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The process of Economic Convergence in Malta and in the European Union

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Policy Note

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Abstract

This paper looks at long-run trends in economic growth in European countries, focusing in particular on the real convergence process in Malta. Evidence of convergence at the EU level is mixed. Relatively poorer countries such as the New Member States (NMS) that joined after 2004 experienced a faster pace of growth compared to the EU15 countries, supporting the 'beta' measure of convergence. On the contrary, measures of income dispersion (sigma convergence) have increased after the financial crisis, especially among the EU15 countries. Changes in each country's GDP per capita in PPS relative to the EU average are decomposed into the effects of labour productivity and labour utilization.

Robust economic growth after the crisis pushed Malta's GDP per capita in PPS to be the highest among the NMS that joined since 2004. Malta's convergence since 2000 was driven by a higher utilization of labour, mainly due to the increase in the participation rate. A cross-country comparison is used to identify two important lessons for a country's convergence process. These relate to the perils associated with rapid growth driven by the accumulation of imbalances and the need for flexibility in the adjustment process following an economic shock.

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Executive Summary

Convergence, both economically and institutionally, was always a key milestone of the European Union (EU) project. It is also a prerequisite for increasing cohesion within the EU, especially with the New Member States (NMS) that joined the EU since 2004 that have a lower per capita income level compared to the EU15 Member States. Convergence is facilitated through the access to the Single Market, with its competition in product markets and a common set of rules, combined with limited transfers from the EU regional policy, targeted primarily on infrastructural projects and economic development. The process of economic convergence has however been affected by the financial crisis of 2009 and the European sovereign debt crisis of 2012.

This paper looks at long-run trends in economic growth in European countries over the past two decades, focusing in particular on the real convergence process in Malta. In particular, it focuses on the following four questions:

How different are EU countries in terms of GDP per capita?

There exist substantial differences in income levels between EU countries. Due to its particular characteristics, Luxembourg has by far the highest GDP per capita among the countries considered, standing at around 270% of the EU average. Income per capita in Ireland, the Netherland, Austria, Germany, Denmark and Sweden exceeds 120% of the EU average. At the other end, the three latest members of the EU – Bulgaria, Romania and Croatia – have the lowest per capita income. More generally, the NMS that joined after 2004 rank at the lower end of the table. Malta stands as the best performer among the NMS, with a GDP per capita of 92.5% of the EU average in 2015, up from around 80% at the time of EU membership in 2004.

Do different measures of convergence convey the same message?

The literature distinguishes between two concepts of convergence. The first one, *beta* convergence, suggests that poorer countries should growth faster than richer ones and therefore, catch-up to their higher income levels. The second one, *sigma* convergence, refers to the gradual reduction in the dispersion of per capita GDP levels among different countries. Beta convergence is necessary but not sufficient for sigma convergence.

Cross-country regressions support the beta convergence process in the EU. In terms of sigma convergence, the standard deviation of per capita GDP has gradually declined since 2000, driven by the higher growth rates registered by the NMS that joined after 2004.

However, the pace of the reduction in income dispersion has slowed down after the financial crisis. On the contrary, in the EU15 countries, there has been a reversal of sigma-convergence since the start of the crisis. This process was driven by the considerable heterogeneity observed within this group of countries, with a number of countries being severely affected by the crisis, leading of a widening of dispersion in per capita incomes.

What is the relative role of labour productivity and utilization in the convergence process?

The convergence evolution of each country over the period 2000-2015 is summarized by a four quadrant matrix which depends on the country's initial level of per capita income in 2000 vis-à-vis the EU28 average and the average change in GDP per capita over this period. Most of the NMS, including Malta, are assessed to have 'converged from below', that is, they have started from a lower per capita income but have registered faster growth over the last 15 years compared to the EU average. Convergence should not be taken for granted however. Most of the countries affected by the financial crisis have actually 'diverged from below', seeing the gap with the EU average actually widen despite having lower income per capita in 2000.

Changes in GDP per capita in PPS can be further decomposed into the contributions of labour productivity and labour utilization. Given the dislocations in labour market in a number of European countries in the aftermath of the crisis, labour utilization is further decomposed into the contribution of demographics, unemployment and the participation rate.

The largest gains in per capita GDP were registered by the NMS. With few exceptions, on average, labour productivity accounts for around 75% of the increase in per capita GDP, with labour utilization accounting for the other 25%. In Malta's case, however, convergence since 2000 was driven entirely by a higher utilization of labour, mainly due to the increase in participation rate followed to a lesser extent by the decline in the unemployment rate compared to the EU average.

How does Malta compare with countries with a similar level of development? What key lessons can be identified?

Malta's convergence process is compared and contrasted to a group of NMS with similar levels of developments. These countries can be broadly classified in three groups. The first group – Estonia and Poland – are countries that experienced rapid catching-up, owing from their relatively low initial level of per capita GDP. The second group – Malta and the Czech Republic – started from a higher initial level and, despite some ups and downs during the

process, registered a gradual catching-up with the EU income level. The third group – Cyprus and Slovenia – also started from a higher initial level but their rapid increase before the crisis was not sustainable and eventually were severely affected by the financial crisis, which unravelled years of convergence.

This cross-country comparison identifies two important lessons for a country's convergence process. These relate to the perils associated with rapid growth driven by the accumulation of imbalances and the need for flexibility in the adjustment process following an economic shock.

How different are EU countries in terms of GDP per capita?

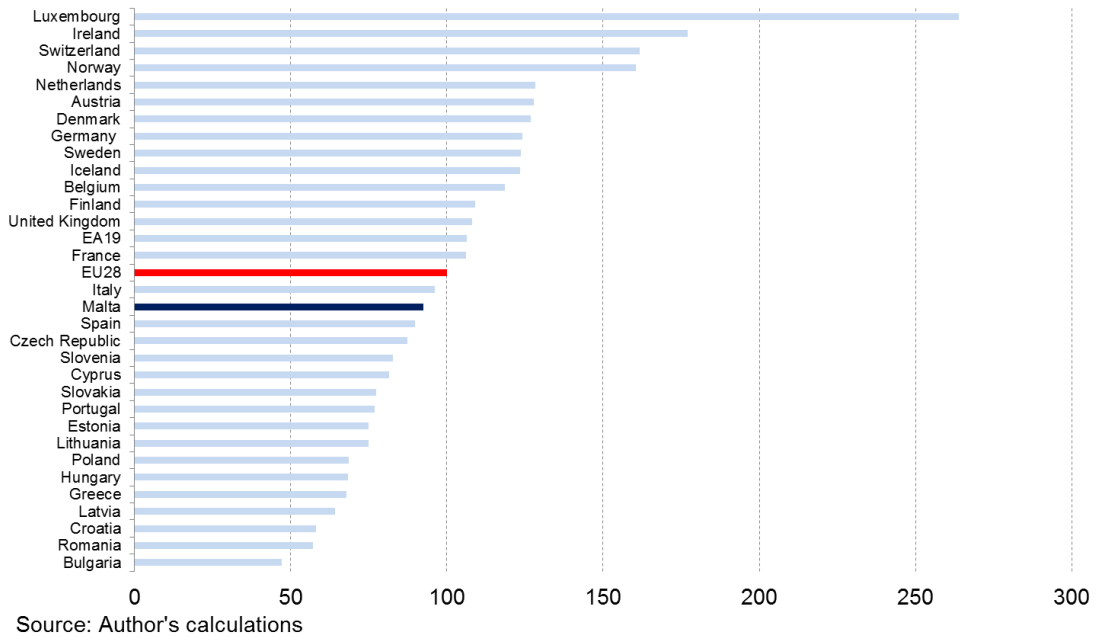
International comparisons of per capita GDP have to be expressed in a common currency and adjusted for differences in price levels. Failing to do so would result in an overestimation of GDP levels for countries with high price levels relative to countries with low price levels. GDP per capita is therefore defined in purchasing power standards (PPS), a common currency that eliminates the differences in price levels between countries, therefore allowing for a meaningful volume comparison of GDP between countries.

