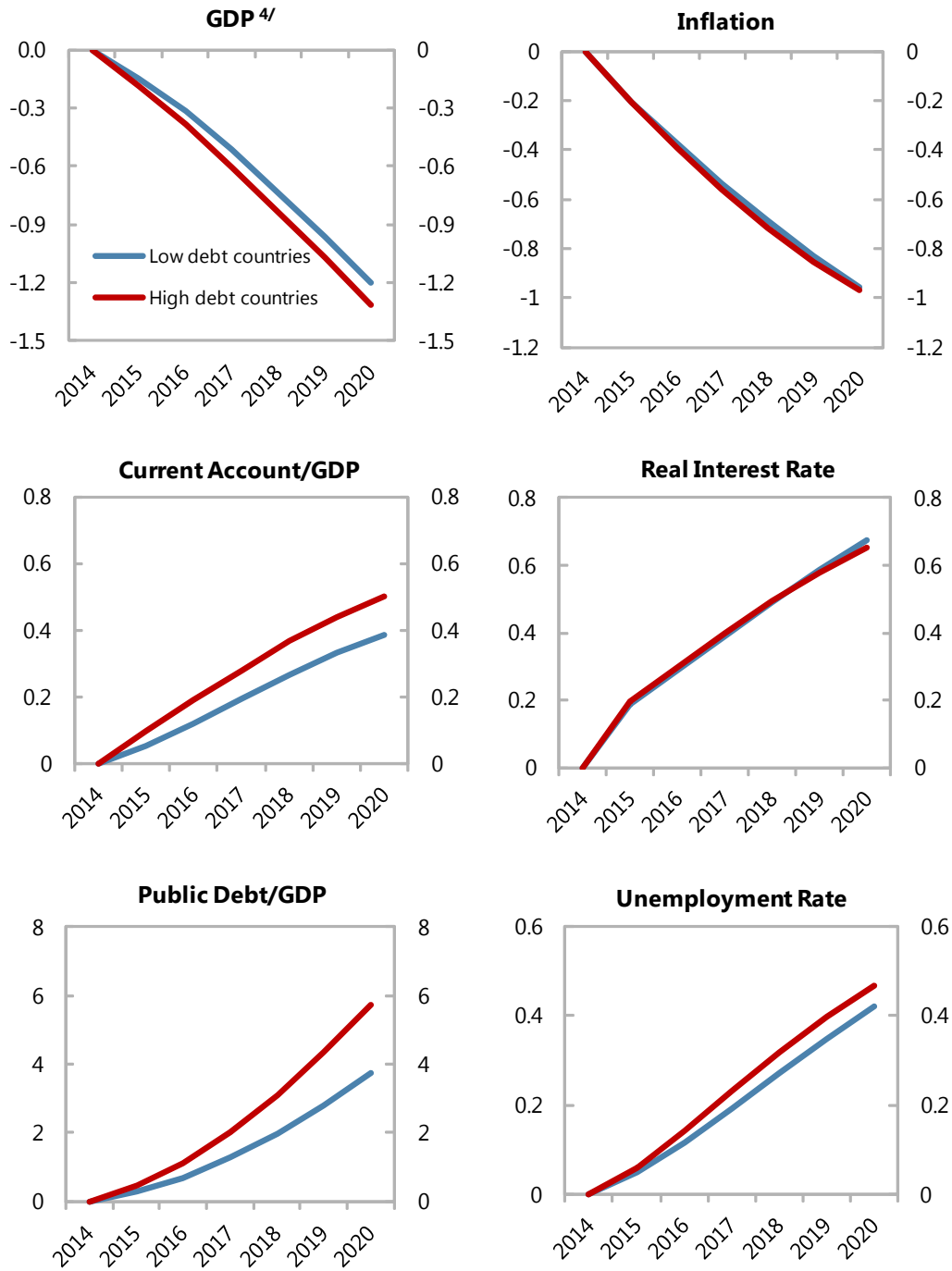
Euro Area Investment Growth
(percent change)
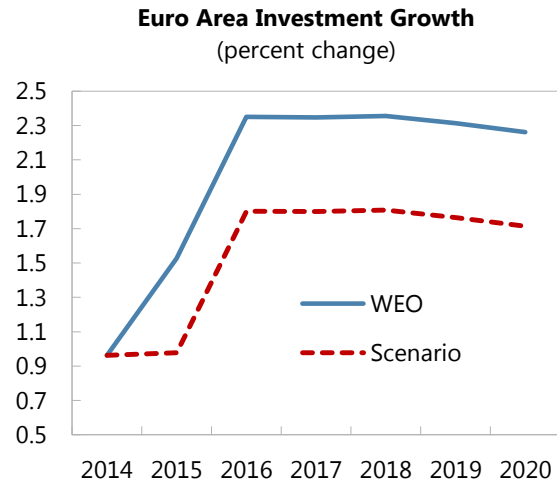
Sources: WEO; and IMF staff estimates.

