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An assessment of European integration for the EU-15 (1971-2015)

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An assessment of European integration for the EU-15 (1971-2015)

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Abstract

A long-term assessment of the EU integration process is attempted for the 1971-2015 period, by comparing per capita Gross Domestic Product (in constant Purchasing Power Parities) and its change, for EU-15 and non-EU states that are members of the Organisation for Economic Co-operation and Development. A growing divergence is found between Greece but also Portugal and the EU southern periphery on the one hand, and Luxembourg, Ireland and Scandinavian states on the other that have benefited from EU integration, especially after the Eurozone was formed. Those EU-15 members that have joined the Eurozone have not benefited as much as non-members. It is suggested that two types of states can be trapped by the integration process: The relative or absolute losers of the currency zone, like Greece and states like the UK that have benefited less from integration, while choosing to remain at an earlier integration stage. Given the mix of monetary and fiscal policies pursued, resolving the former problem will require setting-up a common production union to advance competitiveness and co-operation, while solution to the latter should avoid the risk of disintegration and of the permanent loss of EU membership.

KEY-WORDS: Eurozone, EU, Integration, Unification, Fiscal & Banking Union, Common Production Union.

Μια αξιολόγηση της Ευρωπαϊκής Ολοκλήρωσης για την ΕΕ-15 (1971-2015)

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Περίληψη

Μια μακροπρόθεσμη αξιολόγηση της διαδικασίας ολοκλήρωσης της Ε.Ε. επιχειρείται για την περίοδο 1971-2005, συγκρίνοντας το κατά κεφαλή Ακαθάριστο Εγχώριο Προϊόν (σε σταθερές ισοτιμίες αγοραστικής δύναμης) και την

αλλαγή του, σε χώρες-μέλη της ΕΕ-15 και μη μέλη της ΕΕ, που αμφότερα είναι μέλη του Οργανισμού Οικονομικής Συνεργασίας και Ανάπτυξης. Μια αυξανόμενη απόκλιση εντοπίζεται της Ελλάδας καθώς και της Πορτογαλίας και της νότιας περιφέρειας της ΕΕ από την μια πλευρά και του Λουξεμβούργου, της Ιρλανδίας και των Σκανδιναβικών χωρών από την άλλη που κέρδισαν σημαντικότερα οφέλη από την ολοκλήρωση της ΕΕ, ειδικά μετά την δημιουργία της Ευρωζώνης. Τα μέλη της ΕΕ-15 που συμμετείχαν στην Ευρωζώνη δεν επωφελήθηκαν όσο τα μη μέλη. Προτείνονται δυο τύποι κρατών που μπορούν να παγιδευτούν μέσα στη διαδικασία ολοκλήρωσης: Οι σχετικοί ή απόλυτοι «χαμένοι» της νομισματικής ζώνης, σαν την Ελλάδα, και κράτη σαν το Ηνωμένο Βασίλειο που επωφελήθηκε λιγότερο από την οικονομική ολοκλήρωση, επιλέγοντας να παραμείνει σε ένα πιο πρώιμο στάδιο της. Δεδομένου του επιδιωκόμενου μείγματος νομισματικής και δημοσιονομικής πολιτικής, η επίλυση του πρώτου προβλήματος θα απαιτήσει τη δημιουργία μιας Κοινής Ένωσης για την Παραγωγή που να προωθήσει περισσότερο την ανταγωνιστικότητα, την συνεργασία και άμιλλα στην Ευρωζώνη ενώ η επίλυση του δεύτερου θα πρέπει να αποφύγει το ρίσκο της μόνιμης απώλειας της ιδιότητας του μέλους της ΕΕ και της από-ολοκλήρωσης.

ΛΕΞΕΙΣ ΚΛΕΙΔΙΑ: Ευρωζώνη, Ε.Ε., Ολοκλήρωση, Ενοποίηση, Δημοσιονομική και Νομισματική Ένωση, Κοινή Ένωση για την Παραγωγή.