Chart 1 shows the GDP per capita in PPS in 2015 for the EU28 countries together with three countries in the European Free Trade Agreement (EFTA) – Iceland, Switzerland and Norway. Appendix 1 discusses the country ranking using two alternative measures instead of GDP, namely, Gross National Product (GNP) and Actual Individual Consumption (AIC).

Substantial differences in income levels exist between EEA countries. Luxembourg has by far the highest GDP per capita among the countries considered, standing at around 270% of the EU average. One particular feature of Luxembourg's economy which to some extent explains the country's very high GDP per capita is the fact that a large number of foreign residents are employed in the country and thus contribute to its GDP, while at the same time they are not included in the resident population. The three EFTA countries in the sample all have high per capita incomes, ranging from 123% of the EU average in Iceland to 162% in Switzerland. Among the EU countries, the richest countries are Ireland, the Netherland, Austria, Germany, Denmark and Sweden, all with per capita income exceeding 120% of the EU average. With the exception of Greece and Portugal, members of the EU15 group of countries rank at the upper end of the table. At the other end, the three latest members of the EU – Bulgaria, Romania and Croatia – have the lowest per capita income. Bulgaria's income per capita, at 47% of the EU average in 2015, is the lowest in the EU. More generally, the NMS that joined after 2004 rank at the lower end of the table. Malta stands as the best performer among the NMS, with a GDP per capita of 92.5% of the EU average in 2015, up from 80% at the time of EU membership in 2004.[2]

[2] This figure uses the latest vintage of GDP for Malta, published in NSO News Release 199/2016 on 7th December 2016. The latter release contained substantial upward revisions in Malta's GDP for 2014 and 2015. As a result, the figures for GDP per capita in PPS for Malta in this Policy Note differ from those published on Eurostat, which have a cut-off date of 1st December 2016. GDP per capita in PPS in Malta stood at 88% of the EU average in 2015 according to the previous vintage. The PPP index for Malta has also remained unchanged and most probably would be revised upwards given the strong revision in GDP. However, the claim made in this paper, that Malta had the highest per capita GDP among the NMS in 2015, still remains factual irrespective of the data vintage used. The results for the other countries remained unchanged. Figures on per capita GDP in PPS are updated twice yearly, in June and December.

Chart 1
GDP PER CAPITA IN PPS in 2015
(EU28=100)



Source: Author's calculations

Table 1 groups the countries in Figure 1 by six income brackets. Malta's GDP per capita in PPS in 2015 stood at slightly less than 27,000 PPS, classified within the same category as Spain and Italy (between 25,000 PPS and 30,000 PPs). Between 2010 and 2015, Malta's increase in GDP per capita in PPS averaged 5.1% per annum, slightly higher than the average increase of 3.9% registered between 1996 and 2009.

Chart 2 plots Malta's GDP per capita in PPS vis-à-vis the EU average between 1996 and 2015 together with selected EU economies. The countries in the range had a GDP per capita of 75% to 95% of the EU average in the mid-1990s: Czech Republic, Greece, Spain, Cyprus, Portugal and Slovenia. The group also includes Estonia, one of the fastest growing NMS, as well as Poland, which is the only country that was not affected by the 2009 recession.

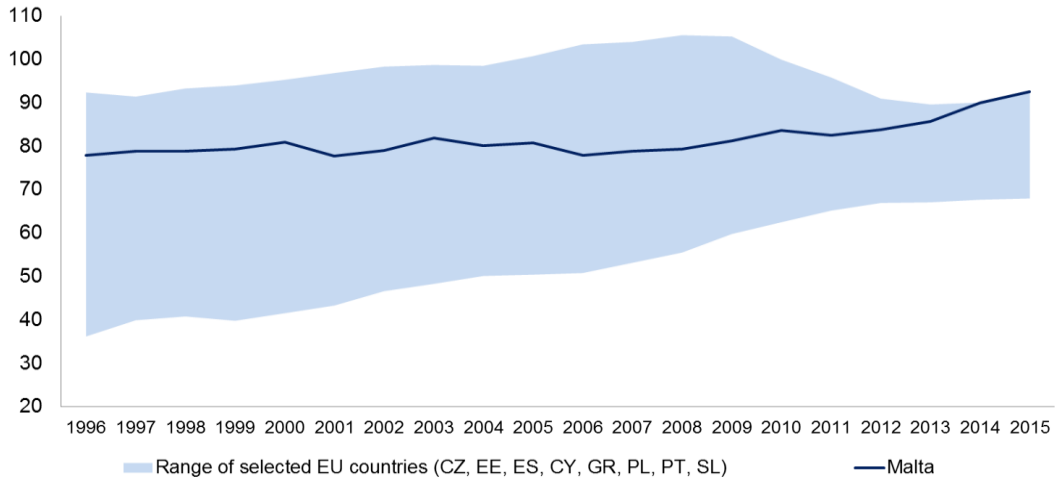
Table 1

GDP PER CAPITA IN PPS IN 2015 BY INCOME RANGE

Income range	Countries
Less than 20,000	Bulgaria, Romania, Croatia, Latvia, Hungary, Poland
Between 20,000 & 25,00	Greece, Lithuania, Estonia, Slovakia, Portugal, Cyprus, Slovenia, Czech Rep.
Between 25,000 & 30,000	Spain, Malta, Italy
Between 30,000 & 35,000	France, Finland, UK, Belgium
Between 35,000 & 40,000	Sweden, Denmark, Iceland, Germany, Austria, Netherlands
More than 40,000	Switzerland, Norway, Ireland, Luxembourg

Source: Eurostat

Chart 2
CONVERGENCE PROCESS IN MALTA AND SELECTED EU ECONOMIES
(EU28=100)



Source: Author's calculations

Malta's per capita GDP increased gradually in the late 1990s as the economy benefitted from a broad programme of structural adjustment that included price deregulation, privatisation, and financial and trade liberalisation, all of which encouraged greater private sector involvement in the economy (Ebejer, 2004). However, this catching-up process came to a halt in the early 2000s as the economy was hit by a combination of adverse demand and supply shocks.[3] For most of the 2000s, the Maltese economy made no progress in

[3] Adverse demand shocks affected the semiconductor and tourism industries following the burst of the dot.com bubble and the 9/11 terrorist attacks, respectively. Supply shocks related to heightened competition from

closing its income gap vis-à-vis the EU, remaining at slightly above 81% by 2009. Since then, however, the country accelerated its pace of convergence as the Maltese economy registered higher economic growth compared to the rest of the EU countries (Grech, Micallef and Zerafa, 2016).

