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Grieveson, Richard; Leitner, Sandra M.; Stehrer, Robert

Research Report

EU Faces a Tough Demographic Reckoning

Policy Notes and Reports, No. 30

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JUNE 2019

Policy Notes and Reports 30

EU Faces a Tough Demographic Reckoning

Sandra M. Leitner, Robert Stehrer and Richard Grieveson

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The Vienna Institute for International Economic Studies Wiener Institut für Internationale Wirtschaftsvergleiche

EU Faces a Tough Demographic Reckoning

SANDRA M. LEITNER ROBERT STEHRER RICHARD GRIEVESON

Sandra M. Leitner is Economist at the Vienna Institute for Internationale Economic Studies (wiiw). Robert Stehrer is Scientific Director of wiiw. Richard Grieveson is Deputy Director of wiiw.

Abstract

By 2030, labour demand could exceed labour supply in most of the EU, creating significant challenges for policy-makers and firms. The headline conclusions of this report are as follows:

- > The 'tipping point' at which labour demand will become equal to labour supply in the EU that is, when labour will become a constraint on economic growth is now imminent. If current trends continue, most EU countries will hit this 'tipping point' during the next decade, many by 2025. Vacancy rates and surveys of employers find that firms in some sectors are already facing severe labour constraints on production.
- Most of CEE will be hit first, not least because they are still losing so many workers to Western Europe. For Western Europe, however, the situation will also become difficult soon, especially for Germany.
- > This is an enormous challenge for policy-makers, and will become even more so in the future.

 Policy options to counter demographic trends can be split into four main areas: higher productivity, immigration, activity rates, or fertility. However, none is a silver bullet. Even if all of these policies are pursued successfully and in combination, they are unlikely to fundamentally alter the picture.
- > The implications of this demographic decline do not have to be all negative. Combined with intelligent upgrading of infrastructure and investment in productivity-enhancing improvements in industry, there is no reason that these population trends cannot go hand-in-hand with increases in per capita GDP and living standards. Much can be learned from Japan in this regard.
- > The politics of the future in the EU is likely to be defined by generational questions, and potentially inter-generational conflict. Policy discussions are likely to centre ever more on immigration, how to fund old-age and child care, how to extend working lives, automation, and the problematic issue of financial incentives to increase fertility rates.

Keywords: demographics, migration, emigration, immigration, automation

JEL classification: F22, J01, J08, J11, J21, J23, J61

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EU faces a tough demographic reckoning

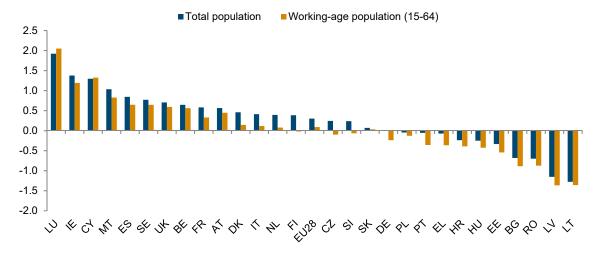
1. INTRODUCTION: AN AGEING CONTINENT

Only 13 years ago, *The Economist* was celebrating population decline in the rich world as 'a new golden age':

'Humanity was once caught in the trap of high fertility and high mortality. Now it has escaped into the freedom of low fertility and low mortality. Women's control over the number of children they have is an unqualified good – as is the average person's enjoyment, in rich countries, of ten more years of life than they had in 1960.'1

This is all still true. However, the idea that this represents a 'golden age' is increasingly being questioned. Media commentators, politicians and academics are fretting about demographic trends in the EU.²

Figure 1 / Annual average growth rates of the total and working-age population, 2002-2017



Note: Countries ranked by growth rate of total population. Source: Eurostat (series: demo_pjan), own calculations.

'The EU countries that desperately need migrants to avoid shrinkage – and those that don't', https://qz.com/1325640/the-european-countries-that-desperately-need-migrants-to-avoid-demographic-decline-and-those-that-dont/

https://www.economist.com/leaders/2006/01/05/incredible-shrinking-countries.

