Demographic Change and Migration in Europe

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Historical data and projections presented in this policy brief reveal that Europe faces serious challenges from a complex interplay between demographic change, migration, weak growth and productivity and unemployment.

For many countries, however, fears over demographic change and ageing may be overstated. For some, problems of unemployment and under-employment are a more significant challenge to living standards, well-being and social stability. In others, high levels of net inward migration mean that demographic pressures are postponed. Instead, these countries face problems of ensuring that housing, infrastructure and public services are sufficient to cope with rising populations.

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Introduction

In many European countries the working age population has peaked and is now falling. This presents challenges for policy-makers: how does a shrinking working-age population support a growing elderly population?

This problem is compounded in Europe by low growth and weak productivity. This deepens the challenge faced by policy-makers. A rise in the ratio of elderly dependents to those in productive employment requires rising labour productivity in order to prevent declines in per-capita income.

The ageing of society cannot be prevented - but it can be postponed by the arrival of younger people from other parts of the world. This is the currently the case in the European Union: richer nations are experiencing an influx of younger people from poorer parts of Europe and from countries outside Europe.

Until recently, much of this migration was driven mainly by differences in prospects for work and income: migrants came to the richer nations of Europe looking for work. In recent years, migrant numbers have grown enormously as a result of refugees joining the flow of economic migrants. The on-going conflicts in the Middle East have led to enormous numbers of refugees entering Europe. This has resulted in an unprecedented humanitarian disaster and is putting strain on governments across Europe as nations attempt to cope with the inflow.

Historical data analysis suggests that while demographic pressures due to ageing appear significant, for much of Europe unemployment is a more pressing issue.

Possible future trends are analysed on the basis of projections of projections produced using the Cambridge Alphametrics Model (CAM). This allows for a combined analysis of growth, productivity, employment, demographics and migration.

Historical trends in demographics and dependency

The age structure of the population in any given country is determined by fertility and mortality rates and by net migration. In most European countries, fertility rates are now below replacement levels, mean that working age populations would fall in the absence of migration. At the same time, increasing life expectancies mean that number of persons above the retirement age increases.

The demographic structure of European nations is shown in Figures 1 and 2. Figure 1 shows the total populations of ten major European nations, disaggregated by age group. Age groups shown are the under-15s, the working age population of 15-64, and the elderly population of 65 and over. In nearly all cases, the number of children has been declining as the number of elderly persons increases. Since most economic migrants tend to be of working age, the number of working age persons in each country is determined both by demographic trends and by migration flows. For instance, the effect of significant inward migration into Ireland and Spain during the 2000s is clearly visible, as is the effect of outward migration from Romania.

A standard way to summarise the effects of demographic change is to calculate the 'dependency ratio'. This is the ratio of elderly people and children to the working-age population. Since children and the elderly are assumed not to be working, they are dependent for their consumption needs on the output produced by the working-age population. Figure 2 shows the dependency ratio for the same ten European nations as in Figure 1.

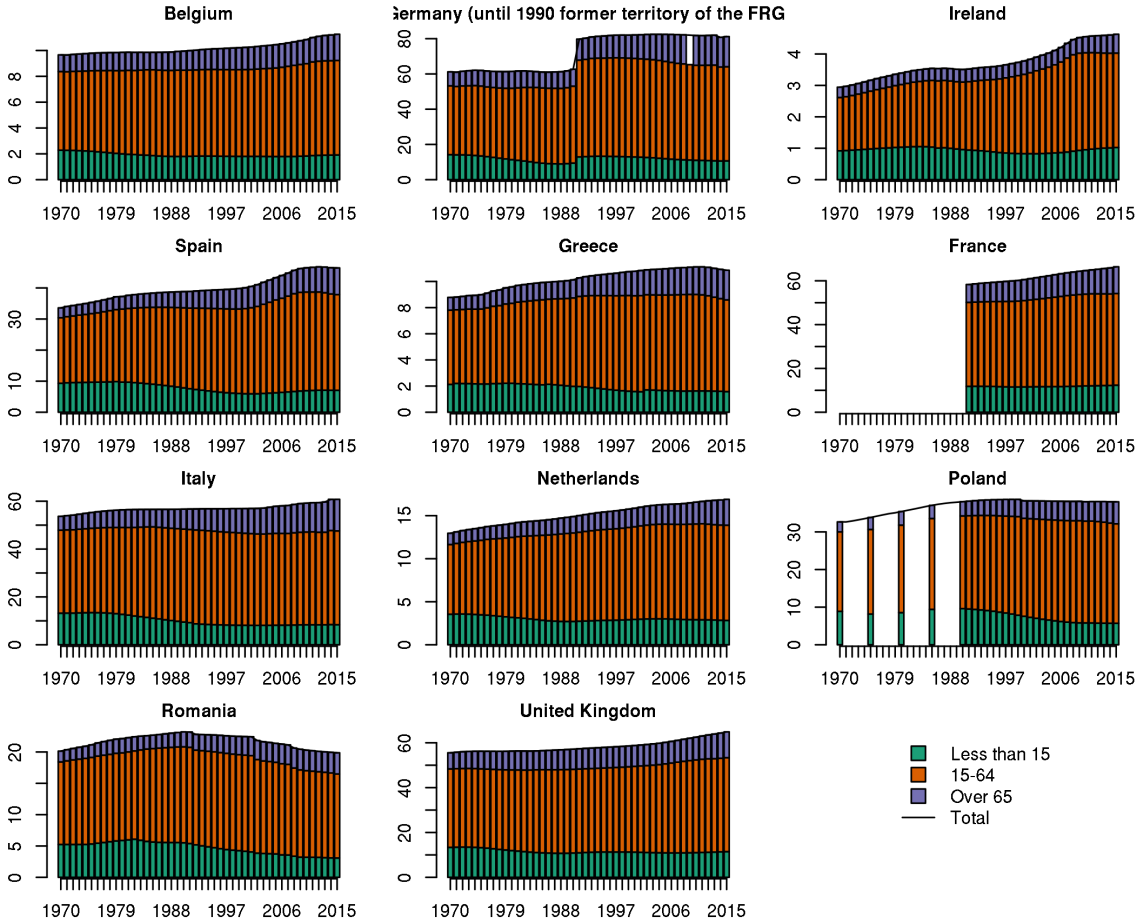

Figure 1 Total population by age, millions of persons

In all cases, the dependency ratio is rising over at least the last decade or so. The factors underlying these changes vary across countries, however. In most countries the dependency ratio falls steadily from the 1970s, as the children of the post-war 'baby boom' grow up. The northern continental European countries reach an inflection point in the late 1980s, as falls in the working age population and increases in the number of elderly outweighed the falling number of children. In Spain and Ireland, the inflection point was delayed both by the larger proportion of children in the population and by high levels of inward migration. In the aftermath of the crisis, these migration flows went into reverse as large numbers of working-age people left in search for work elsewhere. The dependency ratio in these countries, alongside Greece, increased sharply as the large numbers of the working-age population left.

There are a number of shortcomings with this measure of dependency. The elderly may be more costly to maintain than the child population, because of the costs of treatment for sickness and because the elderly are increasingly entitled to higher incomes as a proportion of workers' incomes. Wealth is increasingly concentrated among older people and state pensions have outpaced the growth (or declines) in the incomes of the working-age population. For example, in the UK, state pensions have been exempted from the programme of cuts to government programmes enacted in the aftermath of the 2008 crisis.