The range of selected EU economies starts relatively wide in the mid-1990s but gradually converges by 2015 for two reasons. The first relates to the catching-up process of the NMS. For instance, Estonia increased its per capita GDP from 35% of the EU average in 1996 to 75% by 2015. Similarly, Poland improved its per capita GDP from less than 43% to 69% in two decades. On the other hand, countries that were severely affected by the financial crisis of 2009 and the European sovereign debt crisis of 2012 experienced a decline in their per capita GDP. By 2015, Malta's GDP per capita, at 92.5% of the EU average, is the highest from the range of countries in Figure 2 as well as among the NMS that joined the EU in 2004.

Do different measures of convergence convey the same message?

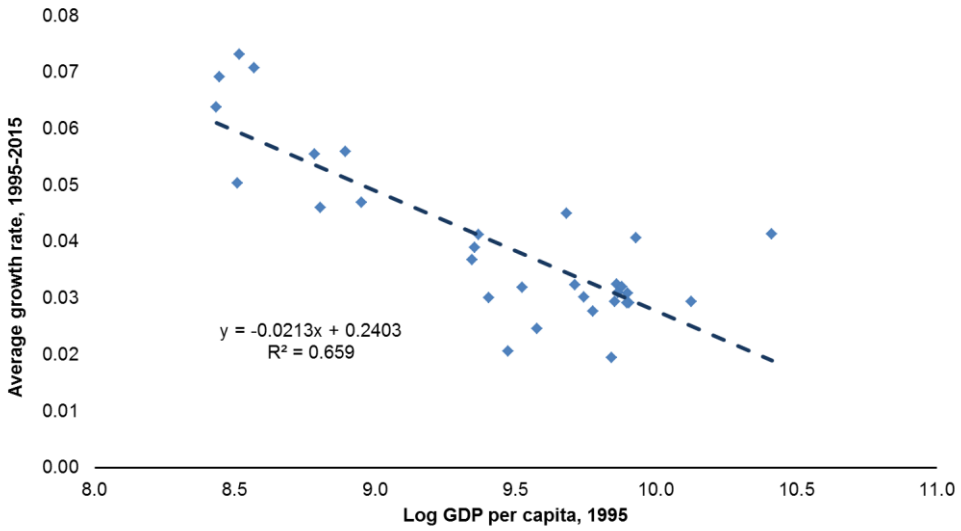
Economic theory postulates that developing economies have the potential to grow at a faster rate than developed ones since diminishing returns, in particular to capital, are not as strong as in capital-rich economies. In addition, developing economies can adopt and replicate the production methods, technologies, and institutions of developed countries, leading to faster economic growth.

The growth literature distinguishes between two types of convergence processes, *"beta-convergence"* and *"sigma-convergence"* (Barro and Sala-i-Martin, 2004). Beta-convergence refers to the concept that poor countries should grow faster than rich ones and therefore, will gradually 'catch-up'. Sigma-convergence refers to the reduction in the dispersion of per capita GDP levels among different countries. Beta convergence is necessary but not sufficient for sigma convergence.

emerging markets following the liberalisation in preparation for EU membership, which had a pronounced impact on traditional manufacturing sectors.

Beta-convergence is estimated on the basis of univariate cross-country regression of per capita income growth.[4] A negative sign of the estimated coefficient indicates absolute beta convergence, suggesting that countries at lower initial income levels grow faster.

Chart 3
BETA CONVERGENCE: 1995-2015



Source: Author's calculations

Chart 3 presents empirical results on beta convergence in the EU28 and EFTA countries over the period 1995-2015. The scatter diagram and the fitted trend line point to a strong inverse relationship between the starting level of per capita GDP and subsequent growth over the subsequent two decades. These results provide evidence that supports the beta convergence process in the EU. According to the parameters of the fitted regression, the average rate of convergence among this group of countries in this period has been around 2% per annum. This result is in line with the "2% rule" of convergence documented in the first studies of the convergence hypothesis (Mankiw, Romer & Weil, 1992).

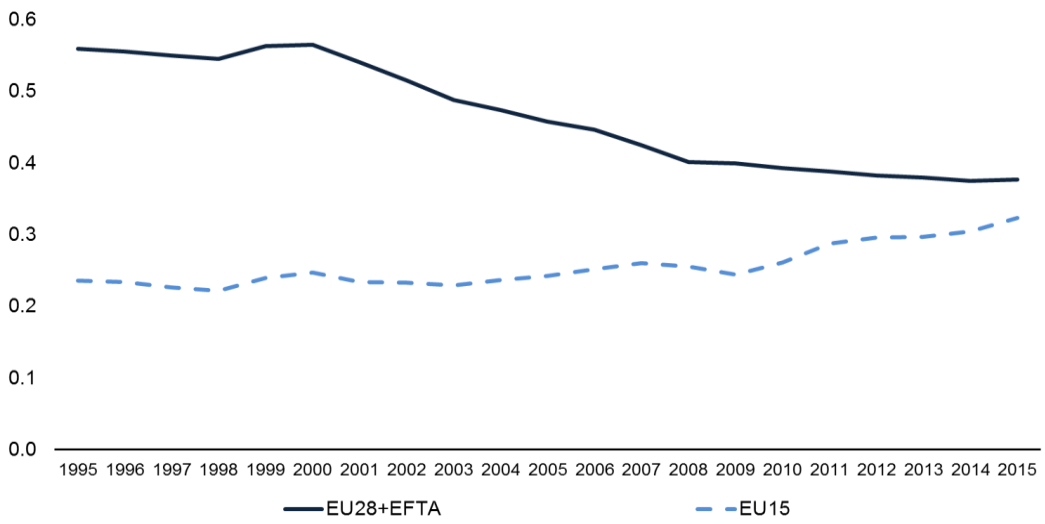
[4] More specifically, Barro and Sala-i-Martin (1992) proposed the following model:

$$\frac{1}{T} ln \frac{y_{i,T}}{y_{i,0}} = \alpha_0 + \frac{1 - e^{\beta T}}{T} ln y_{i,0} + \varepsilon_{i,t}$$

Where T is the length of the time period analysed. For estimation purposes, this equation is transformed as:

$$\frac{1}{T} ln \frac{y_{i,T}}{y_{i,0}} = \alpha_0 + \alpha_1 ln y_{i,0} + \varepsilon_{i,t}$$

Chart 4
SIGMA CONVERGENCE: 1995-2015
(standard deviation of logarithm of per capita GDP in PPS)



Source: Author's calculations

As a measure of dispersion, sigma-convergence is calculated by the standard deviation of per capita incomes in PPS of the countries in the sample. Chart 4 illustrates the evolution of sigma-convergence for all the countries as well as the EU15 covering the period 1995-2015.

