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Policy Brief

Long run consequences of a Capital Market Union in the European Union

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Capital markets are more and more integrated but remain partially separated. To speed up integration, help absorb asymmetric shocks and thus reduce the need for government support in times of crises, the creation of a Capital Market Union in the EU has been suggested. This policy brief discusses long run consequences of perfectly integrated capital markets, ignoring crises but taking population ageing into account. Recent research shows that redistribution would take place, from fast ageing to slow ageing countries, because investors seek access to the largest labour markets, delivering higher returns on investments. The GDP per capita could be more than 2 %-points lower in some countries and 2 %-points higher in other countries, compared to autarky. The redistribution pattern depends on social security reforms: some countries would lose from capital markets integration without any reforms but would gain if the retirement age was increased.

The subprime and sovereign debt crises have led to changes in the economic governance of the European Union and to a large number of proposals for further policy reform. Taking stock of the policy debate, the European Commission makes two concrete recommendations and suggests further evaluation of a number of other reform proposals (European Commission, 2017). The first recommendation is to complete the Banking Union by implementing its last pillar. The second recommendation is to start the implementation of a Capital Market Union (CMU).

Capital markets are becoming increasingly integrated in the European Union, ahead of product markets and far ahead of labour markets (Lane, 2006). Capital markets remain however partially separated along country lines (e.g. Morelli, 2010), which contributes to asymmetric economic

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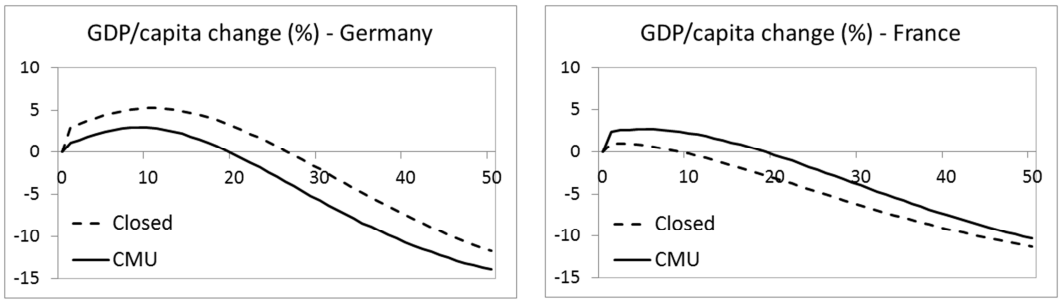
developments within the European Union, in particular during crises. By improving the cross-country distribution of economic shocks, the CMU should speed up the integration of capital markets and thus help the European Union to be more resilient as a whole and reduce the need for government support in times of crises[2].

There are however diverging long run trends across European Union countries, most notably with regard to the demography. Fertility rates, for instance, differ markedly within the European Union, ranging from 1.31 in Portugal to 1.96 in France in 2015. Population ageing is thus expected to differ across countries over the next decades. Taking these trends into account, what would be the consequences of the implementation of a CMU? This policy brief summarizes recent research at the Institute for Advanced Studies (IHS) which seeks an answer to this question. The research focuses on long run demographic trends, a subset of European Union countries and macroeconomic impacts, where GDP is the key indicator. It is a complement to previous analyses, which discussed in particular the important short-run stabilization properties of the CMU.

Using a multi-country computable general equilibrium model and assuming that migration and demographic projections are unaffected by either the CMU or economic reforms, two cases are compared. In the first case, countries are assumed to be isolated, closed economies. In particular, capital markets are assumed to be separated. In the second case, countries are assumed to be connected through perfectly integrated capital markets, as would take place after full implementation of the CMU. Comparing population ageing impacts in these two cases provides an assessment of the long run consequences of the CMU[3].

1. The impact of population ageing with the CMU

Figure 1 shows the simulated impacts of population ageing on GDP per capita in two countries, France and Germany, over the next 50 years. The impact in the closed economy case is shown by the dashed line while the impact with integrated capital markets is shown by the solid line. When social security is not reformed, population ageing increases old-age social security expenditures (pensions, health and long-term care). To avoid an explosion of public debt, labour income taxes are increased in all cases to keep public debt constant.