² See for example:

^{&#}x27;Europe's Shrinking, Aging Population', https://worldview.stratfor.com/article/europes-shrinking-aging-population;

^{&#}x27;The Far-Right Has Capitalized on the West's Population Problem', http://time.com/5291439/west-population-problem-white-nationalists-policies/;

[&]quot;Remarkable" decline in fertility rates', https://www.bbc.com/news/health-46118103;

^{&#}x27;10 countries at risk of becoming demographic time bombs', https://www.businessinsider.de/10-countries-at-risk-of-becoming-demographic-time-bombs-2018-8?r=US&IR=T.

In most of the EU, populations grew in the period 2002-2017 (Figure 1). However, almost everywhere the working-age population grew more slowly, and in many cases didn't grow at all. Consequently, dependency ratios increased in the vast majority of countries, meaning those of working age increasingly facing a higher burden in supporting those of non-working age. Particularly strong discrepancies between total working-age population growth rates were recorded in Italy, the Netherlands, Finland, the Czech Republic, Slovenia, Poland, Portugal, and Greece. The working-age population contracted the most in Latvia, Lithuania, Bulgaria and Romania, by 1-1.5% annually.

2. LABOUR SUPPLY CLOSE TO BEING USED UP

Although most of the EU was hit hard by the global financial crisis, and took quite a long time to recover, recent years have seen a more pronounced upturn. In the last four years, real GDP growth in the EU averaged 2.2%, compared with 0.9% in the previous four years. Labour demand consequently increased, leading to rising employment and lower unemployment. Combined with increasingly challenging demographic trends, this has resulted in very tight labour markets in many countries. Several indicators bear this out.

First, unemployment rates have fallen significantly. As of February 2019, the seasonally adjusted unemployment rate in the Czech Republic was just 1.9% (Figure 2). Several other countries, especially in CEE (but also Germany, the Netherlands and the UK) have jobless rates well below 5%. These are historically very low levels.

Figure 2 / Seasonally adjusted unemployment rate, %, February 2019 or latest available

Source: Eurostat.

Second, vacancy rates are increasing rapidly, suggesting substantial unmet labour demand in some countries and sectors. As of Q4 2018, the seasonally adjusted job vacancy rate in wholesale and retail trade in the Czech Republic was 5.6%; in construction it was 13.3%. These are extremely high rates in the historical context. In many parts of the bloc, the share of vacancies that cannot be filled have risen markedly in recent years. Eurostat data show that a net 76.3% of firms in Hungarian industry report labour as a constraint on production in Q1 2019, up from 20.3% five years ago (Figure 3). The level in Poland was 50.3%. The Manpower Talent Shortage Survey indicates a similar situation, with the share of employers reporting difficulties to fill jobs on the rise, reaching more than 50% in Germany, Poland, Slovakia and Hungary.

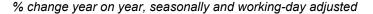
2014Q1 = 2019Q1

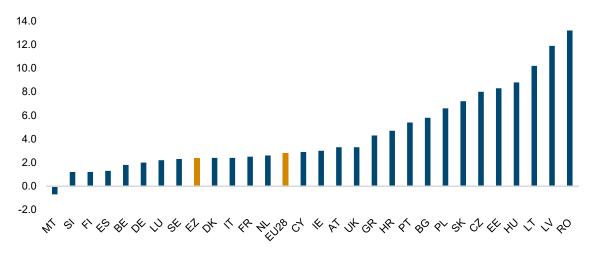
Figure 3 / Firms in industry reporting labour as a constraint on production

Source: Eurostat.

Third, although labour shortages are becoming increasingly systemic, even for lower-skilled jobs, the challenges may be particularly acute in certain sectors. Various surveys show increasing evidence of missing skills in specific occupations or industries. This is especially the case in CEE, but is also in evidence in much of Western Europe, according to the European Centre for the Development of Vocational Training.

Figure 4 / Nominal hourly labour costs, whole economy, Q4 2018





Source: Eurostat.

Finally, the response of wages is unsurprisingly strong, especially in CEE, where the labour shortages are often particularly pronounced. According to Eurostat, total hourly unit labour costs rose by 13.1% year on year in Romania and 11.8% in Latvia in Q4 (Figure 4). A double-digit increase was also recorded in Lithuania.