A number of results stand out. First, the main trend during this period among the EU countries has been towards a declining standard deviation of per capita income, especially in the period after 2000. This process has been driven by the NMS that joined the EU after 2004, which have recorded higher growth rates than the older Member States. Second, the pace of the reduction of income dispersion has slowed down after the crisis. This can be observed by the flattening of sigma convergence for all the countries in the sample starting from around after 2009. On the contrary, in the EU15 countries, there has been a reversal of sigma-convergence since the start of the crisis. This process was driven by the considerable heterogeneity observed within this group of countries, with a number of countries being severely affected by the financial crisis and the European sovereign debt crisis, leading of a widening of dispersion in per capita incomes.

What is the relative role of labour productivity and utilization in the convergence process?

Beyond these two measures of convergence, GDP per capita in PPS can be decomposed into its two main determinants: labour productivity and labour utilization. More formally, GDP per capita can be expressed as:

$$\frac{GDP}{Population} = \frac{GDP}{Employment} x \frac{Employment}{Population}$$

where $\frac{GDP}{Employment}$ refers to labour productivity, that is, the output produced in an economy divided by total employment. Productivity depends on the amount of physical and human capital per worker as well as the state of technology. The term $\frac{Employment}{Population}$ refers to labour utilization, which can be further decomposed into three factors[5]:

$$\frac{Employment}{Population} = \frac{Employment}{Labour\ Supply} x \frac{Labour\ Supply}{Working\ Age\ Population} x \frac{Working\ Age\ Population}{Population}$$

The term $\frac{Employment}{Labour\ Supply}$ refers to the share of employment in the labour force, or alternatively, to $(1 - \frac{unemployment\ rate}{100})$, since an increase in unemployment rate will lower this ratio. The term $\frac{Labour\ Supply}{Working\ Age\ Population}$ refers to the participation rate, while $\frac{Working\ Age\ Population}{Population}$ capture demographic factors.

Before looking at the determinants of GDP per capita in PPS, Table 2 summarizes the convergence evolution of each country over the period 2000-2015.[6] The figure is divided in four quadrants, depending on the country's initial level of per capita income in 2000 vis-à-vis the EU28 average and the average change in GDP per capita over this period.

[5] A somewhat similar decomposition is found in Whelan (2013).
[6] The reduced sample is due to data availability arising from the labour data.

Table 2

CONVERGENCE OR DIVERGENCE MATRIX

		GDP per capita, 2000	
		Lower than EU28	Higher than EU28
Change in GDP per capita, 2000-2015	Lower than EU28	GR, ES, CY, PT	BE, DK, FR, IT, NL, AT, FI, SW, UK, IC, NO
	Higher than EU28	BG, CZ, EE, HZ, LV, LT, HU, MT, PL, RO, SL, SK	DE, IE, LU, CH

Divergence from below	Convergence from above
Convergence from below	Divergence from above

Source: Author's calculations

Countries in the upper left quadrant, shaded in light grey, include countries with GDP per capita lower than the EU28 average in 2000 but that have registered lower growth rates than the EU28 average. These four countries – Greece, Spain, Cyprus and Portugal – have therefore *diverged from below*. All countries in this quadrant have been severely affected by the financial crisis or the sovereign debt crisis.[7]

The lower left quadrant, shaded in dark grey, include countries that had a lower income level than the EU28 average in 2000 but have registered above-average growth rates during this period. This category, which includes all NMS that joined the EU after 2004 with the exception of Cyprus, has *converged from below*.

The lower right quadrant, shaded in dark orange, includes countries which despite having GDP per capita levels higher than the EU28 average in 2000 still managed to register above-average growth rates during this period. Only three EU countries fall in this category –

[7] Among the GDP components, investment in this group of countries was particularly affected and, by 2015, remained between 30% and 50% lower compared to 2007 levels. Greece was the most severely affected, with, investment remaining around 65% lower in 2015 compared to the pre-crisis level. In addition to being an important driver of the business cycle, investment decisions also affect the capital stock and therefore, the economy's potential growth. Among the investment components, construction investment remained around 40% lower in 2015 compared to 2007 levels, with Greece being more severely affected.

Germany, Ireland and Luxembourg – in addition to Switzerland.[8] Countries in this quadrant are deemed to have *diverged from above*.

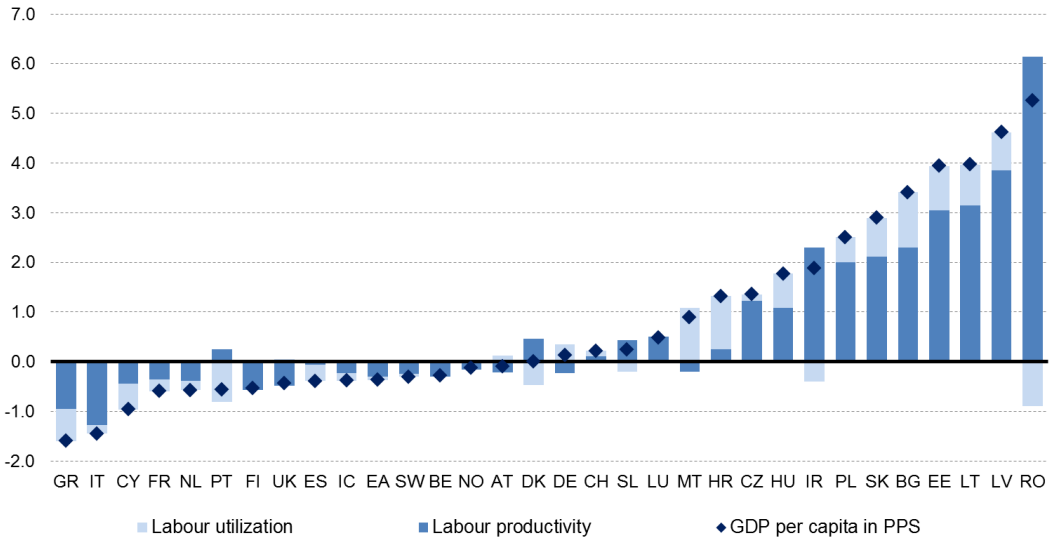
Finally, the upper right quadrant, shaded in light orange, includes those countries with income levels higher than the EU28 average in 2000 but which have registered a decline in GDP per capita over the past fifteen years. There are nine countries from the EU15 economies in this category, as well as Iceland and Norway. These countries are deemed to have *converged from above*.