The investment shock would lower output by around 1¼ percent below the baseline by 2020 (Figure 4)[15]. The declines in output are broadly similar across all euro area countries, except for Greece and Ireland where the drop in investment growth is significantly greater compared to the baseline. The impulse from lower investment growth to aggregate demand comes from the traditional knock-on effect to households via labor income and wealth effects. In response, inflation expectations and inflation fall, and financial conditions tighten, with real corporate interest rates higher by 65 basis points in 2020. In addition, weaker domestic demand depresses imports, while higher real interest rates lower competitiveness. On balance, the current account improves by 0.4 percentage points of GDP by 2020. The output gap would widen by nearly one percentage point, as potential growth is reduced only slightly due to slower investment growth and capital stock accumulation.

The public debt-to-GDP ratio would rise (by 4½ percentage points) reflecting larger overall deficits and lower nominal output (text chart). The increase varies across countries, with highly indebted countries seeing larger increases: Greece (+12 percentage points), Italy (+5½), Portugal (+5¾) and Spain (+5¼). The more the public debt ratio increases, the greater are market concerns about debt sustainability. The model thus adds a second shock at the same time as the private investment shock— an increase of 100 basis points in sovereign

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[15] The impact on real output per capita growth is the same because the simulations assume the same population growth as in the baseline.

Figure 4. Simulation Results: Investment Shock[1][2]

(deviation from baseline[3])

GDP [4/]

Inflation

- Low debt countries
- High debt countries

Current Account/GDP

Real Interest Rate

Public Debt/GDP

Unemployment Rate

Sources: and IMF staff estimates.

[1] Low debt countries: Austria, Belgium Finland, Germany, France, and Netherlands; High debt countries: Greece, Ireland, Italy, Portugal, and Spain.

[2] Investment shock: Private investment is cut by one-fourth of baseline average growth of total investment during 2015–19.
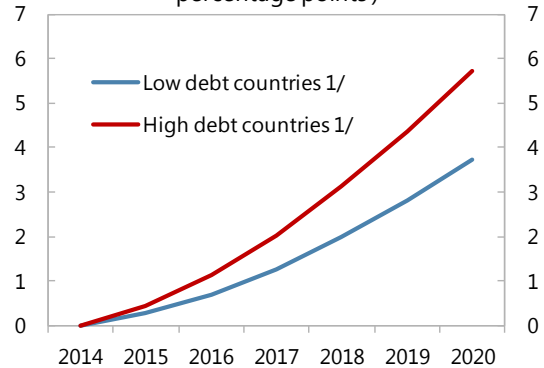
[3] In percentage points, unless noted otherwise.

[4] In percent.

and corporate risk premia to capture the impact of high levels of debt in Greece, Italy, Ireland, Portugal, and Spain. As a benchmark, this magnitude is similar to the increase in Spanish 10-year sovereign bond yields during late June-July of 2012.

With an additional risk premium shock, the output loss would increase to nearly two percent by 2020, compared to the baseline (Figure 5, Table 1, text chart). The output gap would widen by around 1¼ percentage points by 2020 and take an additional three to four years to close, compared to the baseline. With no policy response, negative shocks would push the euro area back into recession. Other results include:

Simulation Results: Public Debt/GDP
(deviation from April 2015 WEO, percentage points)

Low debt countries 1/
High debt countries 1/

Source: IMF staff estimates.
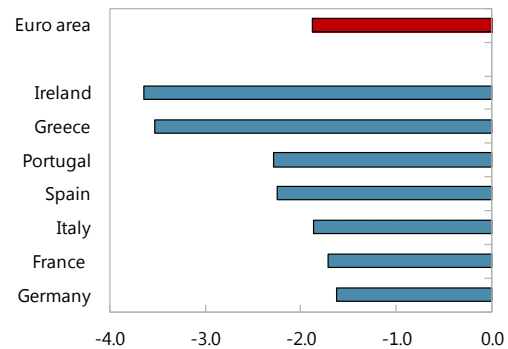1/ see definition in Figure 4 footnote 1.

- *Financial fragmentation.* While the risk premium in highly indebted countries is raised by 100 basis points by design with this shock, the real corporate interest rate would increase by 200 basis points in these countries, reflecting mainly lower inflation.

Simulation Results: Impact on GDP
(by 2020, deviation from baseline, percent)

Source: IMF staff estimates.