3. MAPPING OUT THE FUTURE OF LABOUR SUPPLY AND DEMAND IN THE EU

We define the 'tipping point' as when labour demand outstrips labour supply, and a shortage of workers limits production capacity. Some of the indicators highlighted above suggest that this point is already here, at least in particular industries of particular countries. However, to measure this more concretely, we calculated both the overall labour supply and labour demand, and then projected forward to see when the latter would outstrip the former. The labour supply relies on assumptions about the workingage population and the activity rate. For labour demand, we make assumptions about GDP growth and labour productivity.

3.1. Labour supply

The calculation of labour supply requires two things: First, projected trends in the working-age population (here we used age 15-64). Second, the number of people active in the labour market.

According to even the most optimistic scenarios produced by Eurostat, the working-age population will decline from current levels in the EU in the coming decades (Figure 5). According to the baseline scenario, compared with 2015 the working-age population in the EU will shrink by over 8% by 2045 (Table 1). Under a no-migration scenario, the loss would be around 20%. Even under the high migration scenario, a loss of around 5% would be expected.

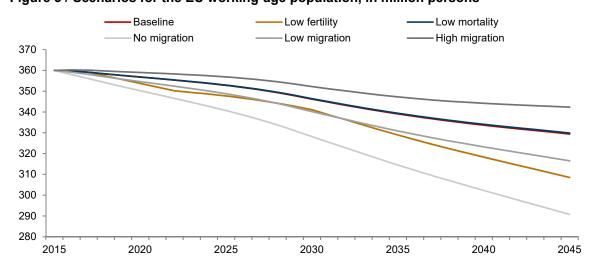


Figure 5 / Scenarios for the EU working-age population, in million persons

Note: The baseline and the low mortality scenario overlap.

Source: Eurostat.

Table 1 / Mid-term scenarios for the EU working-age population aged 15-64: 2015-2045 (in %)

Scenario Scenario					
	Low	Low	No	Low	High
Baseline	fertility	mortality	migration	migration	migration
ge (in %)					
-2.0	-3.4	-2.0	-5.4	-3.1	-0.9
-5.8	-8.6	-5.7	-12.6	-8.1	-3.5
-8.5	-14.3	-8.4	-19.2	-12.1	-4.9
tes (in %)					
-0.20	-0.35	-0.20	-0.55	-0.32	-0.09
-0.40	-0.55	-0.39	-0.80	-0.53	-0.27
-0.29	-0.64	-0.28	-0.78	-0.44	-0.14
-0.30	-0.51	-0.29	-0.71	-0.43	-0.17
	ge (in %) -2.0 -5.8 -8.5 tes (in %) -0.20 -0.40 -0.29	Baseline fertility ge (in %) -2.0 -3.4 -5.8 -8.6 -8.5 -14.3 tes (in %) -0.20 -0.35 -0.40 -0.55 -0.29 -0.64	Low Low mortality ge (in %) -2.0 -3.4 -2.0 -5.8 -8.6 -5.7 -8.5 -14.3 -8.4 tes (in %) -0.20 -0.35 -0.20 -0.40 -0.55 -0.39 -0.29 -0.64 -0.28	Low Baseline Low fertility Low mortality No migration ge (in %) -2.0 -3.4 -2.0 -5.4 -5.8 -8.6 -5.7 -12.6 -8.5 -14.3 -8.4 -19.2 tes (in %) -0.20 -0.35 -0.20 -0.55 -0.40 -0.55 -0.39 -0.80 -0.29 -0.64 -0.28 -0.78	Low Baseline Low fertility Low mortality No migration Low migration ge (in %) -2.0 -5.4 -3.1 -5.8 -8.6 -5.7 -12.6 -8.1 -8.5 -14.3 -8.4 -19.2 -12.1 tes (in %) -0.20 -0.35 -0.20 -0.55 -0.32 -0.40 -0.55 -0.39 -0.80 -0.53 -0.29 -0.64 -0.28 -0.78 -0.44

Source: Eurostat; own calculations.