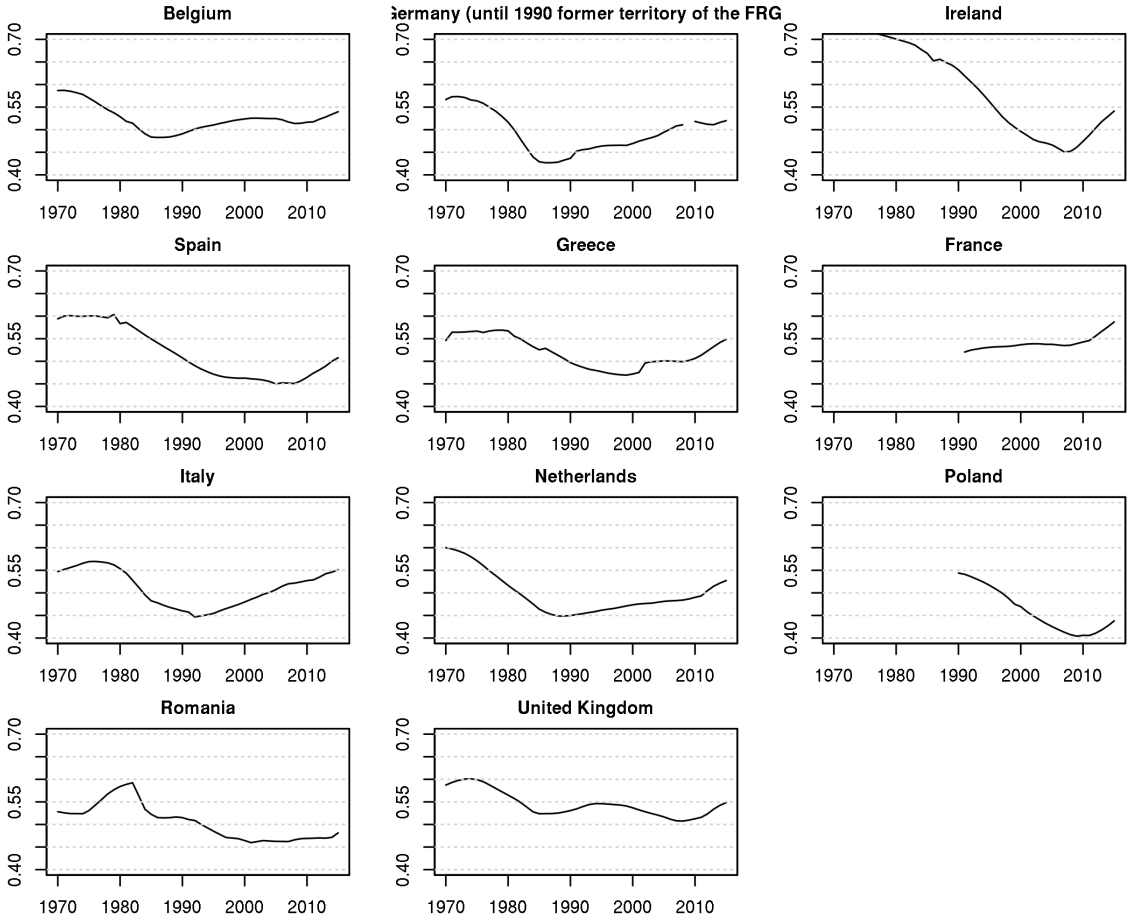

Figure 2 Demographic dependency ratio

Another problem is that the people are retiring later and working more, post retirement, meaning that the definition of 'working age population' is shifting over time. Greater numbers of people are working in later life is as a result of a number of factors including rising life expectancy, increases in state pension ages and skills mismatches which lead employers to rely on older employees at the expense of younger workers.

The most significant shortcoming of this measure of dependency is that it fails to account for the unemployed, those in education and other non-working people of working age such as the sick. In the standard measure, these individuals are assumed to be 'productive', despite the fact that these individuals are dependent for their consumption needs on those in employment.[1] In populations with high levels of unemployment or inactivity, a pure demographic dependency ratio is misleading.

An alternative measure considers the dependent population to also include those of working age who are not in work. Thus those in education or training, the unemployed, inactive 'discouraged' persons and those who are sick are all added to the traditional demographic measure. This measure, of the non-employed population to the employed is sometimes referred to as the 'economic dependency ratio'. The evolution of this ratio for ten European nations is shown in Figure 3. (This is

[1] A deeper critique could be made: many people of both working age and in retirement who are not officially employed may be involved in productive labour as in, for example, care for children and the elderly.

calculated for a shorter period than previous figures due to data availability). Also shown, for the sake of comparison, is the traditional demographic dependency ratio. The economic dependency ratio is at least twice the demographic dependency ratio in all cases. It shows much greater variation both across countries and over time within countries. In particular, it captures changes due to shifts in the level of employment.

In many cases this measure moves in the opposite direction to the demographic dependency ratio. For example, the demographic dependency ratio has been rising steadily in Germany, due to an ageing population, since the middle of 1980s – yet the economic dependency ratio has fallen steadily over the period, due to rising labour force participation and employment. Variation in the economic dependency ratio across countries is significant, with the lowest ratios or around 1.0, seen in the Netherlands, Germany and the UK. This reflects high levels of labour force participation, particularly among females, in these countries. The highest dependency ratio, of around 2.0 is seen in Greece, while the ratio is also high, at around 1.5, in Spain and Italy – these are the countries with the highest rates of employment as a proportion of the working age population.

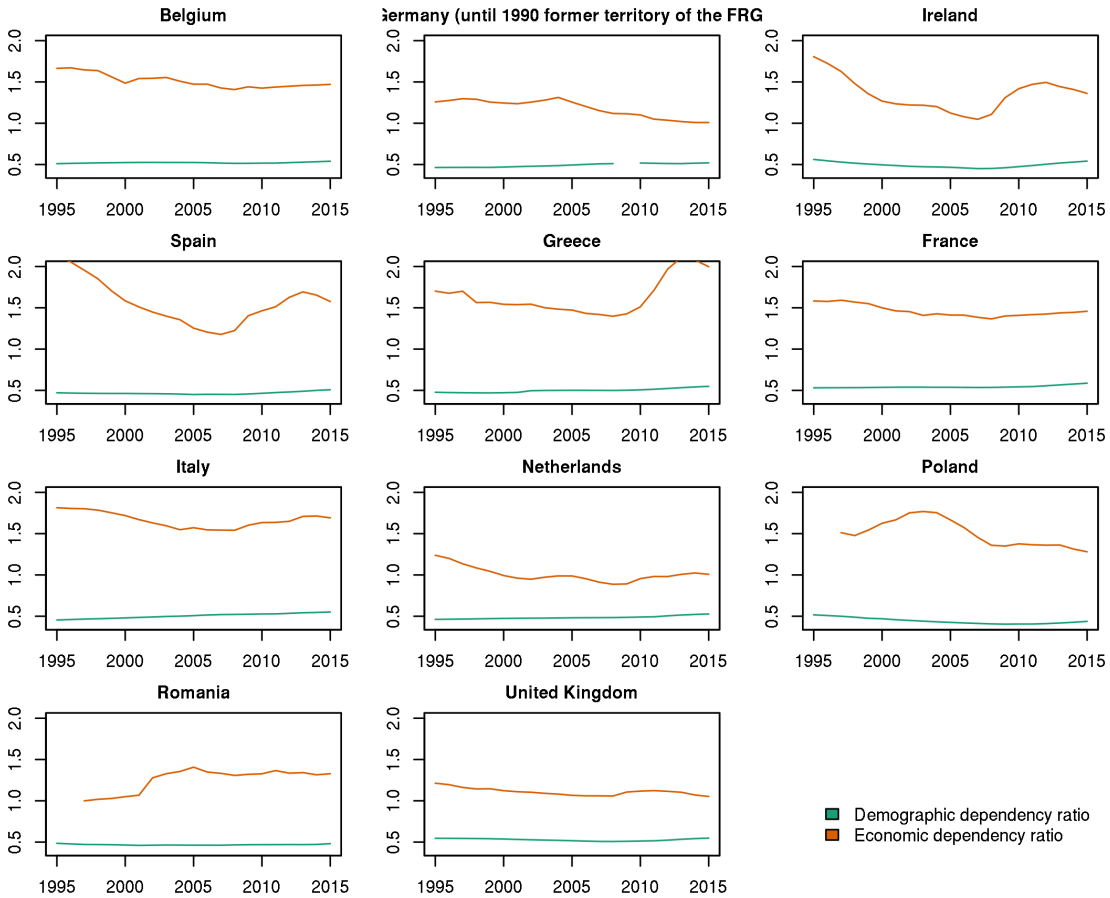

Figure 3 Demographic dependency ratio and economic dependency ratio

Youth Employment

Analysis of the effects of demographics and ageing, cannot therefore take place in isolation of analysis of the labour market and employment. Many countries in Europe have high rates of unemployment. In particular, youth unemployment is a chronic problem in some countries.

The situation varies significantly across the continent. Figure 4 shows youth unemployment figures for European countries. Only Germany, the Netherlands and the United Kingdom have been able to maintain youth unemployment rates below 20 per cent. France and Belgium have seen fairly constant but high rates of unemployment of around 20 per cent. Italy, Spain and Greece have historically suffered from high rates of youth unemployment and were hit hard by the crisis, with very sharp rises in youth unemployment and little recovery as yet.

One problem with unemployment rates is that they are affected not only by the number of people employed but also by the level of activity, which varies significantly across countries and over time. When considering economic dependency rates, employment as a share of the relevant population provides additional insight. Reasons for young people to be economically inactive vary across countries, particularly as a result of different levels of educational enrolment, or institutional arrangements – for example, the German system of apprenticeship. In some cases, however, the decision to enter into education may be driven by the lack of available jobs.