Source: Davoine (2017).

Figure 1. Simulation results, population ageing, no social security reform

[2] For more on Capital Market Unions, see Véron and Wolff (2016).
[3] The multi-country model is similar to Börsch-Supan et al. (2006). For details on the model, see Davoine and Molnar (2017). For details on the assessment, see Davoine (2017). Demographic projections are taken from Eurostat (2015) and were made before the refugee crisis.

Consistent with the public finance literature, Figure 1 shows that population ageing leads to a decline in GDP per capita over the long run without any reform[4]. With constant retirement age and increasing life expectancy, labour supply per capita and thus production per capita drop. The novelty is the comparison of the two cases, closed economy and integrated capital markets (dashed and solid lines). The Figure shows that the drop of GDP per capita would be higher with integrated capital markets in Germany, but lower in France. On average, the CMU would lead to a 2.9 %-points loss of GDP per capita in each of the next 50 years in Germany, but a 2.1 %-points gain in France.

Table 1 provides the corresponding numbers for all 14 European Union countries in our sample and shows that the largest gain is in France, at 2.1 %-points, and the largest loss in the Netherlands, at 4.8 %-points. Absent any social security reforms and using labour income taxes to prevent increases of public debts, the simulation thus shows that the CMU would lead to redistribution across countries over the long run. Since the weighted average (by economic size) of gains and losses is near zero, the CMU would not lead to any aggregate efficiency gains over the long run (measured in GDP terms).

	GDP/capita change (%) Average 2015-2065		
	Closed	CMU	Gap
Austria	-8.1	-8.1	0.0
Belgium	-3.6	-4.9	-1.3
Czech Republic	-6.0	-7.6	-1.6
Denmark	-3.8	-6.0	-2.2
Finland	-3.4	-2.6	+0.8
France	-4.9	-2.8	+2.1
Germany	-1.2	-4.1	-2.9

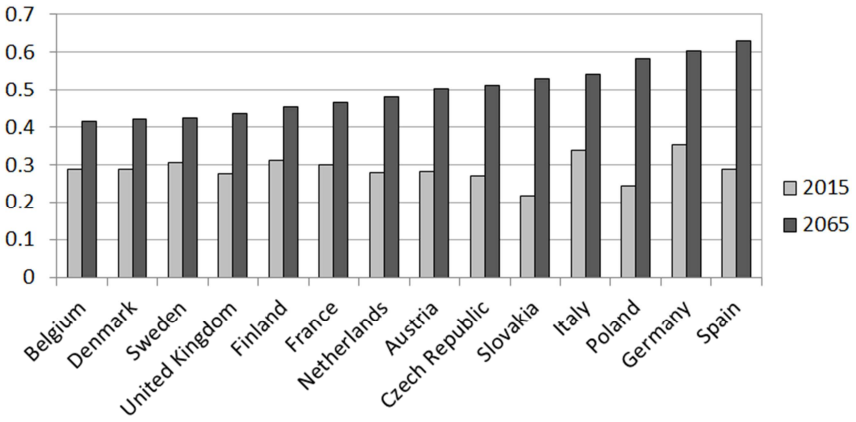
	GDP/capita change (%) Average 2015-2065		
	Closed	CMU	Gap
Italy	-5.9	-4.6	+1.3
Netherlands	-3.1	-7.9	-4.8
Poland	-7.4	-9.0	-1.6
Slovakia	-7.8	-8.9	-1.1
Spain	-4.3	-5.3	-1.0
Sweden	-4.5	-4.2	+0.3
United Kingdom	-7.1	-5.7	+1.4

Legend: *Closed* is the case with no capital market integration (single, closed economy); *CMU* is the case of a Capital Market Union with perfect capital market integration; *Gap* is the %-points difference in GDP/capita variations between the Closed case and the CMU case. Source: Davoine (2017).