Table 2 / Scenarios for the working-age population aged 15-64 by EU country: 2015-2045

		Cumulative change in % Natural change Migration Low Low			_				n			
	Baseline	fertility	mortality	No	Low	High	Baseline	fertility	mortality	No	Low	High
LT	-43	-47	-42	-20	-35	-50	-1.8	-2.1	-1.8	-0.7	-1.4	-2.3
LV	-33	-39	-33	-19	-29	-38	-1.3	-1.6	-1.3	-0.7	-1.1	-1.6
BG	-32	-36	-31	-27	-30	-33	-1.3	-1.5	-1.2	-1.0	-1.2	-1.3
EL	-31	-35	-30	-27	-29	-32	-1.2	-1.4	-1.2	-1.0	-1.2	-1.3
RO	-29	-34	-29	-21	-26	-32	-1.1	-1.4	-1.1	-0.8	-1.0	-1.3
PT	-25	-29	-25	-29	-26	-24	-0.9	-1.1	-0.9	-1.1	-1.0	-0.9
PL	-22	-27	-22	-22	-22	-22	-0.8	-1.0	-0.8	-0.8	-0.8	-0.8
HR	-21	-26	-21	-24	-22	-21	-0.8	-1.0	-0.8	-0.9	-0.8	-0.8
SK	-17	-23	-17	-22	-19	-16	-0.6	-0.8	-0.6	-0.8	-0.7	-0.6
HU	-17	-22	-17	-24	-19	-15	-0.6	-0.8	-0.6	-0.9	-0.7	-0.5
IT	-17	-21	-17	-30	-21	-12	-0.6	-0.8	-0.6	-1.2	-0.8	-0.4
SI	-16	-21	-16	-25	-19	-13	-0.6	-0.8	-0.6	-1.0	-0.7	-0.5
ES	-15	-20	-15	-24	-18	-12	-0.5	-0.7	-0.5	-0.9	-0.7	-0.4
CZ	-14	-19	-14	-22	-16	-11	-0.5	-0.7	-0.5	-0.8	-0.6	-0.4
EE	-13	-19	-13	-18	-15	-12	-0.5	-0.7	-0.5	-0.7	-0.5	-0.4
DE	-9	-14	-8	-27	-15	-2	-0.3	-0.5	-0.3	-1.0	-0.5	-0.1
EU28	-8	-14	-8	-19	-12	-5	-0.3	-0.5	-0.3	-0.7	-0.4	-0.2
FI	-4	-10	-4	-14	-7	-0	-0.1	-0.3	-0.1	-0.5	-0.3	-0.0
FR	1	-7	1	-6	-2	3	0.0	-0.2	0.0	-0.2	-0.1	0.1
NL	2	-4	2	-15	-3	8	0.1	-0.1	0.1	-0.5	-0.1	0.3
CY	5	-1	5	-13	-1	11	0.2	-0.0	0.2	-0.5	-0.0	0.3
ΙE	6	-2	6	-1	3	8	0.2	-0.1	0.2	-0.0	0.1	0.2
MT	7	0	7	-19	-2	15	0.2	0.0	0.2	-0.7	-0.1	0.5
AT	7	1	7	-23	-3	17	0.2	0.0	0.2	-0.9	-0.1	0.5
BE	7	1	7	-14	0	14	0.2	0.0	0.2	-0.5	0.0	0.4
UK	9	2	9	-8	3	15	0.3	0.1	0.3	-0.3	0.1	0.5
DK	9	2	9	-13	2	16	0.3	0.1	0.3	-0.5	0.1	0.5
SE	21	13	21	-7	12	30	0.6	0.4	0.6	-0.2	0.4	0.9
LU	45	38	45	-18	24	66	1.3	1.1	1.3	-0.7	0.7	1.7

Source: Eurostat; own calculations.

Broken down by country, the trends differ substantially (Table 2), with CEE and Southern Europe faring particularly badly. According to the baseline scenario, by 2045 Lithuania will have lost 43% of its working-age population. Among Southern European countries, Greece would fare worst, losing 31%. The Western European country facing the most difficulties is Germany, which is set to lose 9% of its working-age population over the period.

The second important component and determinant of labour supply is the number of people active in the labour market (either employed or unemployed but seeking work). To determine future trends in the activity rate, two key questions need to be addressed. First, to which long-run level activity rates might converge. Second, at what speed this convergence process might take place.