Chart 5 decomposes GDP per capita in PPS into the contributions of labour productivity and utilization. The speed of convergence depends on whether the movements in the two components of per capita GDP – labour productivity and utilization – cumulate or offset each other. As expected, the largest gains in per capita GDP were registered in the NMS, especially Romania, Bulgaria and the Baltic countries. With few exceptions, the convergence process in the NMS was mostly driven by labour productivity, which accounted on average for around 75% of the increase in per capita GDP, with labour utilization accounting for the remaining 25%. In Malta's case, however, the convergence process was entirely driven by labour utilization.

At the other end of the table, Italy and Greece stands as the biggest losers, with an average decline in GDP per capita of more than 1% per annum. The decline in Italy was mainly driven by labour productivity, while both productivity and utilization contributed almost equally to the Greek's situation.

[8] The Irish performance is affected by the extraordinarily high growth rate registered in 2015. However, Ireland's GDP per capita in 2014 was still higher than its 2000 level as the economy recovered strongly after the financial crisis.

Chart 5
LABOUR PRODUCTIVITY AND UTILIZATION
(average % change between 2000 and 2015)



Source: Author's calculations

Focusing more specifically on Malta, it is important to note that Malta's productivity level was already relatively high compared to the EU average in the early 2000s, much more than the other NMS. For instance, Malta's labour productivity was around 95% of the EU average in 2000, while in Estonia, it was only 44%. Hence, it is only natural that in these countries, productivity would play a much more important role in closing the gap with the EU. In other words, the Balassa-Samuelson effect was more pronounced in the NMS compared to Malta. In the next section, the cross-country comparison will show that Malta's productivity level vis-à-vis the EU was and remained the highest among the 6 countries considered. However, this this 'gap' has not narrowed since 2000, which explains the slightly negative contribution of labour productivity in chart 5.[9]

On the contrary, developments in labour utilization point to a different story (see chart 6). Labour utilization was much lower than the EU average in the early 2000s but this 'gap' vis-à-vis the EU has closed down by 2015.

[9] A caveat is in order in the interpretation of relative labour productivity. In the above framework, labour productivity is defined as GDP per person employed, while a better measure would be GDP per hour worked, given for instance, the increase in part-time employment. Micallef and Ellul (2017) show that a broader and more comprehensive measure of productivity – total factor productivity – derived from a production function has recovered strongly in recent years to levels last seen in the 1990s. This bodes well for the country's convergence prospects.

Chart 6

LABOUR PRODUCTIVITY AND UTILIZATION IN MALTA AND EU

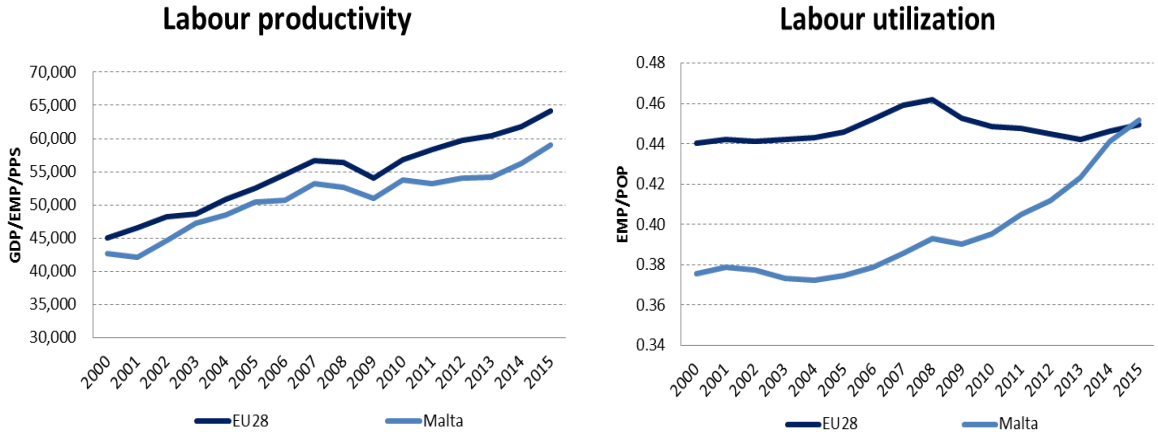
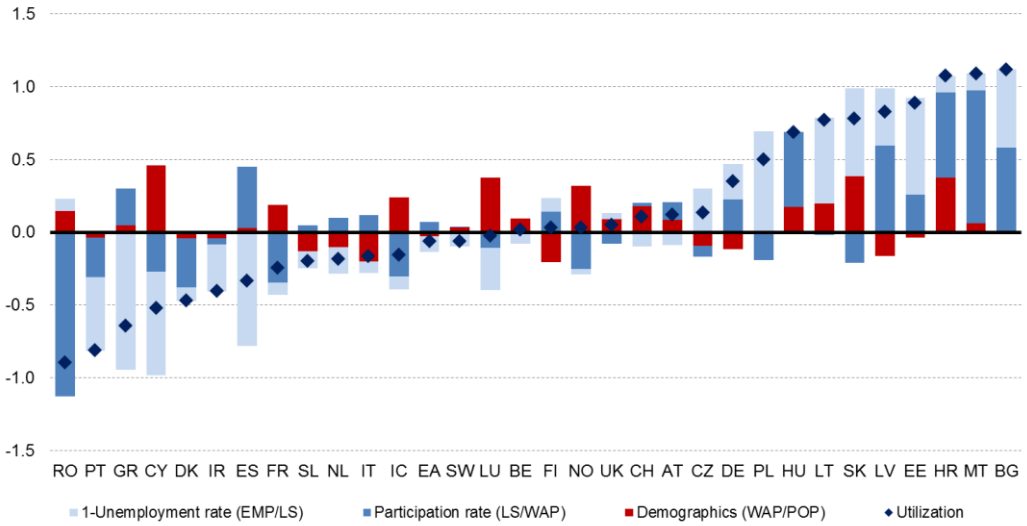


Chart 7 decomposes labour utilization into the effects of demographics, the participation rate and the unemployment rate. As expected, one observes a lot of cross-country heterogeneity in the evolution of labour utilization over this period.