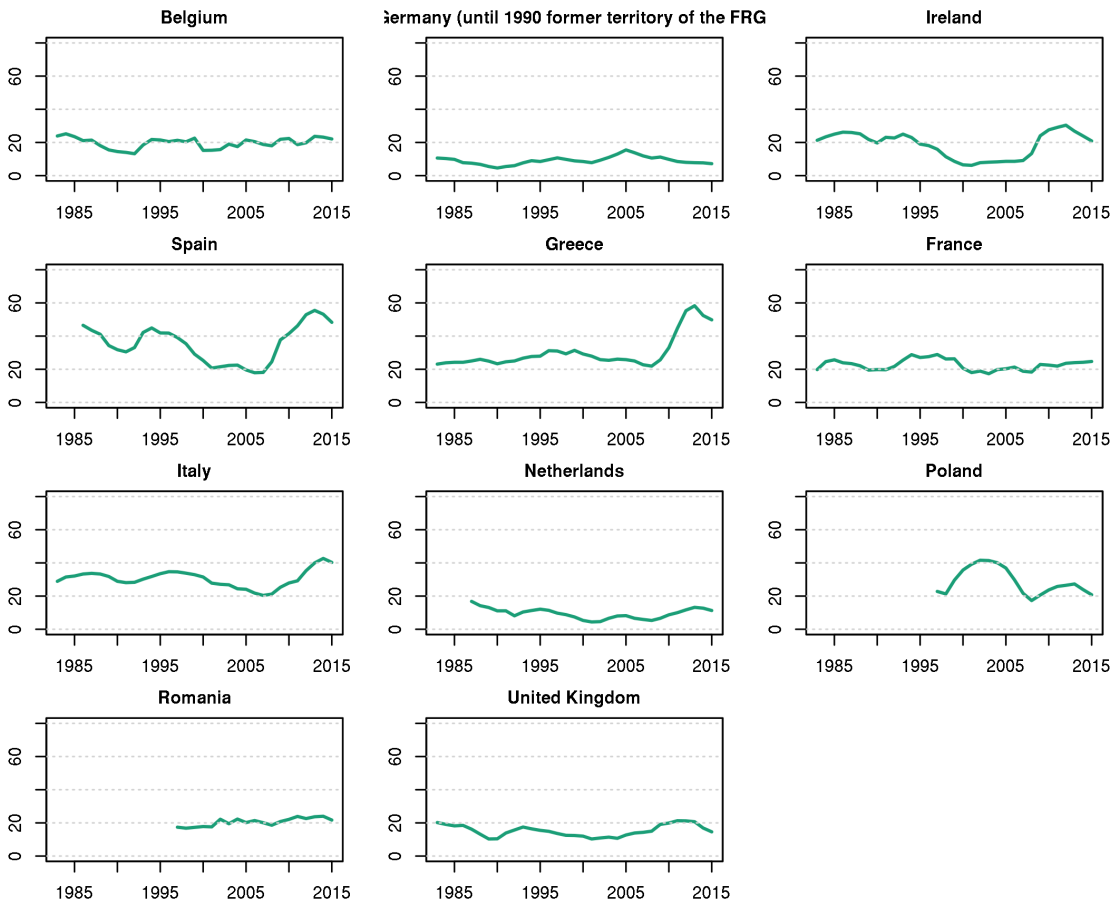

Figure 4 Youth unemployment rate, %

Figure 5 shows rates of youth employment as a share of the young population. These have been declining in many countries, as a consequence of increased enrolment in education. Differences

across countries are substantial, however. The Netherlands has achieved youth employment rates of 70 per cent, while the UK and Germany have also historically had rates of around 55 per cent and 45 per cent respectively. Rates have been lower in France, Belgium and Italy. Spain and Ireland saw big increases in youth employment during the eurozone boom period but these were wiped out by the crisis. In Italy, Spain and Greece, youth employment is currently under 20%, meaning that over 80% of 15--25 year olds are economically 'dependent'.

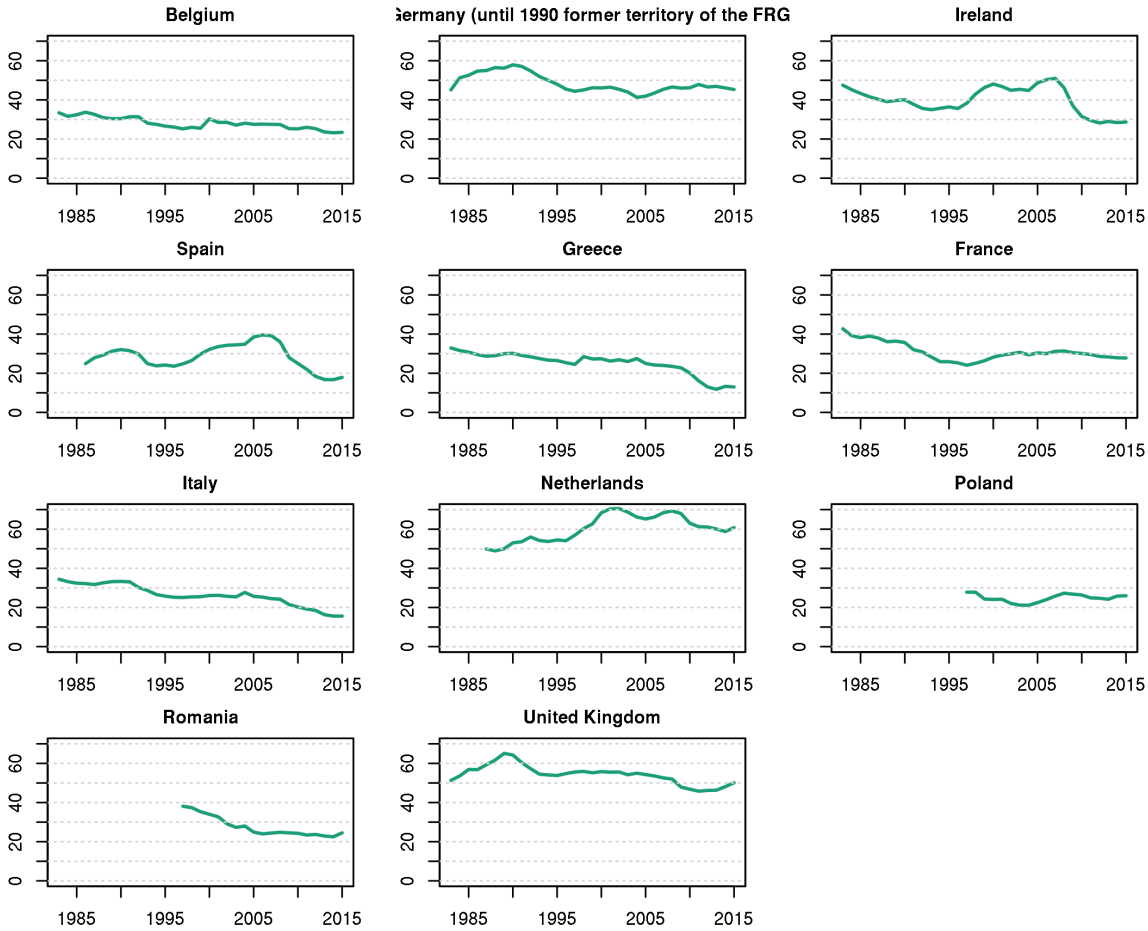

Figure 4 Youth employment, % of youth population (15-24)

Migration

Recent decades have seen large-scale migration in Europe. As new members have joined the European Union, working-age people from these countries have travelled to richer EU countries in search of work. At the same time, there have been significant flows of migrants from other parts of the world into the EU. In recent years, migration into the EU has increased sharply as huge numbers of refugees fleeing war and persecution arrive in Europe seeking asylum.

As a result of economic immigration from Eastern Europe and the peripheral Eurozone, and refugee flows from the Middle East and North Africa, inward migration to some countries in Western and Northern Europe is at historically high levels. While inward migration flows are at record levels in countries such as Germany, this is not the case everywhere. Countries in the periphery of the eurozone saw sharp turnarounds in migration as a result of the eurozone crisis: these countries had

seen high inward migration during the boom years of the euro but when the crisis hit, unemployment soared and migration flows turned negative as people left looking for work

The accession of Eastern European nations such as Poland and Romania to the European Union opened up the borders for the populations of these nations. In much of Eastern Europe the population is now contracting at a rate unprecedented outside of wartime as a result of the combined effects of demographic change and high outward migration.

Immigration statistics are difficult to interpret and compare. One problem is that the definition of migration varies across countries. One reason is that countries use different 'duration of stay' criteria to identify migrants. For example, Poland uses a permanent duration criteria while Germany classifies all inflows as migration. This leads to very different reported figures for migration flows from Poland to Germany: in 2006 Poland reported emigration to Germany of around 15,000 persons, while Germany in contrast reported immigration from Poland of over 160,000 persons.

Eurostat has recently begun producing migration statistics using harmonised reporting measures across countries. These can be used to calculate net migration numbers for each country. These figures are shown in Figure 5 alongside a cruder measure of net migration obtained by calculating the difference between the change in total population and the 'natural' change in the population. The 'natural rate' of population growth is that calculated as the difference between births and deaths of the current population. The difference between this value and the actual rate of population change thus provides a crude measure of net migration.

The two measures are close in many countries, but there is significant discrepancy in Italy, the Netherlands and the UK. The harmonised measure of net migration in Poland suggests much greater levels of outward migration than the crude population measure.