In the modelling exercise, we assumed that the long-term activity rates correspond to the employment rate targets as set by the Lisbon Agenda of 2000 and the European Commission's Europe 2020 Strategy of 2010. In the former, the employment target was set at 70% (for the working-age population aged 15-64) while in the latter it was 75% (for the working-age population aged 20-64).

In the EU28 as a whole, the activity rate in 2017 stood at 73% and 78%, respectively, according to the two age-group definitions. However, it is likely that the actually achieved activity rates are higher than these long-run employment targets, for two reasons. First, even if these targets are reached in terms of employment rates, there might still be some (structural) unemployment. Second, in a situation of severe labour market shortages, countries might reach higher activity rates for various reasons.

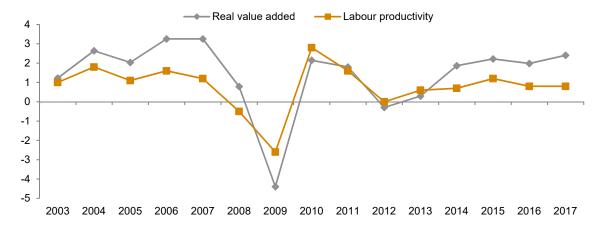
Therefore, as a simple (arbitrary) assumption, we added an additional five percentage points to the two long-run targets in the simulations. Hence, in the simulations, we assumed a long-run target of a 75% activity rate for the working-age population aged 15-64 and 80% for the working-age population aged 20-64. Thus, countries with below-target activity rates in 2017 are assumed to converge to these two levels depending on the definition of the working age considered. For countries that already have higher activity rates, we assume that the activity rates will increase by another 2.5 percentage points.

3.2. Labour demand

We assessed future labour demand based on assumptions about future developments both of real GDP and of labour productivity. Future trends in GDP and labour productivity were based on data for the period 2002-2017.

Our analysis of the historical data results in two key conclusions: First, GDP and labour productivity growth rates are positively correlated. Second, over the past two decades GDP growth has been – with a few exceptions – higher than productivity growth, resulting in positive (implied) employment growth in the majority of EU countries. Figure 6 presents the growth rates of real value added (GDP) and labour productivity (defined as real GDP per person employed) for the EU28 over the period 2003-2017. It shows that, on average, the GDP growth rate was about 1.4%, whereas labour productivity growth was lower and only 0.8%, which resulted in positive employment growth of about 0.6% over the entire period (the difference between real GDP and labour productivity growth is – by definition – employment growth).

Figure 6 / Annual growth rates in the EU28 over the period 2003-2017 (in %)



Source: Eurostat; own calculations.

Table 3 / Growth rates used in the scenarios

	Real value added	Labour productivity	(Implied) employment growth rates
AT	1.58	0.45	1.13
BE	1.49	0.61	0.88
BG	3.37	2.82	0.55
CY	1.78	0.41	1.38
CZ	2.92	2.21	0.71
DE	1.43	0.63	0.80
DK	1.03	0.79	0.25
EE	3.41	2.64	0.77
EL 1)	2.25	1.13	1.11
ES	1.41	0.72	0.69
EU28	1.41	0.81	0.61
FI	1.09	0.70	0.39
FR	1.23	0.75	0.49
HR	1.45	1.21	0.24
HU	1.98	1.43	0.54
IE	3.29	2.04	1.26
IT 3)	0.80	0.11	0.69
LT 2)	3.88	3.33	0.55
LU 4)	2.79	0.40	2.39
LV 5)	3.29	3.29	0.00
MT 7)	1.77	1.18	0.59
NL	1.43	0.83	0.60
PL	3.93	2.79	1.14
PT 3)	0.91	0.82	0.09
RO 6)	3.96	3.96	0.00
SE	2.26	1.33	0.93
SI	2.17	1.63	0.54
SK	4.02	3.01	1.01
UK	1.68	0.73	0.94
Mean	2.21	1.47	0.73

- 1) Means over the entire period (2003-2017) excluding the crisis years 2008-2013.
- 2) Labour productivity growth was reduced by 0.66 percentage points (mean difference).
- 3) Means over the entire period excluding the crisis years 2008, 2009, 2010, 2012.
- 4) Medians over the entire period.
- 5) Medians over the entire period; labour productivity growth set equal to GDP growth.
- 6) Labour productivity growth rate set equal to GDP growth rate.
- 7) GDP growth rate assumed to be 1.5 times the labour productivity growth rate (ratio is the average over the sample). Source: Eurostat; own calculations.