Chart 7
DECOMPOSITION OF LABOUR UTILIZATION
(average % change between 2000 and 2015)



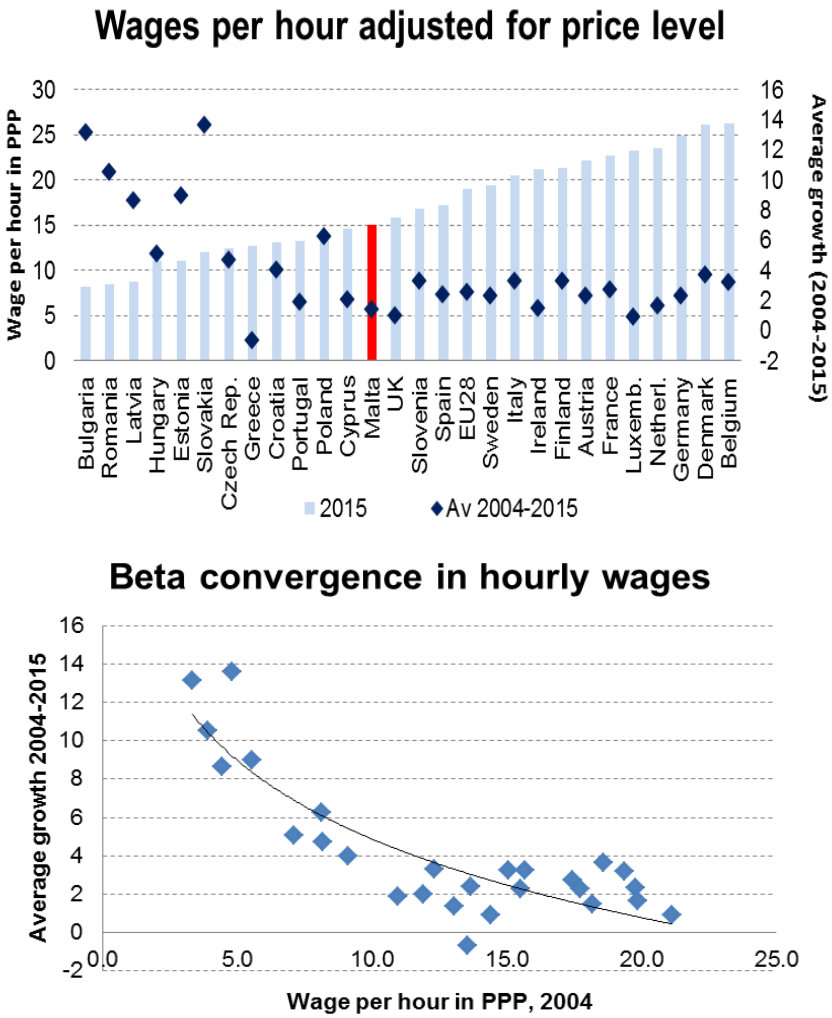
Source: Author's calculations

The largest gains in labour utilization were registered by Bulgaria, Malta, Croatia and the Baltic countries. In Malta, more than 80% of the gains were due to higher participation rates, driven by a number of initiatives taken by the authorities to encourage more people to join and remain longer in the labour market (Micallef, 2015; Grech, 2015). In the Baltic countries, the reduction in the unemployment rate from the relatively high levels seen in the early

2000s played a more important role. At the other end of the table stand Romania and the countries that were most severely affected by the crisis, such as Portugal, Greece and Cyprus. The deterioration in the latter group of countries is mainly driven by the increase in the unemployment rate after the crisis.

Chart 8

CONVERGENCE IN HOURLY WAGES ADJUSTED FOR PRICE LEVEL DIFFERENCES



The convergence process by the NMS observed above is also reflected in increases in hourly wages, although the latter still remain substantially lower compared to the levels prevailing in the older Member States. Chart 8 plots the hourly wages in all EU countries in PPP to adjust for differences in the price levels, as well as the average growth rate registered over the period 2004-2015.[10] As expected, the charts show large differences in

[10] The indicator refers to wages and salaries per hours for industry, construction and services (excluding public administration, defence and compulsory social security). This measure differs from labour costs which, in addition to wages and salaries, also include non-wage costs, such as employers' social security contributions. The PPPs

hourly wages among EU countries, with the highest wages being paid in Belgium, Denmark and Germany. However, hourly wages increased more rapidly in most of the NMS over the last decade, in line with the beta hypothesis of convergence, while they averaged around 2% per annum in the older Member States.

How does Malta compare with countries with a similar level of development? What key lessons can be identified?

The static analysis in the previous section hides the evolution of the key variables during the crisis, as well as the unwinding of boom and bust dynamics observed in some countries.[11] To shed more light on these issues, this section compares the development in Malta's convergence process with a number of EU economies at a similar level of development. In particular, the comparison is made with the Czech Republic, Slovenia, Estonia and Poland, four economies that, like Malta, have converged from below according to the analysis in Table 2. Cyprus is also included in the comparison given that it had the highest per capita income among the NMS at the time of EU membership and its geographical similarities with Malta. In 2015, these countries had per capita GDP ranging between 65% and 90% of the EU average. The evolution of GDP per capita and the various decompositions for this group of countries are illustrated in Chart 8.

These countries can be broadly classified in three groups. The first group – Estonia and Poland – are countries that experienced rapid catching-up, owing from their relatively low initial level of per capita GDP. Estonia's path was more volatile compared to the Polish case, having been severely affected by the financial crisis but its labour market flexibility enabled it to recover relatively quickly. The second group – Malta and the Czech Republic – started from a higher initial level and, despite some ups and downs during the process, registered a gradual catching-up with the EU income level. In both cases, these two countries have gradually improved their per capita GDP by more than 10 percentage points between 1996 and 2015. The third group – Cyprus and Slovenia – also started from a higher initial level but their rapid increase before the crisis was not sustainable and eventually were severely affected by the financial crisis, which unravelled years of convergence. The Cypriot experience was the most dramatic, with per capita GDP declining from 105% of the EU average in 2009 to 82% in 2015.

used in chart 8 refer to Actual Individual Consumption (AIC) instead of GDP. In this case, AIC is more appropriate given that the focus is on wages.

[11] See Praet (2014) for a discussion on the financial cycle and real convergence in the euro area.

The drivers of growth in these countries also differed. The fast convergence process in Estonia and Poland was driven mainly by labour productivity though in the case of Poland, labour utilization also played an important part. In these two countries, labour productivity in the mid-1990s was relatively low, around 35% and 50% of the EU average, and therefore had ample room to catch-up to higher productivity levels. The improvement in relative labour productivity in the Czech Republic and Slovenia were more moderate, increasing from around 70% of the EU average in 1996 to around 80% in 2015. On the contrary, Malta and Cyprus, the two countries with the highest levels of productivity (above 85% in mid-1990s), registered only slight gains in their relative productivity vis-à-vis the EU.

Differences in economic development are also driven and affected by changes in the labour market. In the case of Malta, the improvement in per capita GDP was mainly driven by labour utilization, mostly due to the increase in participation rate and the decline in the unemployment rate. On the contrary, an ageing population acted as a drag on the labour utilization, though this impact was to an extent mitigated by the inflow of foreign workers. More broadly, however, ageing populations are exerting a negative impact on almost all countries after the crisis. Contrary to utilization, the productivity of labour did not contribute positively to the country's convergence process since 2010.[12]

This cross-country comparison identifies two important lessons for a country's convergence process. These relate to the perils associated with rapid growth driven by the accumulation of imbalances and the need for flexibility in the adjustment process following an economic shock. The cases of Cyprus and Estonia clearly illustrate these two lessons.