Table 1. Summary simulation results, population ageing, no social security reform

The main reason for the cross-country redistribution impact of the CMU are demographic differences. Figure 2 illustrates these differences, showing the old-age dependency ratios[5] in 2015 and their projected values in 2065. The ratio would for instance increase from 35% to 60% in Germany, but only from 30% to 47% in France. Relative to other countries, labour supply per capita is thus projected to drop faster in Germany, which would increase the capital-labour ratio faster and decrease returns to investment more. The opposite would take place in France. In the integrated capital markets case, investors would shift their investments away from Germany and towards France, reducing the capital stock and production in Germany and increasing them in France. Ceteris paribus, there is thus an investment dividend from slow population ageing in the scenario of integrated capital markets. Other reasons for cross-country redistribution are institutions, which will be discussed next.

[4] All GDP per capita numbers reported here are deviations from the growth trend, which is assumed to be identical across countries. In reality, most European countries have scheduled social security reforms. To isolate the impact of the CMU however, these reforms have not been taken into account in the simulations.
[5] The old-age dependency ratio is the fraction of the population older than 65 years over the population aged 15 to 64.



Source: Eurostat (2015).

Figure 2. Old-age dependency ratio, 2015 and 2065

2. The role of social security reforms

Table 2 provides the simulated long-run outcomes of population ageing in the two cases, closed economies or integrated capital markets, when the same social security reform is implemented in all countries. Specifically, the retirement age is gradually increased by 2.5 years over the next five decades[6]. This reform increases social security contributions and reduces expenditures, as households work longer and collect pensions later. The reform may however not be sufficient to balance the social security system. As before, labour income taxes are increased as needed to keep public debts constant.

	GDP/capita change (%) Average 2015-2065		
	Closed	CMU	Gap
Austria	-3.9	-2.6	+1.3
Belgium	-1.2	0.6	+1.8
Czech Republic	-2.5	-3.1	-0.6
Denmark	-0.9	-0.1	+0.8
Finland	1.0	1.7	+0.7
France	0.2	2.9	+2.7
Germany	4.0	1.1	-2.9

	GDP/capita change (%) Average 2015-2065		
	Closed	CMU	Gap
Italy	-1.6	1.5	+3.1
Netherlands	1.1	-2.7	-3.8
Poland	-2.0	-3.6	-1.6
Slovakia	-3.6	-4.6	-1.0
Spain	1.5	0.6	-0.9
Sweden	0.2	1.5	+1.3
United Kingdom	-3.1	-2.0	+1.1

Legend: see Table 1. Source: Davoine (2017).

Table 2. Summary simulation results, population ageing, retirement age increase

As in Table 1, Table 2 exhibits a redistribution effect due to the CMU. On average, for instance, GDP per capita would be 2.9 %-points lower in Germany in each of the next 50 years and 2.7 %-points higher in France if capital markets were perfectly integrated. Again, the weighted average of gains and losses is near zero. Compared to Table 1, redistribution patterns however differ in Table 2. While Belgium, for instance, would incur an average yearly loss of 1.3 %-points without any reform (Table 1), it would benefit from an average yearly gain of 1.8 %-points with the social security reform (Table 2).

[6] See Davoine (2017) for analyses with other types of social security reforms.

The main reason for such a change in redistribution patterns are institutions. Compared to other countries, the population is projected to age slower in Belgium, but labour income taxes and social security contributions are higher than in other countries. Without the social security reform, labour income tax rates need to be strongly increased to keep public debt constant, leading to stronger labour supply disincentives in that country (Laffer curve effect). This leads to a stronger increase in the capital-labour ratio, decreasing the returns to investment more and triggering capital outflows. With the social security reform, taxes do not need to be increased as much. The slow-ageing effect then dominates, increasing the capital-labour ratio less and decreasing returns to investment less than in other countries, which attracts capital from abroad.

3. General policy implications

The simulations presented above and in the rest of the research project (see Davoine, 2017) show that the CMU would, over the long run, lead to cross-country spillovers and would create winners and losers. Ceteris paribus, countries whose population ages faster would lose, while countries with a slow ageing population would gain from the CMU.

The simulations also demonstrate the role of social security reforms. Disregarding international spillover effects, it is well known that reforms are needed to deal with increasing old-age social security expenditures as the population ages, if the objective is to avoid a decline in economic growth: countries which fail to implement social security reform would have to pay a macroeconomic penalty. The research shows that this penalty would be higher with the CMU. Relying on the government general budget instead of reforming social security indeed is likely to reduce labour supply incentives, reducing returns to investment and thus triggering a capital outflow.