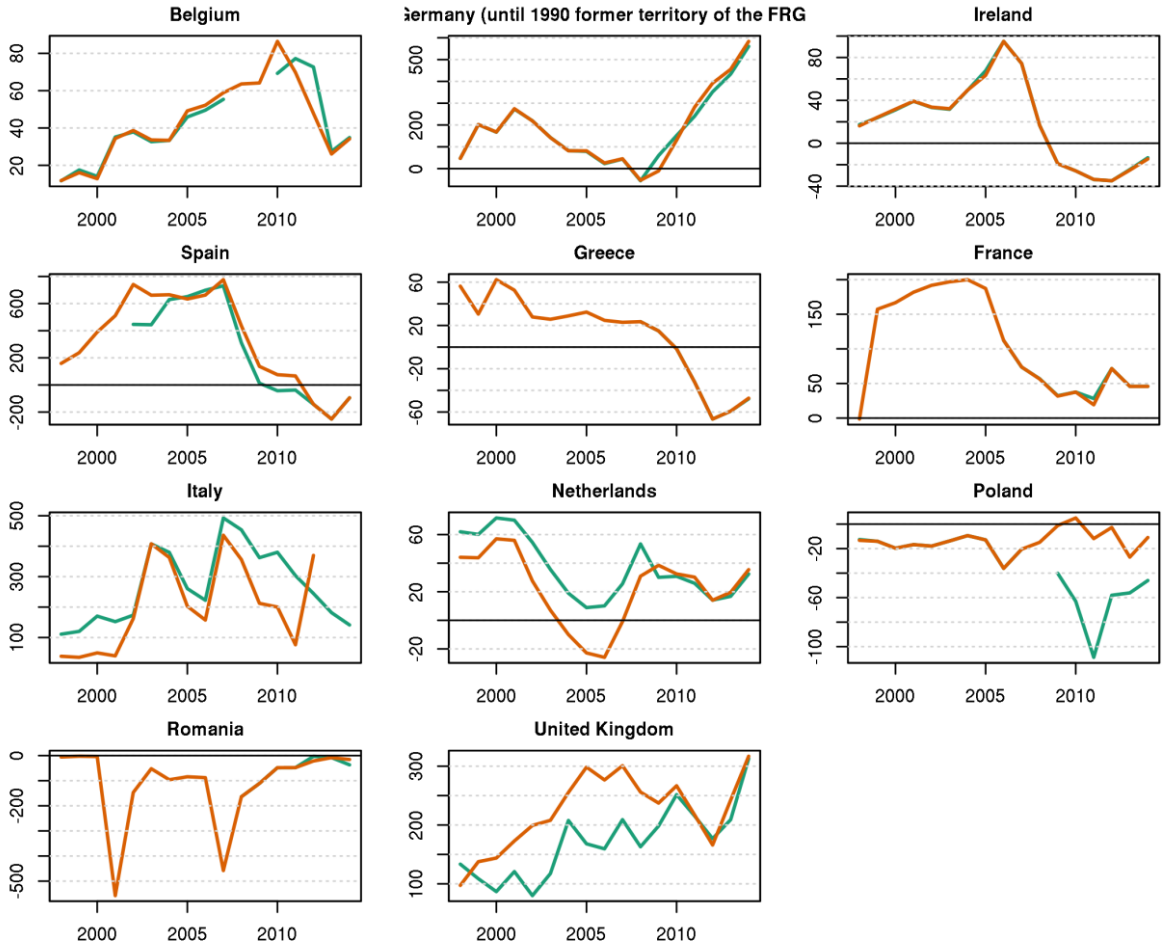

Figure 5 Net migration, thousands of persons (scales differ)

Despite these discrepancies, three broad patterns can be distinguished. First, the UK and Northern European states have seen continuous net inflows. In France and Belgium, these flows have recently slowed, while net migration in Germany and UK has increased. In 2014, net migration into Germany was almost 600,000 persons and in the UK it exceeded 300,000 persons. Secondly, Spain, Ireland and Greece and Italy saw high inward migration during the euro boom but in the wake of the crisis, these flows subsided and, with the exception Italy, became net outflows as unemployment rose and people left looking for jobs. Finally, poorer countries which have recently joined the European Union, such as Poland and Romania have seen continuous outward migration.

Projections

The remainder of this policy brief analyses the possible future evolution of these trends. Macroeconomic projections generated by the CAM global macro model are used to illustrate possible outcomes for growth, employment, productivity and demographics.

In order to produce simulations, European countries - and the rest of the world - are combined into regional blocs. The simulations produced for the current exercise use a bloc structure in which Europe is divided into ten blocs. This Policy Brief will focus on six of these. Four are the four largest individual countries, Germany, the UK, France and Italy. The other two blocs are, first, the countries of the 'Core Eurozone': Belgium, Austria, Luxemburg, The Netherlands (Switzerland is also included in this bloc, despite not being part of the Eurozone, because of its geographical position). Second, projections are presented for the 'Eurozone Periphery', which includes Greece, Portugal, Spain, Ireland, Cyprus and other small Southern European Eurozone countries such as Malta.

The databank which forms the basis for the CAM model is constructed by combining data from a number of official sources, including the World Bank, the United Nations and the International Labour organisation. Population figures, net migration figures and projections of 'natural' population growth are taken from the United Nations Population Division. Since European migration has been extremely high in recent years – in large part because of the refugee crisis but also due to higher than predicted internal migration – the UN figures on net migration are substantially lower than those published by Eurostat. For this reason, Eurostat figures have been used in place of UN data where substantial deviation between the two occurs. The official net migration statistics have been used wherever possible, but in cases where data were not available, 'crude net migration' figures were used.

The most recent available Eurostat net migration figures are for 2014. Lack of official data for 2015 requires the model to be calibrated to produce figures for 2015 and 2016 which are compatible with preliminary estimates of migration flows. Table 1 summarises the figures generated for these two years.

Table 1 Estimated net migration, 2015 and 2016

	Germany	France	UK	Italy	Core Eurozone	Peripheral Eurozone
2015	971.3	122.6	330.0	118.7	269.2	-50.8
2016	1010.1	134.7	286.8	108.1	270.9	72.3

The CAM produces projections of net migration based on an econometric model. The behavioural specification is such that migration is driven by differences in per-capita GDP and employment opportunities, as well as past trends. Since migration also affects population, GDP and employment, there are feedback effects between macroeconomic trends and migration flows.

Given this underlying structure, the model can be calibrated to produce simulations under different assumptions about the strength of migration flows. For the current modelling exercise, the model is calibrated to produce relatively strong migration flows - recent high levels of net migration are projected to persist over the next decade or so, albeit at levels somewhat reduced from those seen in most recent years. This allows us to consider the required growth in output and productivity in order that these flows can be successfully absorbed into the host countries.

GDP growth

The policy scenario examined in this Policy Brief is one of 'business as usual' in terms of European macro policy. It is assumed that European policy makers continue to eschew expansionary fiscal policies and that private business investment remains relatively weak. As a result, the projections examine a situation in which growth remains subdued for the next 15 years. The growth rates projected under such as scenario are shown in Figure 6.

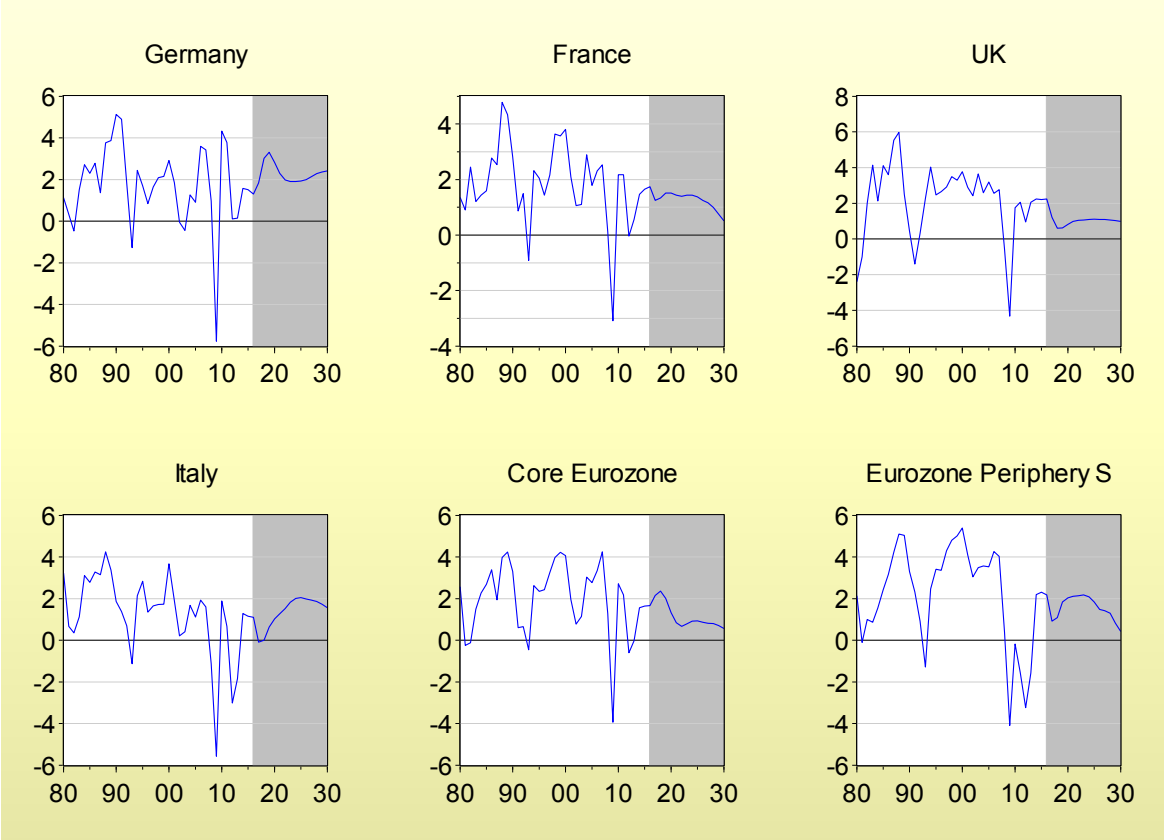

Figure 6 GDP growth, %, projections from 2016

Growth rates are projected to be between one and two per cent for most blocs, with higher growth projected in Germany and slightly lower growth in the core eurozone countries. In Germany, the projection represents optimism that the Germany economy is able to quickly absorb into employment the very large net current and projected migration inflows. It should be emphasised that these are not intended to be concrete predictions, or even 'best guess' probabilistic projections. Instead, the projections simply illustrate one possible outcome among many.