In Cyprus, the convergence process led to the accumulation of large imbalances in the run-up to the financial crisis (IMF, 2014). The high growth rates observed before the crisis masked the build-up of unsustainable imbalances and vulnerabilities. Significant foreign inflows following the removal of capital accounts restrictions in 2004 led to a rapid expansion of the banking sector and an increase in credit that fuelled a housing boom and private-sector indebtedness. Cyprus's current account deficit widened to around 16% of GDP by 2008. The financial sector became increasingly interlinked with Greece leading to an accumulation of significant Greek loans and sovereign debt.

The imbalances in Cyprus eventually culminated in the collapse of its banking sector following the restructuring of the Greek sovereign debt in 2011.[13] Cyprus requested official assistance from the EU/IMF in mid-2012 and the authorities took unprecedented measure of

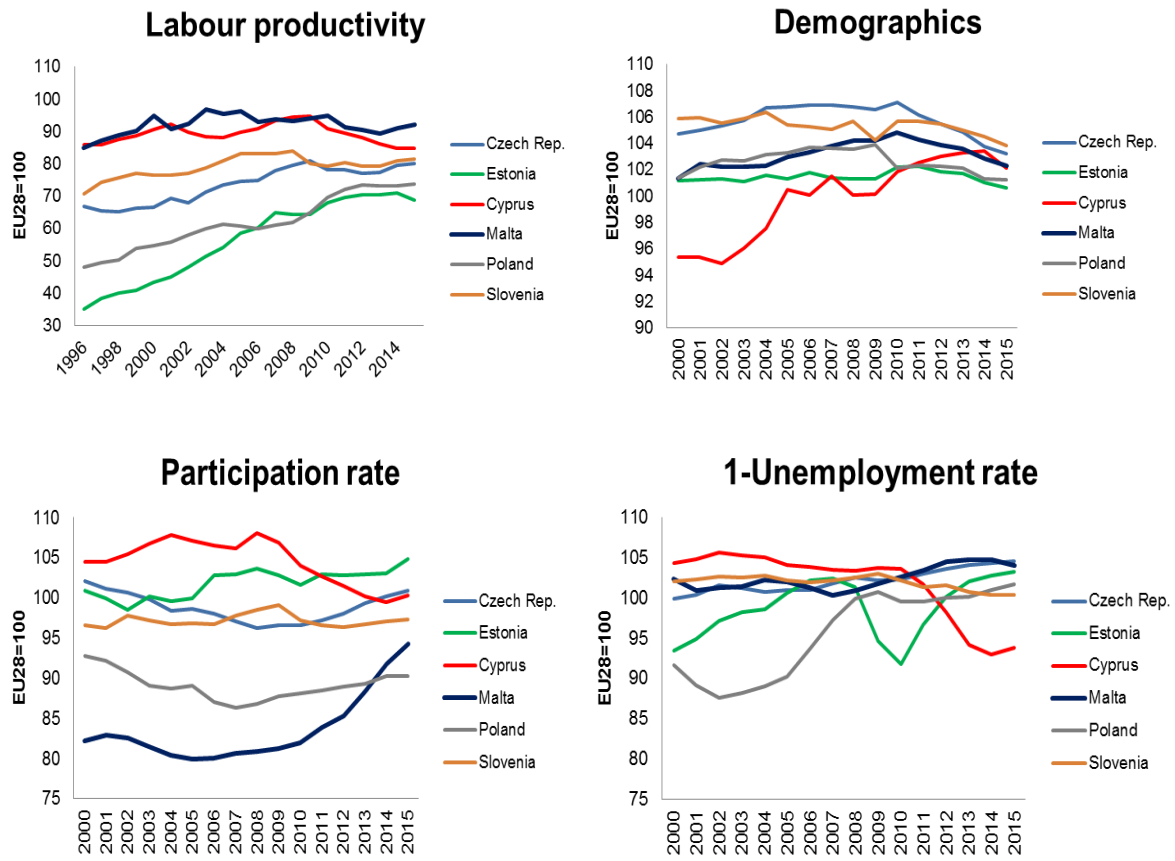
[12] See Micallef (2016) for an in-depth look at labour productivity in Malta using survey information from the Wage Dynamics Network.
[13] The Cypriot economy was also adversely affected by the explosion of the country's main power station in 2012.

avoid bank runs and stem the crisis, including the recapitalization of the banking system through bail-in of bank creditors and the imposition of domestic and external payment restrictions. These boom-bust dynamics led to a reversal of its convergence process. This was driven both by labour productivity following the collapse of economic activity as well as by deterioration in utilization, mostly due to the sharp increase in the unemployment rate and the reduction in the participation rate.

Estonia was also severely affected by the crisis but its flexibility in the policy response led to a quick recovery. Growth before the crisis was credit-fuelled, driven by large inflows of capital from Scandinavian banks, leading to a construction boom. The burst of the property bubble and the global financial crisis in 2009 led to a severe recession, with Estonia, like its Baltic neighbours, being one of the most adversely affected countries in the EU. Its unemployment rate more than tripled in three years, reaching 16.7% in 2010.

Chart 9

KEY DRIVERS OF CONVERGENCE IN SELECTED EU ECONOMIES



Estonia managed to avoid a prolonged crisis, returning quickly to growth and resuming its convergence process. This was possible due to existing buffers and a determined response by both the public and the private sector. For instance, the authorities had ample fiscal room for manoeuvre following sizable fiscal reserves accumulated during the boom years and a very low level of public debt, in addition to swift and far-reaching adjustment measures taken in 2008 and 2009. The rapid recovery of the Estonian economy was facilitated by the relatively flexible labour market, which allowed most of the adjustment to take place through reductions in wages and labour (Malk, 2015).[14]

Contrary to these two economies, the Maltese economy was not affected by the financial crisis. Malta's growth was underpinned by sound macroeconomic policies, diversification towards higher value added sectors as well as reforms to attract and retain more people to the labour market. Growth was not fuelled by credit but by an increase in competitiveness that led to the current account turning to surplus position after years of persistent deficits and a gradual reduction in the fiscal deficit.

After a recession in 2009, the economy recovered strongly such that, by 2011, it had already exceeded the pre-crisis level. By 2015, real GDP stood 29% higher compared to the pre-crisis peak. The positive performance of the Maltese economy is due to a number of factors, such as the diversification towards new sectors, which increased the resilience and flexibility of the economy, as well as the absence of major shocks to the financial system.[15] Estimates by the Central Bank of Malta suggest that potential GDP has accelerated substantially in recent years, returning to growth rates that characterised the economy in the 1990s.