1. Introduction

The vision of a united Europe has never been promoted in the history of Europe before as much as during the last decades. However, the recent “Brexit”, the first serious disintegration step at the EU, has exposed the stability, legitimacy and acceptance of the EU edifice, at least for citizens in one of its former constituent members, the UK.

The present work assesses the long-term results of the European integration process upon EU member-states, focusing on those states that have historically joined earlier the common integration effort, and in particular before the 2005 EU enlargement. These states have taken the decision to form the common monetary zone and have taken the decisive steps to set up the Eurozone in 2001.

After discussing few points concerning “Brexit”, the potential, much discussed at the beginning of the Greek crisis “Grexit”, and the EU response to Eurozone’s crisis, a macroeconomic analysis is provided that emphasizes the necessity to apply common supply-side policies in states that were given limited

room for manoeuvre beyond the decisions taken for common monetary and fiscal policy, and which had not managed to recover from the crisis or gain significant benefits out of the integration process so far. Then, evidence is provided on the results of the long-term integration process at a period extending from 1971 to 2015, using GDP per head (measured in constant purchasing power parities) for all EU states, members of the Organisation for Economic Co-operation and Development (OECD) that have joined the EU before the 2005 enlargement. These are compared with each other and with other OECD states.

The results emphasize the growing gap and divergence in GDP per head terms between some outliers of the European integration process and some losers. The discussion that follows focuses on resolving the problem in Greece, Eurozone and the EU Southern periphery, refers to the UK and its position before exiting the EU that made it hard to decide whether to leave the EU, and raises few points necessary for better processing and organizing the integration path taken at the EU.

2. The crisis at the Eurozone, its resulting policy adjustment and some points concerning Brexit and Grexit

The EU is now composed of a common currency zone, its most integrated part, joined by most of its member-states, the European Single Market shared by all its members, including three out of four EFTA states (Norway, Iceland and Liechtenstein), forming together the European Economic Area, and the Customs Union, now shared by all EU member-states, three small-in-size non-members -namely San Marino, Monaco and Andorra- and Turkey. EU members-states have chosen to leave behind their differences and collaborate in deepening their economic integration. However, several states had decided not to join the common currency, keeping their autonomy and preserving their rights to follow individual development paths.

The EU is as an economic union or block that has been formed to help and promote the economies and economic interests of its member-states. Economic development, welfare and the rise of standards of living is the key rationale behind economic integration. Many theorists in early integration studies had proclaimed that welfare will rise in the transition from a Free Trade Area to Customs Union and then to Common Market, both for consumers and producers. The early stages of European integration were associated with the development of international trade and its promotion that was expected to act as a major growth driver. As the European states have moved further in their integration, they have decided to share the common currency and start an economic union as well.

However, recently they have realized that a monetary union alone is not the only precondition to resolve economic problems and bring growth and stability. This realisation came only after significant events took place in chain: the 2009 global crisis, the speculation against the common currency, the flying away of financial and human capital from crisis-hit countries, most notably Greece, the rise of a strong sentiment of euroscepticism in dissatisfied European societies and the recent democratic choice of “Brexit”.

The 2009 crisis was essentially a debt and BOP crisis. As debtor countries were unable to borrow funds, creditor countries had soon realized the necessity to lend them and implement bail-out programmes to avoid the collapse of Eurozone (Frieden and Walters, 2017). If each state had its own currency, deficit countries could have tackled a strong BOP imbalance through exchange-rate devaluation as an external adjustment, combined with structural reforms and austerity as internal adjustments. On the other hand, surplus countries would have employed exchange-rate appreciation or run inflation and promote reforms aiming to boost demand (see Frieden and Walters, 2017). But for member-states sharing a common currency, external-rate adjustment is not the best possible choice for all, and only an internal devaluation process in debtor countries with structural reforms was considered feasible, to allow reducing unit labour costs and raising competitiveness. This is despite the side-effects of such policy, which are unemployment, lower wages, asset price deflation and recession (Frieden and Walters, 2017). The expectations from such a policy and its side-effects are that it will bring divergence of economies, at least in the short-run. Debtor countries can either repay debts in full, by applying restrictive domestic fiscal policies (through raising tax rates and cutting tax expenditures) that would face the cost of higher unemployment and reduced economic activity or seek debt restructuring, which could lead to agreements sharing the debt burden (Frieden and Walters, 2017).