The research further provides information on the respective merits of various social security reform options. The three standard pension reform options are increases in social security contributions, pension benefit reductions and increases in retirement age. Each option has advantages and disadvantages. The CMU would provide one more advantage to the third option, increases in retirement age. Indeed, this option has a beneficial impact on the capital-labour ratio, increasing returns to investment and attracting capital from abroad.

Capital markets are not yet completely integrated. Simulations presented above show that cross-country redistribution patterns depend on the implementation (or not) of social security reforms. Countries which want to coordinate and tackle jointly the redistribution effects of population ageing should thus discuss social security reforms and deeper capital market integration (i.e. the CMU) at the same time. From a macroeconomic point of view, however, the research has not identified any efficiency gains: the cases considered are all zero-sum games, as those countries which gain only gain because they attract capital away from other countries, which, as a result, lose from the CMU[7].

An important assumption of the analysis presented above is that demographic projections are neither influenced by the CMU nor by economic policy reforms. In reality, migration partially depends on differences in economic conditions between the origin and the destination countries. In a fast ageing country, wages should increase faster, as the labour supply per capita drops faster and the capital-labour ratio increases faster. Over time, fast ageing countries may become a more interesting immigration destination, which would slow down the ageing of the population and the negative impacts of the CMU. Pro-immigration policies are thus one way to mitigate the negative consequences of the CMU in fast ageing countries.

[7] Future research may however identify coordination gains in welfare terms.

In related fashion, and as final words of caution, one should note that the assumption of stable demographic projections is, to some extent, unrealistic. Migration is indeed free within the European Union, so that within-EU migration should naturally mitigate the long run impacts of the CMU presented in this policy brief. To what extent the real impact of the CMU will be lower is, however, unknown, which should guard against unfounded optimism. One can also note that capital market integration is a process which does not only depend on policy; even without a CMU, the integration process may continue. The results presented here also apply without an explicit CMU goal.

4. Specific policy implications for Austria and several other countries

In the absence of social security reforms, Austria would neither lose nor gain from the CMU over the long run (see Table 1). However, the country would gain in case of reforms (see Table 2). Similar patterns hold for a few other countries. Belgium and Denmark, for instance, would lose from the CMU without reforms, but would gain with reforms. The Czech Republic and the Netherlands would lose in both cases, but lose less in case of reforms, while Italy and Sweden would gain in both cases, but gain even more in case of reforms. For all these countries, the GDP per capita gains from implementing the reform is a yearly average of 1 %-point or more over each of the next 50 years.

For Austria and the other six countries, the implementation of social security reforms – in this case, an increase of the retirement age – thus plays a crucial role in maximizing the benefit one can gain from the CMU (or reduce the losses it generates). For the other countries in our sample, the implementation of the reforms makes no or less of a difference.

References

Börsch-Supan A., A. Ludwig, and J. Winter (2006): "Ageing, Pension Reform and Capital Flows: A Multi-Country Simulation Model," *Economica*, 73:625-658.

Davoine, T. (2017): "Population aging, pensions and cross-country spillovers in currency unions," *FIRSTRUN Deliverable 5.3*, http://www.firstrun.eu/

Davoine, T. and M. Molnar (2017): "Cross-country fiscal policy spillovers and capital-skill complementarity in currency unions," *Institute for Advanced Studies Working Paper 329*, Vienna.

European Commission (2017): "Reflection paper on the Deepening of the Economic and Monetary Union," *COM(2017) 291 of 31 May 2017*, European Commission.

Eurostat (2015): "Population projections, Europop 2013," European Commission.

Lane, P. (2006): "The Real Effects of European Monetary Union," *Journal of Economic Perspectives*, 20:47-66.

Morelli, D. (2010): "European capital market integration: An empirical study based on a European asset pricing model," *Journal of International Financial Markets, Institutions and Money*, 20:363-375.

Véron, N. and G.B. Wolff (2016): "Capital Markets Union: a vision for the long term," *Journal of Financial Regulation*, 2(1):130-153.