- *Unemployment.* The unemployment rate would be higher by 0.6–1.2 percentage points. This is likely a lower-bound estimate as the model does not fully incorporate nominal wage rigidities. Nominal wage inflation is expected to decline by around 1.5 percentage points for the euro area with some cross-country variations. If nominal wage rigidities are fully present, employment would have to adjust more in countries with modest baseline wage growth.

- *Public debt dynamics.* The public debt-to-GDP ratio would also rise more in these countries (Greece: +17 percentage points; Italy and Portugal: +9; Spain: +8), due to larger declines in the fiscal balance and nominal GDP, compared to an average increase of 5¼ percentage points in the core countries.

Both scenarios highlight the potential for moderate shocks to push the euro area into a bad low growth-inflation equilibrium. In addition to lower output, inflation would also fall close

Figure 5. Simulation Results: Investment and Risk Premium Shock[1][2]
(deviation from baseline[3])

GDP [4/]

Inflation

Current Account/GDP

Real Interest Rate

Public Debt/GDP

Unemployment Rate

— Low debt countries
— High debt countries
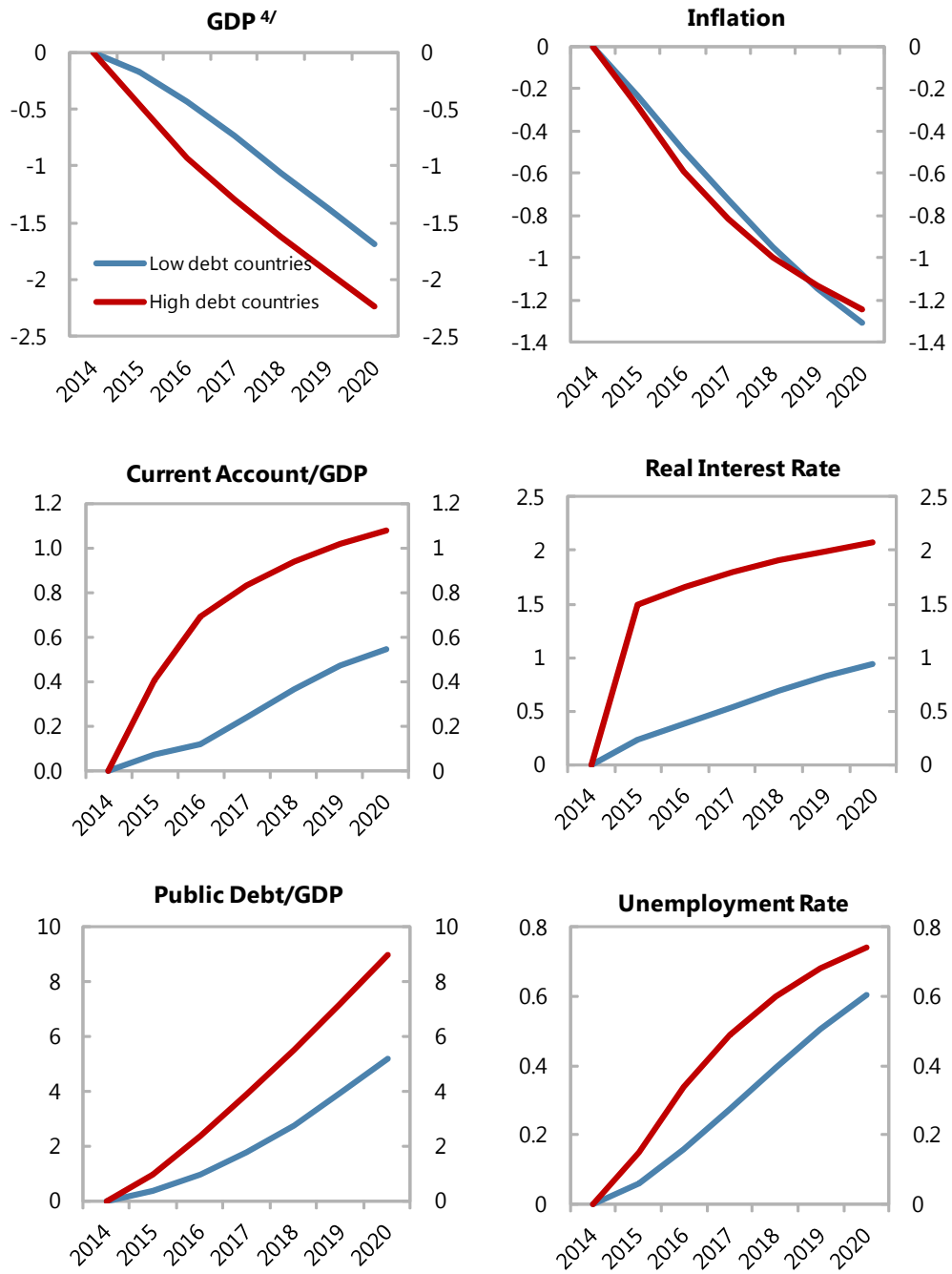
Sources: and IMF staff estimates.