Based on the above results, we made assumptions about trend growth rates of GDP, labour productivity and (implied) employment growth (Table 3). For most EU countries, we used the mean growth rates over the whole period 2003-2017, implying a more conservative scenario with respect to the growth of labour demand (these countries are highlighted in grey). For other EU countries, we used either medians or trend growth rates excluding the crisis years. This implies assumed (implicit) employment growth rates of 0-1% for most EU countries, with a few exceptions. For Austria, Cyprus, Greece, Ireland, Luxembourg, Poland, and Slovakia, the assumed (implicit) employment growth rates are above 1%. For Latvia and Romania, labour productivity growth was set equal to trend GDP growth, resulting in zero (implied) employment growth.

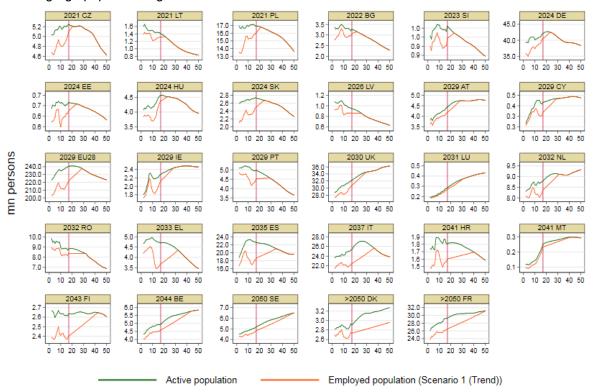
4. IDENTIFYING THE 'TIPPING POINT'

Figure 7 presents our projections for labour supply and demand, using 2017 as a starting point.

The number (stated in front of the name of the country) indicates the 'tipping point' year, when labour demand will become equal to labour supply.

Figure 7 / Base scenario

Working-age population aged 15-64



Note: 1) Population scenario: BSL, 2) Working-age population: Y15_64

The results indicate that in a number of EU countries, labour demand will start to be constrained by labour supply relatively soon. Several key conclusions can be drawn:

- > For the EU28 as a whole, labour demand will match the active working population by around 2029.
- In several countries, mostly in CEE, the tipping point is imminent. Labour demand will match labour supply by 2025 in Poland, Bulgaria, Lithuania, the Czech Republic, Slovenia, Hungary, Slovakia and Germany.
- Several other countries will reach the tipping point by 2030: Estonia, Latvia, Cyprus, Ireland, and Portugal.
- Austria, Luxembourg, Romania, Greece, the UK, and Spain will reach the threshold in the early 2030s.

- > In the Netherlands, Italy and Croatia, the labour supply constraint will kick in somewhat later, mostly as a result of the low trend growth rates for employment.
- > Finally, several EU countries Malta, Belgium, Finland, Denmark, France and Sweden will not hit the tipping point before 2045, mostly as a result of the more favourable growth rates of their workingage populations.

Figure 8 / Distribution of the critical years from all scenarios

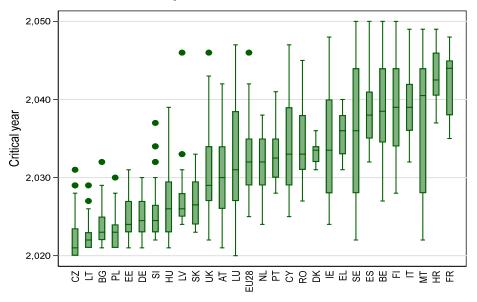
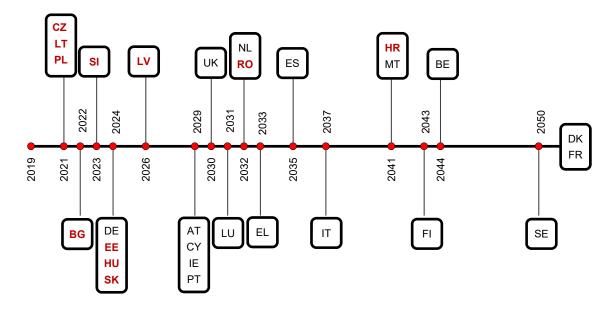


Figure 8 summarises the results for all scenarios from a number of robustness checks by EU country in a box-plot diagram.³ The line in the middle of the boxes indicates the median year across all scenarios (i.e. in 50% of all scenarios considered the critical year is larger than this; in 50% it is lower). The boxes indicate the interquartile range. The whiskers indicate the tails of the distribution, while the dots indicate some outlier values.