It might be objected that these projections are too pessimistic. This is certainly possible – if growth turns out to be higher than shown in these projections, the constraint faced in the trade-offs described in the following section will be correspondingly looser. On the other hand, these projections may be too optimistic. All countries are projected to grow, albeit slowly, for the next fifteen years without a recession occurring anywhere. In particular, no attempt is made to model the possible effect of British exit from the European Union – such an event is too uncertain to model with any degree of precision.

Net Migration

Predicting migration is notoriously difficult. Instability in migration flows is the main source of inaccuracy in population projections: fertility and mortality rates are reasonably stable, but migration tends to be highly unstable and unpredictable.

Net migration projections generated using the CAM model under a reasonable 'high migration' calibration are shown in Figure 7. Again, it should be emphasised that this is not intended as a concrete prediction of migration flows – it is again intended as one possible (and plausible) scenario. As described already, data are taken from the UN population division and Eurostat up to 2014. The figures for 2015 are estimates. Given the scale of the refugee crisis in Europe, these estimates have a large potential margin of error. The figures from 2016 onwards are produced by model simulation.

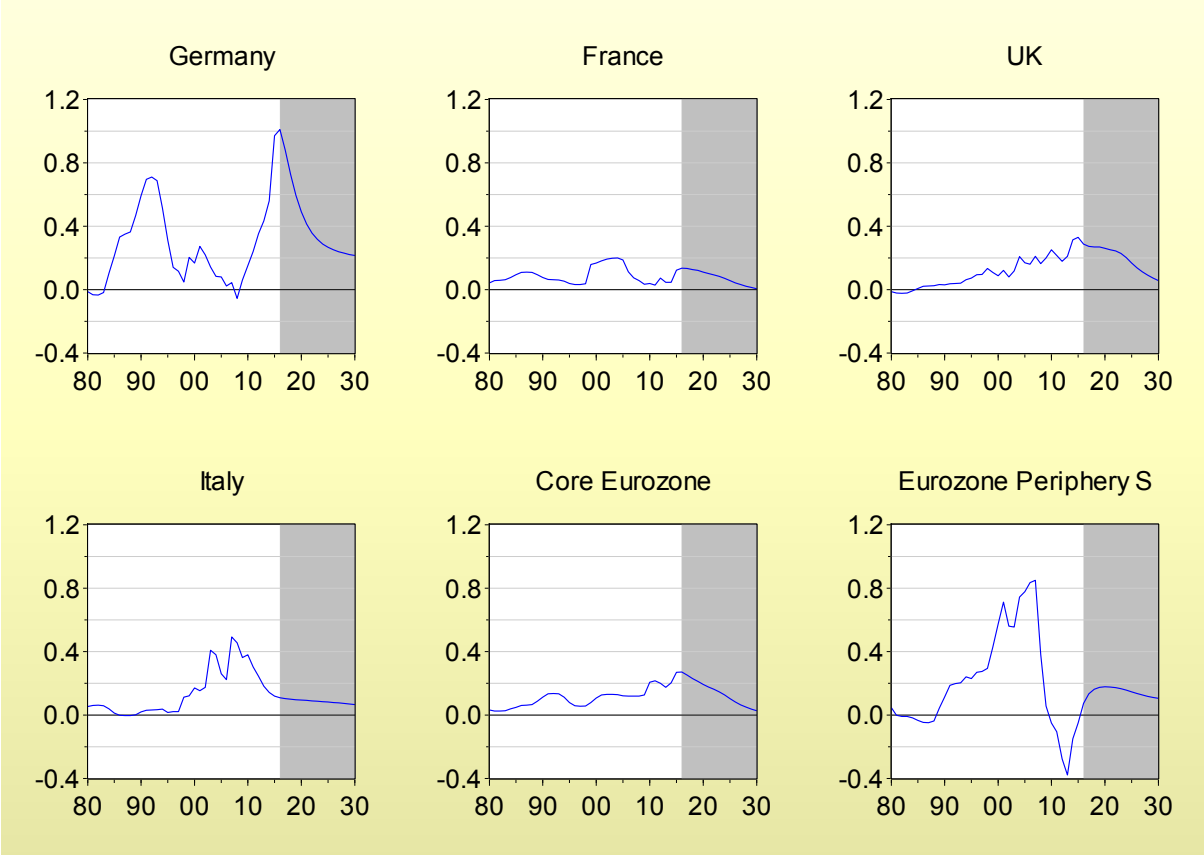

Figure 7 Net migration, millions of persons, projections from 2015

The projections show the level of net migration in all blocs except the Eurozone periphery falling from 2015 onwards. In the case of the Eurozone periphery, net migration is projected to return to positive levels after becoming negative in the aftermath of the crisis. In this bloc, it is projected to reach levels of around 180,000 persons per annum in 2020 before falling again to a level of around 100,000 by 2030. In Germany, net migration is projected to fall from a level of around a million persons per year in 2015 and 2016. Net migration into Germany is seen as remaining high: by 2019 net migration is projected to have fallen but to still be running at 2014 levels of around 500,000

persons per year. The Core Eurozone, like Germany, is expected to see a sharp rise in migration in 2015 and 2016 to around 270,000 persons as a result of the refugee crisis. Numbers are then projected to fall. In the UK, net migration reached around 330,000 persons in 2016. It is projected to fall to around levels of around 250,000 by 2020 then fall more rapidly to around 50,000 by 2030.

Table 2 shows these migration flows calculated as net migration per 1000 persons of the current population.

Table 2 Net migration per 1000 persons, estimates/projections from 2015 onwards.

	Germany	France	UK	Italy	Core Eurozone	Peripheral Eurozone
2013	5.4	0.7	3.3	3.0	3.5	-5.0
2014	7.0	0.7	4.8	2.4	4.0	-2.0
2015	11.9	1.8	5.1	2.0	5.3	-0.7
2016	12.3	2.0	4.4	1.8	5.2	1.0
2017	10.6	2.0	4.1	1.7	4.8	1.8
2018	8.7	1.9	4.0	1.6	4.4	2.1
2019	7.1	1.8	4.0	1.6	4.0	2.3
2020	5.8	1.6	3.8	1.6	3.6	2.3
2021	4.9	1.5	3.7	1.5	3.3	2.3
2022	4.2	1.3	3.6	1.5	3.0	2.3
2023	3.7	1.2	3.3	1.4	2.7	2.2
2024	3.4	1.0	2.9	1.4	2.3	2.1
2025	3.2	0.8	2.4	1.4	1.9	1.9
2026	3.0	0.6	2.0	1.3	1.5	1.8
2027	2.8	0.4	1.6	1.3	1.2	1.7
2028	2.7	0.3	1.3	1.2	0.9	1.5
2029	2.6	0.2	1.0	1.2	0.7	1.5
2030	2.6	0.1	0.8	1.1	0.5	1.4

By far the largest inflow of migrants relative to the current population is currently taking place in Germany. While it is impossible to be sure on the numbers, it assumed that around a million net migrants will arrive in Germany in 2015 and 2016, meaning that around 12 migrants will arrive for every 1000 persons in the country. While these numbers are high, it is quite possible that they are underestimates. As flows are projected to subside, net migration is projected to fall to under 5 per 1000 persons after 2020 – still a high ratio by historical standards.

The UK and Core Eurozone bloc have the next highest rates of proportional net migration. These are currently around 5 persons per 1000. This number is projected to fall to around 3.5 per 1000 by 2020 and to be below 1 by 2030. Italy and France have lower current proportional net migration at around 2 migrants per current 1000 inhabitants. These rates are projected to decline throughout the simulation period.

Working-age population projections

Figure 8 shows how these levels of net migration and 'natural rates' of population growth combine to generate projections of the working age population. In Germany, the decline in the working age population was reversed from 2010 onwards, by which point it had fallen to around 53 million persons. As a result of inward migration, the working age population is projected to then rise again to around 55.5 million persons in 2020 before falling again. In France, the UK and the Core Eurozone, net migration is projected to postpone the peak working age population until around 2025. In Italy and the Peripheral Eurozone, the working age population is projected to fall continuously, despite inward migration.