[1] Core countries: Austria, Belgium Finland, Germany, France, and Netherlands; High debt countries: Greece, Ireland, Italy, Portugal, and Spain.

[2] Investment shock: Private investment is cut by one-fourth of baseline average growth of total investment during 2015–19; Risk premium shock: sovereign and corporate risk premium increases by 100 basis points in Greece, Ireland, Italy, Portugal and Spain.

[3] In percentage points, unless noted otherwise.

[4] In percent.

to zero through the medium term, as a result of the wider output gap. Low inflation could lead to unfavorable debt-deflation dynamics. While not fully captured by the scenarios in this paper, debt-deflation-like dynamics could occur in countries with high public or private debt levels. This would further depress demand because low inflation or deflation redistributes wealth from debtors to creditors, pushing down the economy-wide propensity to consume. It would also delay the much-needed recovery in business investment and capital stock accumulation. This in turn lowers potential growth, and would generate a feedback loop that lowers expected future growth (see, e.g., Barkbu and others, 2015; Kalemli-Ozcan and others, 2015).

Low inflation would also reverse rebalancing within the euro area. Model results suggest that current account balances would improve in response to these shocks, but the improvement would reflect mainly import compression. Moreover, low inflation for the euro area as a whole would require deflation for the countries that need to achieve relative price adjustment and redress their loss of competiveness against the surplus countries. Combined with downward nominal wage rigidities, this would imply more labor shedding, adding to an already severe high unemployment problem. Downward nominal wage rigidities and the feedback loop of low inflation are not directly built in the scenarios, suggesting the impact on output would likely be worse.

Table. Results from an Illustrative Downside Scenario[1]

Economy	Real GDP	Inflation[2]	Real Investment	Real Exports	Real Imports	Current Account[2]	Real Corporate Interest Rate[2]	Real Competitiveness Index[3]
Germany	-1.6	-1.3	-2.0	-2.3	-2.3	0.6	1.0	1.3
France	-1.7	-1.2	-6.6	-2.2	-3.2	0.6	0.9	1.0
Italy	-1.9	-1.2	-6.5	-1.9	-3.1	0.6	2.1	0.5
Spain	-2.2	-1.2	-8.7	-2.6	-4.0	1.0	2.1	1.0
Greece	-3.5	-1.2	-16.5	-1.8	-7.2	2.0	2.0	0.4
Ireland	-3.6	-1.5	-17.5	-4.9	-3.6	4.9	2.3	6.0
Portugal	-2.3	-1.2	-7.7	-2.6	-3.7	0.7	2.0	0.5
Euro area	-1.9	-1.3	-7.1	-2.3	-3.0	0.7	1.3	1.0

Sources: IMF staff estimates.
[1] Percent deviation from the April 2015 WEO baseline for 2020, unless noted otherwise.
[2] Percentage point deviation from the April 2015 WEO baseline for 2020.
[3] Measured by percent changes in REER relative to the April 2015 WEO baseline for 2020, where negative indicates real depreciation.
Note: This scenario contains two shocks. Investment shock: Private investment is cut by one-fourth of baseline average growth of total investment during 2015–19; Risk premium shock: sovereign and corporate risk premium increases by 100 basis points in Greece, Ireland, Italy, Portugal and Spain.

V. CONCLUDING REMARKS

The weak medium-term prospect and limited policy space leave the euro area vulnerable to shocks that could lead to a prolonged period of low growth and inflation. Model simulations suggest that a modest shock to investor confidence could push up risk premia and real interest rates, as policy space is constrained at the zero lower bound and fiscal policy space to

provide stimulus is limited. Moreover, the lingering crisis legacies of high debt and unemployment could amplify the original shocks, creating a bad feedback loop and keeping the economy stuck in an equilibrium of stagnation.

Insuring against the risks of stagnation would require addressing both longer-term structural issues and crisis legacies.[16] This suggests continued monetary accommodation to lift demand and inflation expectations, while strengthening bank and corporate balance sheets to enhance the effectiveness of monetary transmission, and making use of available fiscal space. To permanently raise productivity, reforms should aim to address structural gaps in labor, product, and capital markets. To mitigate the impact of aging, policies should look to raise labor participation.

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[16] See 2015 Article IV Euro Area Policies for detailed policy recommendations (IMF Country Report No. 15/204). https://www.imf.org/external/pubs/ft/scr/2015/cr15204.pdf.

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