Further details are available in the full paper: https://wiiw.ac.at/demographic-challenges-for-labour-supply-and-growth-p-4868.html.

Figure 9 / The tipping point by country under the baseline scenario



Source: wiiw.

5. ACKNOWLEDGEMENT OF LIMITATIONS

Any modelling exercise like this involves making a host of assumptions. We acknowledge this, and accept that it would be possible to make different assumptions that could affect the results. However, we ran a series of 'robustness' checks involving various modifications of our assumptions.⁴ Our conclusion was that even with different assumptions, the results do not change very much.

Perhaps the most valid criticism of the exercise is the original projections from Eurostat that we used. These projections have been challenged in particular for being too 'mechanistic' and dragging out current trends over long periods. This, it is alleged, means that wage convergence is not taken into account: as CEE gets richer relative to Western Europe, many workers could come home.

We acknowledge this criticism, but are not convinced about its validity. Wage growth in CEE is currently very strong (see above), but the gap in compensation versus Western Europe, even when adjusted for local costs (PPP methodology), is still huge. It will take many years, if not decades, for wages in CEE to catch up. Moreover, even if they do, there are many other reasons to think that workers will not return home. Other factors such as the environment, education quality, and perceptions of meritocracy or corruption, are also likely to play a large role in migrants' decisions. For this reason, many will still prefer to stay in Western Europe (also because labour shortages will increasingly be an issue there as well).

⁴ See full paper for details: https://wiiw.ac.at/demographic-challenges-for-labour-supply-and-growth-p-4868.html.

6. POLICY: WHAT OPTIONS DO GOVERNMENTS HAVE?

Declines in the working-age population in the EU pose a severe challenge to sustained mediumterm GDP growth in most Member States. Labour will become a serious constraint on growth in the majority of countries during the next decade.

The consequences of the demographic challenge are numerous, and probably not yet well understood by policy-makers and firms. However, four things appear clear.

- 1. Labour market shortages are likely to dampen **longer-run growth prospects**, and could easily weigh on productivity.
- 2. These trends could have severe implications for welfare and pension systems.
- 3. They could impact migration patterns, both within Europe and from outside the continent.
- 4. If the overall level of GDP stagnates or even falls as a result of these trends, this will have implications for **debt/GDP levels**.

On the positive side, these pressures may also lead to higher capital investment and spur productivity growth. While headline GDP growth might be disappointing, per capita growth could remain quite good. From the perspective of workers, there are also important potential positives: labour shortages should increase their bargaining power, leading to improvements in wage levels and working conditions.

In attempting to address these challenges, governments and firms in the region have the following options:

1. Improve productivity

Aiming at higher productivity growth and exploiting the potential of labour-saving technologies (e.g. via labour-shedding digitalisation) could mitigate labour market shortages. Short-run developments in EU-CEE, where labour shortages are currently most acute, suggest reason for cautious optimism. In most of the region, wages are growing much more quickly than unit labour costs, suggesting fairly substantial productivity growth. We also find rapid progress on automation in the region.

CEE has a particular problem in this area, however, for two main reasons. First, despite good progress, automation remains at a fairly low level compared with the frontrunners in Western Europe, North America and Japan. Faced with severe labour shortages and spiralling wage costs, firms in the region may decide to move production further east or south rather than invest in productivity-enhancing improvements (on the other hand, they may decide to stay, owing to better infrastructure and institutions, high sunk costs and proximity to Western Europe).

The second big challenge for EU-CEE is digitalisation. Most indicators show that in CEE the legal and education systems, infrastructure, and innovation capacity do not bode well for a rapid process of digitalisation. Only Estonia really compares well with Western Europe on these measures.