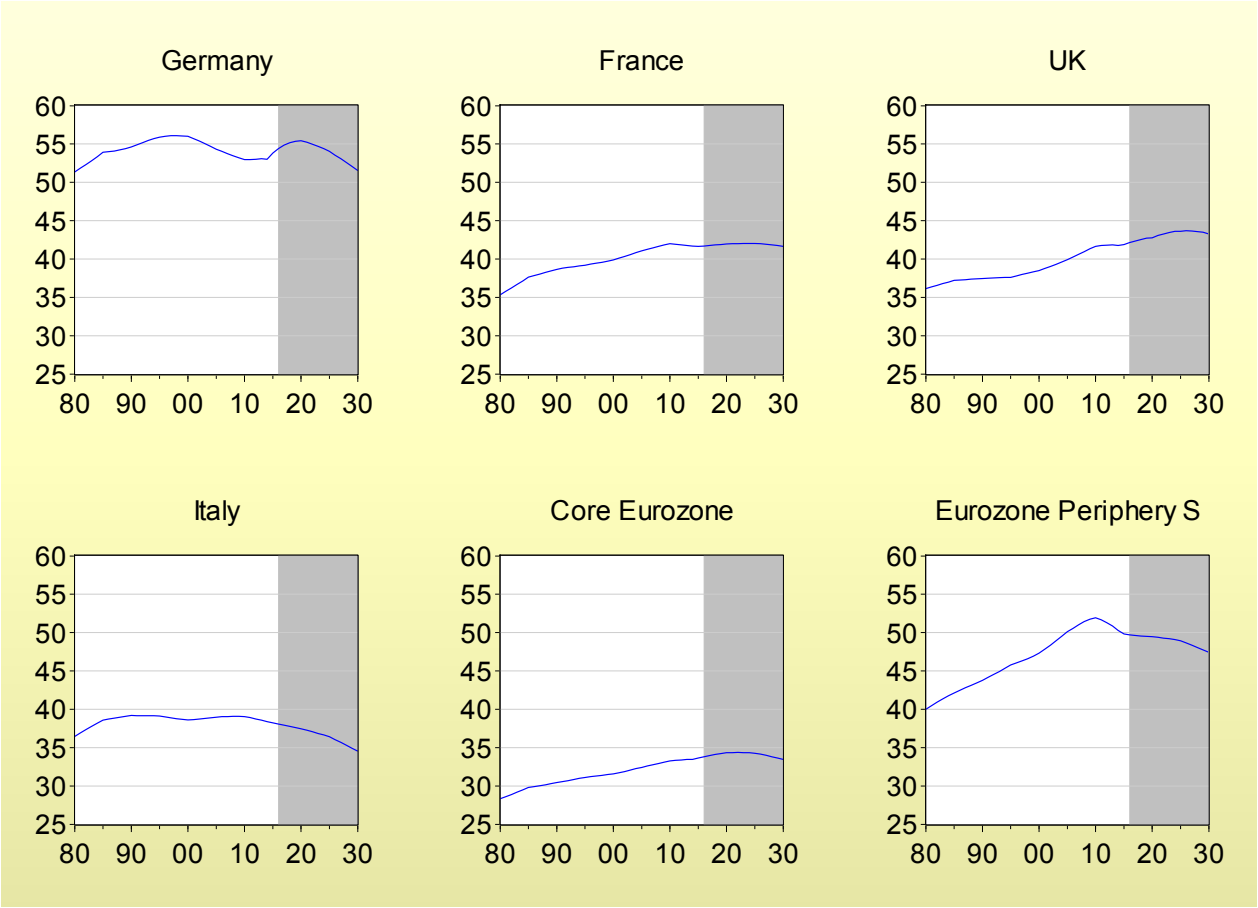

Figure 8 Population, millions of persons, projections from 2015 onwards

Employment and productivity

Projections for unemployment are considered next. These are shown in Figure 10, with a summary of the numbers in Table 3. The projections suggest the recent trend of falling unemployment will come to an end in much of Europe as growth slows. In Germany, France, the UK, unemployment is projected to rise from 2016 onwards, while unemployment remains flat in the Core Eurozone until

2020 then begins to rise. Unemployment is projected to rise gradually in the Core Eurozone and the UK and more substantially in France and Germany. In Italy and the Eurozone Periphery, where jobs were hit much more severely by rising unemployment, unemployment is predicted to fall but to remain at high levels. By 2030, unemployment is projected to have fallen to only ten per cent in Italy and to remain above 15% in the Peripheral Eurozone.

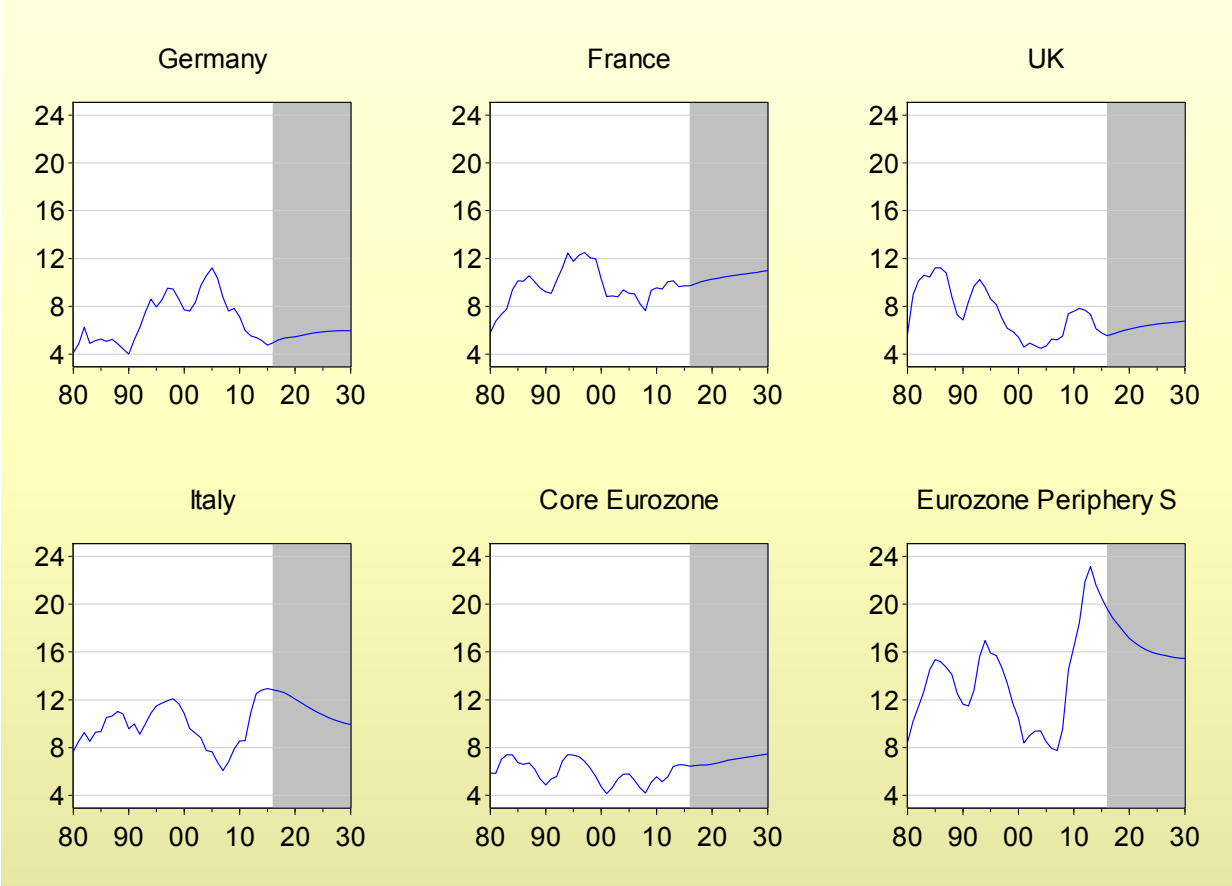

Figure 10 Unemployment rates, projections from 2016 onwards

Table 3 Unemployment rates, projections from 2016 onwards

	Germany	France	UK	Italy	Core Eurozone	Peripheral Eurozone
2015	4.8	9.7	5.8	12.9	6.5	20.5
2020	5.6	10.3	6.1	12.1	6.6	17.1
2025	5.9	10.7	6.5	10.7	7.1	15.9
2030	6.0	11.0	6.7	10.0	7.5	15.5

The differences in employment rates in European countries are even greater when it comes to youth unemployment rates. Figure 11 shows projections of male and female youth employment rates (15-

24) as a share of the relevant population. As noted previously, this measure is, in some ways, more informative than the unemployment rate because it does not mask differences in activity rates.

The projections suggest the UK and the Core Eurozone, will continue to maintain high youth employment rates of around 50% of the population, while Germany's rate is expected to continue its downward trend. The projections are pessimistic in the case of the high youth unemployment blocs of France, Italy and the Eurozone Periphery, suggesting little improvement in the desperate youth unemployment situation over the next fifteen years or so. This might appear overly pessimistic – but without concerted policy action to raise aggregate demand and deal with the labour market problems which exclude young people there is little reason to believe there will be a significant change in the status quo.