The labour market has kept the pace with the rapid evolution of the economy since EU membership and proved resilient to the crisis. Employment growth averaged 3.2% between 2010 and 2015, more than four times the average growth rate registered between 1995 and 2008. In the service sector, job creation continued unabated even during the crisis. The unemployment rate and NAIRU were hardly affected by the crisis and maintained their downward trend, reaching historical lows in 2015 (Micallef, 2017). The labour supply increased sharply, driven by reforms targeted to increase the participation rate of females as well as an influx of foreign workers.[16] The share of the latter increased from less than 2% of the workforce at the time of EU membership in 2004 to 10.8% a decade later.[17] In addition,

[14] In the financial sector, banks' own capital, liquidity cushions as well as support from Nordic parents prevented liquidity problems.
[15] See Grech et al (2016) for a description of the changing structure of the Maltese economy.
[16] See Micallef (2015) for a description of the main reforms implemented to attract females in the labour market and their impact on potential output growth.
[17] See Grech (2015) for further details on the impact of migration in Malta.

the pension reforms of 2006 and 2015 should eventually encourage older workers to remain active for a longer period of time over the coming years.

Going forward, the speed of convergence towards the EU depends on whether the movements in the two components of per capita GDP – labour productivity and utilization – cumulate or offset each other. In Malta's case, convergence over the last decade was driven entirely by a higher utilization of labour. While the participation rate is still relatively low by European standards, therefore still providing some catching-up potential, with the unemployment rate at a historical low and unfavourable demographics, future convergence cannot rely solely on labour utilization but increasingly on labour productivity. This will require considerable investment to up-skill the Maltese workforce and to make sure that existing skill mismatches are addressed quickly. Malta still has a considerable gap in educational attainment compared with the EU, and moreover the increased diversification of its economy makes the task of adequately fulfilling industry demands more difficult. The new sectors, partly due to their international focus and the high demand for labour, also create challenges for the country's infrastructure. To ensure they remain competitive, there will be a need of constantly investing to ensure Malta remains a leader in areas like digital technologies and networks, connections with our main trading partners and, increasingly, internal transit of workers to their workplace. This need for public investment comes at a time when it is increasingly likely that Malta will be less eligible for EU funding beyond 2020, a development that could prove challenging.[18] That said, the rapid economic growth of recent years has brought with it a sharp rise in the national saving rate, which now stands at nearly 30% of GDP, a level last observed in the early 1990s (Grech and Rapa, 2016). Policymakers, similarly to what had happened in that period, need to find the appropriate ways to leverage this stock of internal savings so that it translates in investment that sustains Malta's potential growth.

[18] Barone et al (2016)

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Appendix 1: Alternative indicators of convergence

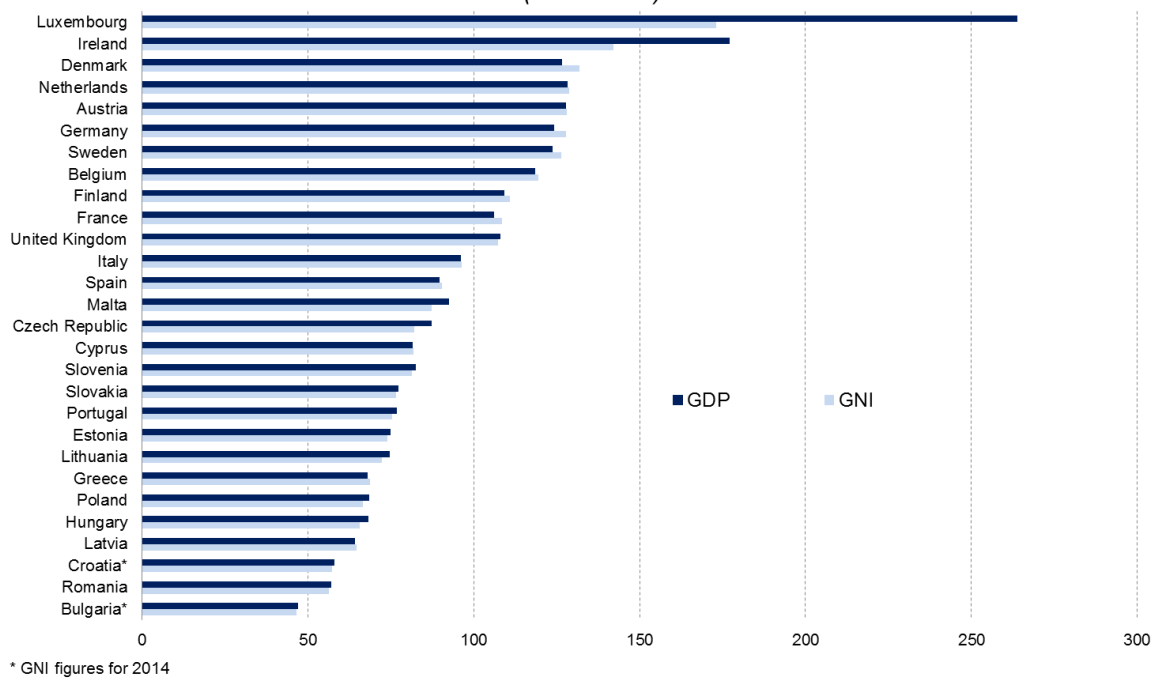
This appendix compares GDP per capita with two alternative measures, namely, Gross National Income (GNI) and Actual Individual Consumption (AIC).

Gross National Product takes into account net income receipts from abroad. Chart A1 plots GDP and GNI per capita in PPS in 2015. While for most countries the two measures are broadly similar, GNI per capita in Luxembourg and Ireland are substantially lower compared to per capita GDP. The former is due to the large banking sector while the latter is due to the presence of multinational companies (MNCs) that have an incentive to report their profits in Ireland for tax purposes. In 2015, GNI per capita in PPS drops to 173% of the EU average in Luxembourg (compared to 264% with GDP) and to 142% in Ireland (compared to 177% with GDP). Despite these changes, Luxembourg and Ireland still retains the first and second place in terms of GNI per capita among the EU countries.

While GDP is mainly an indicator of the level of economic activity, AIC is an alternative indicator better adapted to describe the material welfare of households. Chart A2 shows that levels of AIC per capita are more homogeneous than GDP although still there are substantial differences across the EU Member States.

Luxembourg remains the country with the highest level of AIC per capita in the EU. At 37% above the EU average, however, this difference in Luxembourg is much less pronounced compared to GDP. One reason for this is that cross-border workers contribute to GDP in Luxembourg while their consumption expenditure is recorded in the national accounts of the country of their residence. The second highest AIC per capita belongs to Norway and Switzerland. After Luxembourg, the EU Member States with the highest AIC per capita are Germany and Austria. Ireland, having the second highest level of GDP per capita in the EU28, has AIC per capita at 4 % below the EU28 average. Malta's AIC, at 80% of the EU average, is lower than its GDP per capita.

Chart A1
GDP AND GNI PER CAPITA IN PPS (2015)
(EU28=100)



* GNI figures for 2014

Chart A2
GDP AND ACTUAL INDIVIDUAL CONSUMPTION PER CAPITA IN PPS (2015)
(EU28=100)