2. Accept higher immigration

A second policy option is to consider labour mobility and immigration policies, either within the EU or from outside the bloc. Migration within the EU is hardly a solution: even if it benefits some countries, others lose out. Large-scale population movements from east to west over the past 15 years have been a large part of the particularly acute labour shortages that EU-CEE now faces.

The second option – taking more immigrants from outside the EU – is a political minefield. However, it appears that there is a big difference between perceptions of 'controlled' and 'uncontrolled' migration. The latter is now associated heavily with the surge of 2015-2016, when large numbers of refugees and economic migrants arrived in Central, Western and Northern parts of the EU via the Balkans. As a result of this surge, a political backlash was visible in most of Europe, helping more right-wing and populist parties to power (e.g. in Austria). Even in those countries where populist parties did not take power, their influence on the government agenda was clear (e.g. Germany).

Migration from outside Europe that is viewed by the population as more 'controlled' could be a more politically feasible solution. However, efforts in this direction so far produced mixed results. One option is to target specifically higher-skilled immigrants, who are less likely to be seen by the public as a drain on the public purse. The EU Blue Card scheme was put in place in 2009 to attract highly skilled third-country migrants, but has so far failed to reach its potential due to overly restrictive conditions. A big challenge for many EU countries is to make it easier for highly skilled migrants from outside the EU to have their qualifications recognised, in order for more rapid absorption into labour markets where their skills are most needed.

Some countries in EU-CEE are attempting to address labour shortages by importing workers from selected nearby partner countries, especially Ukraine. This is certainly helping in the short run in countries such as Poland, Hungary and the Czech Republic. However, these are still the countries with the highest vacancy rates and share of firms reporting labour as a production constraint. This indicates that immigration from Ukraine is not a solution even in the short run, never mind longer-term.

3. Increase activity rates

Policies seeking to increase activity rates could significantly delay the 'tipping point' in some EU countries where a relatively low share of the working-age population is economically active (although in our simulations we already allowed these countries very generous activity rates). These policies include increasing of the labour force participation rate of women (in some countries this remains quite low). Here, the key is better childcare provision, but this depends strongly on the state's finances, as well as some cultural factors. Making work more flexible in terms of hours could also help here.

Other options include an increase in the retirement age to increase the labour market participation of older workers, or a change of the working-time regulations, such as a reduction of the share of part-time contracts. As a short-term remedy, some EU countries could also make an attempt to activate people typically not included in official unemployment rates (according to ILO rules). These include underemployed part-time workers, people available but not seeking work, and people seeking for work but not immediately available. Taken together, these groups accounted for sizeable 5.7% of the EU28 working-age population in 2017.

4. Higher population growth

Policies and incentives to increase fertility rates are also an option. This is already being pursued in some countries, perhaps most famously in Hungary, where there is support for IVF treatment, longer parental leave and housing subsidies. However, this will have impacts only in the longer run: It will take about 15-20 years until new-borns will become active in the labour market. This will be long after the demography-induced labour shortage kicks in in many EU countries.

CONCLUSION: ACCEPT IT

These solutions could all help to offset the trends, but none are game-changers, even in combination. The only way that a decisive difference could be made would be mass immigration, and given the feasible sources of immigrants on this scale (the Middle East and Africa), that is politically highly unlikely. Therefore the EU, like the Japanese over the past two decades, must accept the reality of demographic decline, and mitigate it as well as possible.

As the Japanese have shown, the implications of this demographic decline do not have to be all negative. Combined with intelligent upgrading of infrastructure and investment in productivity-enhancing improvements in industry, there is no reason why these population trends cannot go hand-in-hand with increases in per capita GDP and living standards. Much can be learned from Japan in this regard. This is not to downplay the challenges that Japan has and is facing, and that the EU will also surely face, but it is also important not to be too fatalistic about these trends.

The politics of the future in the EU is likely to be defined by generation questions, and potentially inter-generational conflict. Policy discussions are likely to centre ever more on immigration, how to fund old-age and childcare, how to extend working lives, automation, and the problematic issue of financial incentives to increase fertility rates.

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ZVR-Zahl: 329995655

Postanschrift: A 1060 Wien, Rahlgasse 3, Tel: [+431] 533 66 10, Telefax: [+431] 533 66 10 50

Internet Homepage: www.wiiw.ac.at

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