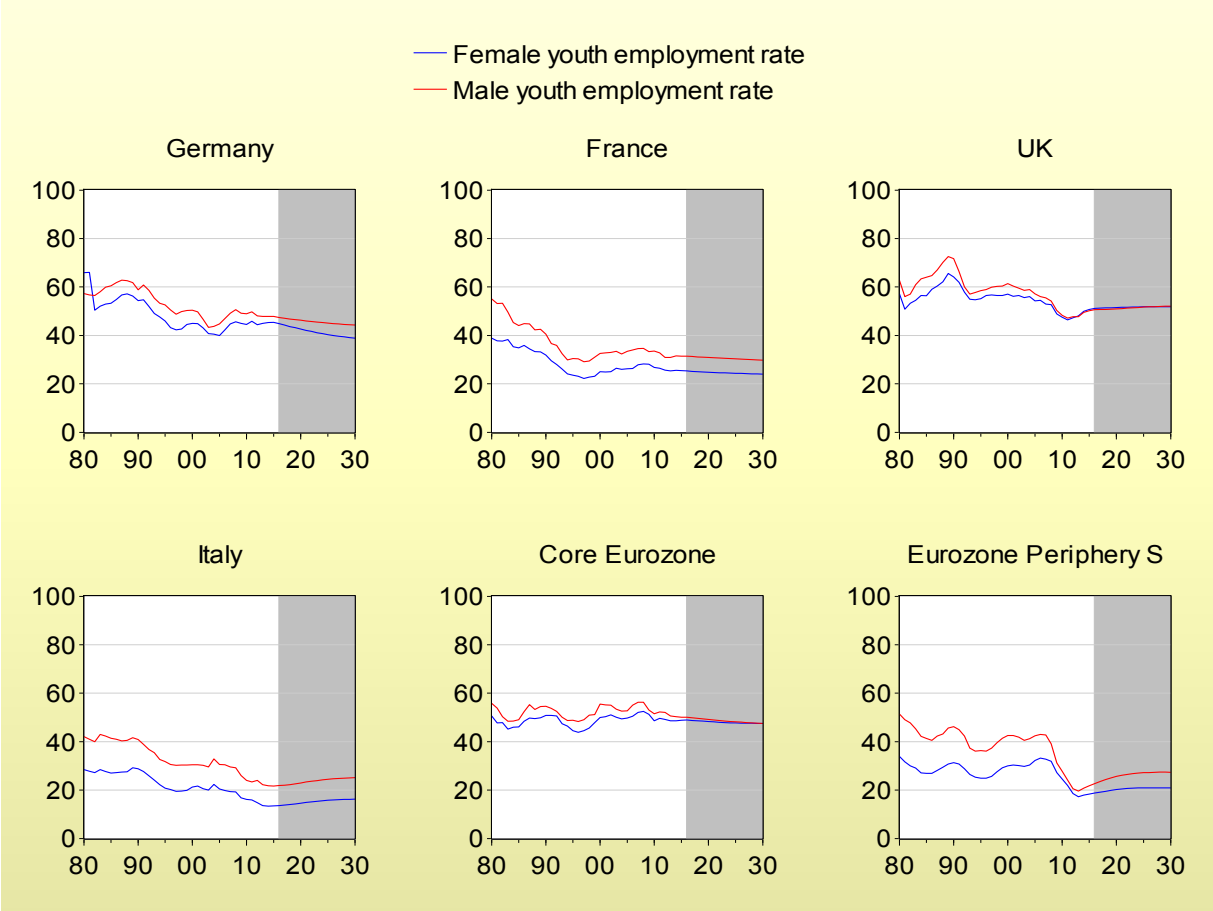

Figure 11 Male and female youth unemployment rates

One clear difference between blocs with high and low youth employment is the divergence in male and female youth employment rates. While male and female rates are almost equal in the UK and the gap is relatively small in Germany, the gap is larger in France and Italy, where youth employment is lower. In the Eurozone Periphery, the gap has historically been large but closed as male youth employment fell more sharply than female youth employment in the aftermath of the crisis. The CAM projections show this gap returning as male employment recovers somewhat more strongly than female employment.

Further research is needed to determine the causes of the youth gender employment gap in areas where youth employment is low, and to identify policies which could serve to reduce the gap.

Labour Productivity

As noted earlier, an ageing population requires rising productivity to offset declines in the working age population if per capita incomes are not to fall. This assumes, however, that employment rates in both the working age population and the older population are fixed. If employment rates can be increased, then per-capita incomes can be sustained by rising employment instead of rising productivity.

Inward migration alters the analysis further. Immigration acts as a counteracting tendency to an ageing population, raising the working age population. If not enough decent, well-paid jobs are available to absorb the working age population, the only way in which employment can be increased is through stagnant or falling productivity. This appears to have been the situation in the UK in the period after the 2008 crisis – while employment has recovered strongly, productivity has stagnated.

This view stands in contrast to conventional economic theory which posits that productivity is an intrinsic property of labour, given education levels and the availability of technology and capital equipment. As such, standard supply-side economic models, such as the UK's OBR model, first assume a level of labour productivity based on past trends, and then predict growth rates by multiplying this number by the projected population size. As a result, such models have consistently over-estimated rates of productivity growth.

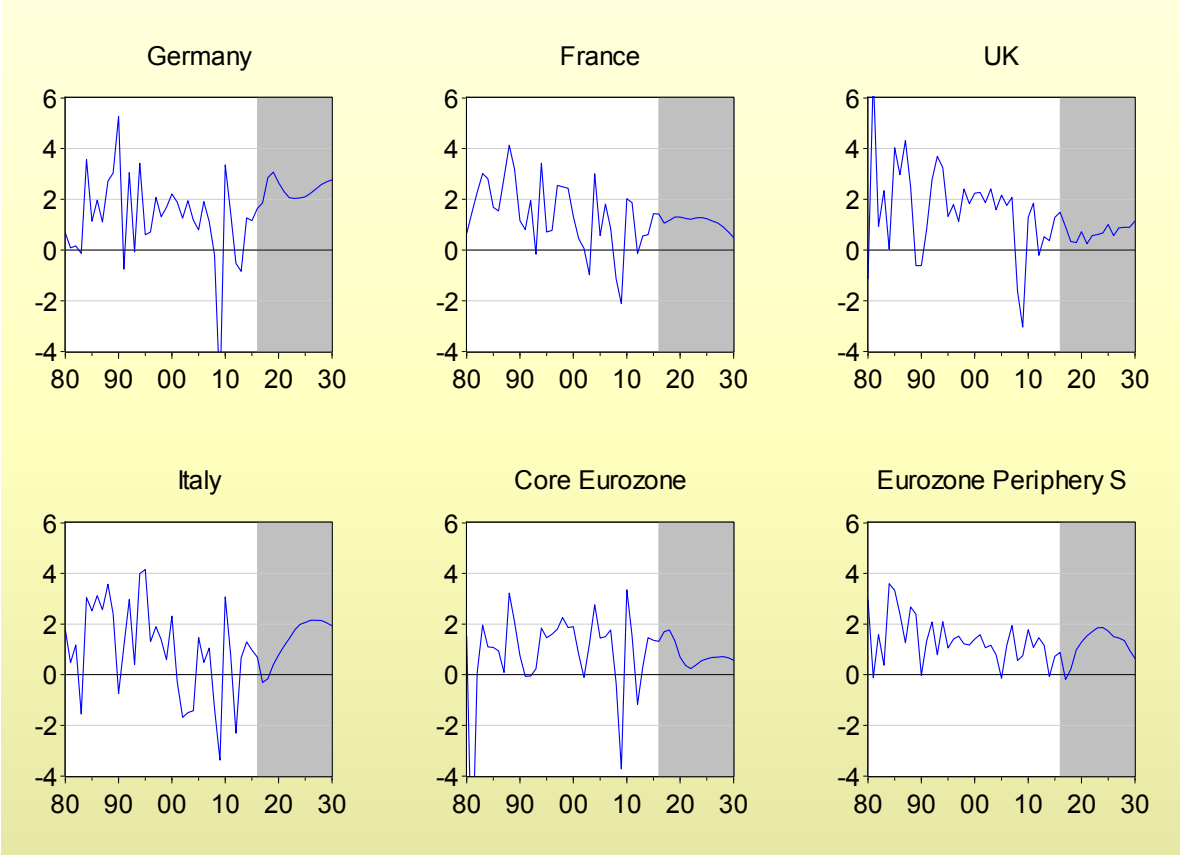

Figure 12 Labour productivity growth, % per annum, projections from 2016 onwards

In contrast, the CAM model calculates productivity in a different way: GDP is determined primarily by aggregate demand (the sum of consumption, investment and net export demand). While the size of the labour force does enter into demand determination, it is only one of a number of factors. Thus,

periods of rapid expansion of employment can occur while demand and growth remain weak with low productivity low result. For a given level of aggregate demand, a trade-off therefore exists between unemployment and productivity.

Projected labour productivity rates for the current scenario are shown in Figure 12. In all cases except Germany productivity rates are expected to be low. In the UK, productivity growth is expected to remain below 1% until almost 2030. In the Core Eurozone productivity is projected to fall from around 1.8% in 2018 to below 0.5% in 2022, without a recovery above this level by 2030. Only in Germany is productivity expected to be strong, remaining above 2% until 2030 and peaking in 2019 at around 3%.

It might be objected that these projections are too pessimistic in the case of the UK and too optimistic in the case of Germany. In the case of the UK, it is hard to see where a sustained increase in productivity will come from as long as there is a growing unskilled workforce, low business investment and weak aggregate demand as a result of ongoing government retrenchment. Given the projections of rising unemployment in the UK over the projection period, and thus a weak labour market, it is hard to see where the impetus for labour-saving investment and productivity growth will come from.

In the case of Germany, the projection should be seen as the rate of productivity growth implied by the relatively optimistic GDP growth projections shown in Figure 6. These in turn reflect an assumption that the German economy is able to quickly absorb the rapid increase in population resulting from migration. If GDP growth were to turn out lower than projected, the implication is that either productivity must be lower, or unemployment higher.

For the blocs with most severe unemployment issues, these projections are worrying. In the Eurozone periphery, for example, unemployment is projected to remain above 15% and youth unemployment to remain above 40% until 2030. If these figures are to be reduced, either growth rates must be higher than the relatively optimistic forecast of growth at between 1 and 2 per cent, or productivity growth must be lower. Likewise in France, where unemployment is projected to rise to 11%, despite relatively strong GDP growth, higher productivity can only occur as result of higher GDP growth or worse unemployment.

To illustrate, an alternative 'higher productivity' scenario for France and the Eurozone periphery is shown in Table 4, alongside the 'baseline' scenario used so far. In the 'higher productivity' scenario, both productivity and GDP growth are higher than the baseline, but the increase in productivity is greater.

The table shows the resulting outcomes for unemployment. For France, productivity growth is projected to be between 0.2% and 0.4% higher than the baseline scenario, which translates into GDP growth between 0.1% and 0.4% higher. The divergence between productivity growth and GDP growth, despite being small, leads to 1% higher unemployment rates by 2030.

Table 4 Growth, productivity and unemployment, baseline and high-productivity scenario

France

	GDP growth		Productivity growth		Unemployment rate	
	Baseline	*Higher productivity*	*Baseline*	*Higher productivity*	*Baseline*	*Higher productivity*
2020	1.5	1.6	1.3	1.5	10.3	10.9
2025	1.4	1.6	1.2	1.5	10.7	11.6
2030	0.5	0.9	0.5	0.9	11.0	12.0

Eurozone periphery

	GDP growth		Productivity growth		Unemployment rate	
	Baseline	*Higher productivity*	*Baseline*	*Higher productivity*	*Baseline*	*Higher productivity*
2020	2.0	2.3	1.3	2.0	17.2	19.0
2025	1.8	2.6	1.7	2.6	15.8	18.5
2030	0.4	1.4	0.6	1.6	15.5	18.3

In the Peripheral Eurozone, a larger productivity increase is introduced, with productivity growth rates between 0.7% and 1.0% higher than the baseline, in a situation where GDP growth is between 0.3% and 1.0% higher. The result is an unemployment rate near 3 percentage points higher than the baseline rate of 15.8%, at 18.5%

This exercise illustrates that the problems of ageing and productivity are in many ways the mirror image of the problem of unemployment. Many European economies face greater challenges finding work for their working age populations then they do coping with a declining working age population.

This is illustrated in figure 13 which shows the two measures of dependency introduced earlier. The 'economic dependency ratio' (EDR) is the ratio of 'dependent' persons – including those of working age but not in work – to those in employment. The demographic dependency ratio (DDR) is the ratio of children and the elderly to the working age population. Despite the fact that the DDR is between 0.4 and 0.7 and is projected to increase in all blocs, the level and trend of the EDR varies significantly between blocs. In Italy, despite the relatively high DDR, the EDR is projected to fall over the period of the projections, as a result of a decline in the unemployment rate. A similar pattern is projected to occur in the Eurozone Periphery. In those blocs where unemployment is projected to rise, the EDR is also projected to rise. Employment has a much stronger influence on the overall level of the EDR, relative to demographic factors.

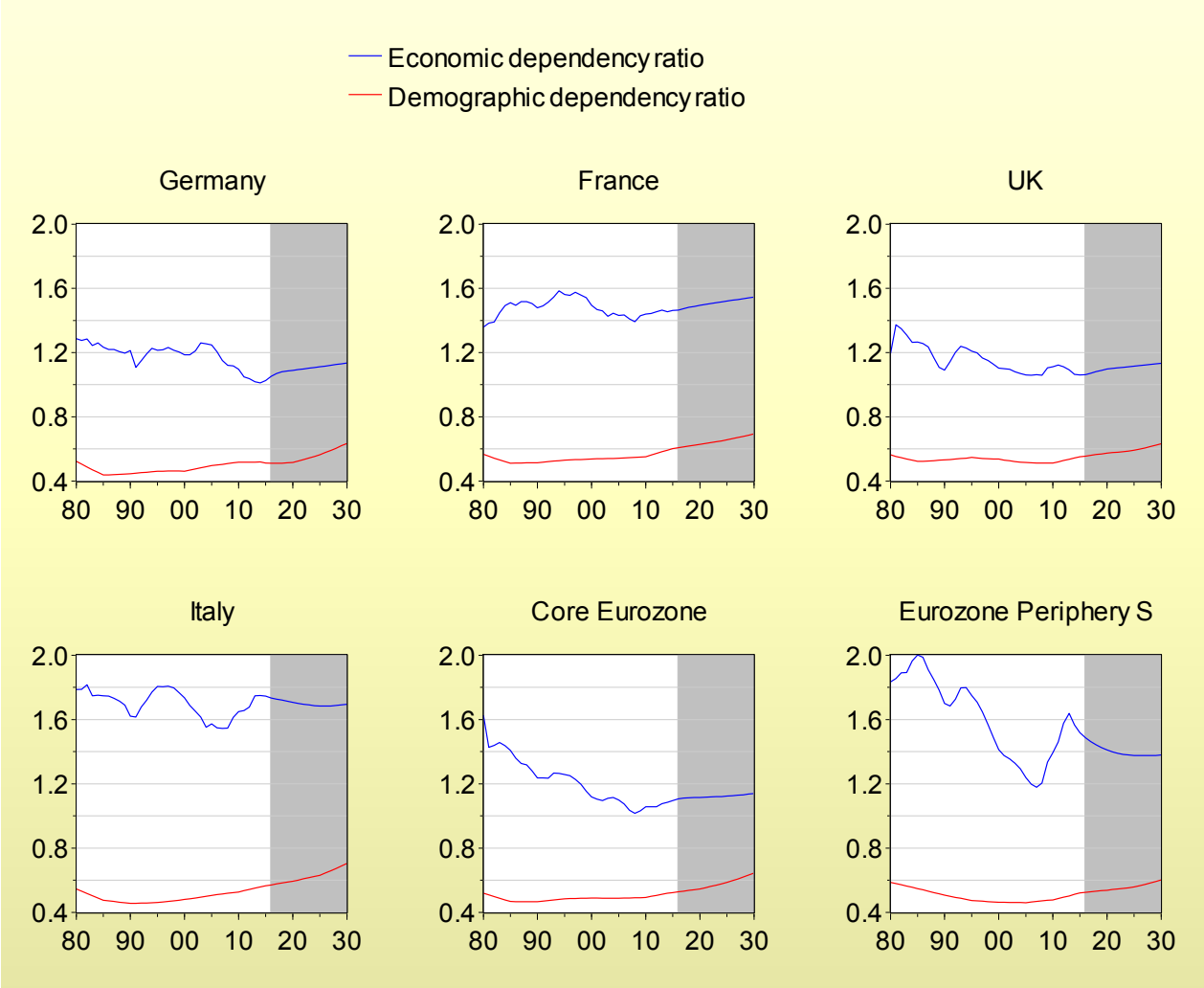

Figure 13 Dependency ratios, projections from 2016 onwards

Policy implications

It is clear from the historical data and projections presented in this Policy Brief that Europe faces serious challenges from a complex interplay between demographic change, migration, weak growth and productivity and unemployment.

For many countries, however, fears over demographic change and ageing may be overstated. For some, problems of unemployment and under-employment are a more significant challenge to living standards, well-being and social stability. In others, high levels of net inward migration mean that demographic pressures are postponed. Instead, these countries face problems of ensuring that housing, infrastructure and public services are sufficient to cope with rising populations.

The nature, scale and scope of problems thus differ across countries: in Southern European countries, and France to a lesser extent, youth unemployment is the most pressing issue.

In the Germany and the UK, high inward migration looks likely to postpone the point at which peak the working age population is reached. Both countries thus face the challenge of ensuring that decent jobs are available for all.

In the aftermath of the crisis, both have managed to bring unemployment rates down to historically low levels but through very different mechanisms. Germany has relied on a mercantilist approach of running external surpluses while insisting on imposing deflationary macroeconomic policy across the rest of the Eurozone. Germany's success is thus, in many ways, the mirror image of the desperate situation across much of the Southern Eurozone.

In the UK, by contrast, low unemployment has been achieved through a combination of a revival of activity on the housing market, generating a consumption-driven boom in economic activity, despite very weak investment, exports and manufacturing. As a result, household credit is increasing, household saving rates are at historical lows and the current account deficit has reached a record 7% of GDP.

Neither the German nor the British growth model – and thus unemployment rates – are sustainable.

European policy makers need to acknowledge that the Eurozone is stuck in a chronic deflationary trap, with deficient aggregate demand across the bloc a consequence of the misguided attempt to tighten fiscal policy during an on-going crisis.

The so-called 'growth and stability pact' should be recognised for what it is - a straightjacket which prevents reflation of demand across European Union and forces countries into self-defeating deflationary spiral. These fiscal rules must be abandoned and replaced with a commitment to cross-border coordinated fiscal expansion and large-scale programme of public investment. If a lost generation across much of Europe is to be avoided, there appears to be no other option.