The adoption of the common currency without few significant elements needed in place for the banking, fiscal and political unification has caused several economic problems that were intensified after the outburst of the recent financial crisis. Significant aspects at the monetary unification stage were not given ample thought and consideration, such as putting earlier in place macroeconomic stabilizers. The absence of these aspects has revealed a considerable policy vacuum at the Eurozone, EU and national level, putting in motion the reflexes of European governance.

The 2009 crisis in Greece and its management have revealed several gaps in policies needed to promote the common EMU edifice. To fill in these policy gaps, many institutional and policy changes have taken place at the Eurozone and

the EU, and several EMU components were established, suggested to lead to a Banking, Fiscal and a Common Markets Union. Such policies have surrounded the operation of the monetary union, aiming to support its efficacy and the capacity of Eurozone states to take the right decisions about their economies (Ikonomidou, 2020).

In particular fiscal policies have become tighter, because their relaxing for a long period was considered a major cause of the crisis in Greece, and elsewhere in the southern periphery. In Greece for example, the relaxing of fiscal policy has started since the country has joined the EC in 1981, and continued until the outburst of the crisis, with only few exceptions (see Ikonomidou, 2018 for an analysis of the extended range of domestic causes of the Greek crisis). As for the common monetary policy, it took some time before significant policy action and amendments take place.

Common monetary and fiscal decisions taken by Eurozone partners were rather unpleasant for the Greek society, whose economic reform was requested to be applied through consecutive memoranda of understanding. A part of the Greek society was agitated at the beginning of the Greek crisis, throughout the negotiations held with Troika for the policy action requested and the application of these memoranda of understanding, opening the prospect for Greece to exit the Eurozone. The crisis has unveiled that there was neither an insolvency procedure for bankrupt states in operation nor an exit procedure for states to abandon the monetary union, return at an earlier integration stage or even exit the Union as a whole (see Ikonomidou, 2018).

The almost simultaneous debates held in EU policy circles and media on the prospect of Greece and the UK to exit either the Eurozone or the Union as a whole (even if these were not similar cases) have influenced the latter on its final decision to exit the EU and the Common Market, where it participated. Based on the marginal democratic decision for the exit of the UK from the EU, one could argue that the prospect of “Grexit”, a serious problem that concerned the core of the most advanced integration stage reached in the EU, acted as a “sparkle” that brought the “fire” of Brexit. Fiscal austerity, economic insecurity and the Euro financial crisis after 2009 have all contributed in the rise of mistrust against European institutions that raised the percentage of votes for leaving the EU.

What was an internal problem to the most integrated space (the EMU), which strongly related to political and financial decisions about the common currency and the absence of an available range of policies in place, brought a historical choice that concerned a well-established integration stage -the Common Market- and affected both the most integrated and the whole common space. Although other reasons have influenced the choice to exit the EU, domestic at the UK (and

beyond the scope of the present analysis), one cannot neglect that such choice was made after a chain of events took place regarding the crisis at the Greek economy, and that UK citizens voting for Brexit were influenced by the strictness of solutions imposed on Greece at the time, and the management of the Greek crisis by its Eurozone partners. The vote for Brexit took place at a quite critical moment of the European integration process: at the aftermath of a global crisis and precisely when several views were expressed that the most advanced form of integration at the unification edifice was at the verge of its collapse, due to its incompleteness or the lack of awareness for its completeness. One might argue that Brexit is a biased historical decision.

3. Few points from macroeconomic theory that contribute in explaining the crisis in Greece and the Eurozone

Several authors have raised their voice to explain the defects of the Eurozone and discuss its necessary adjustment (see for example the proliferate work by De Grauwe, in his consecutive publications: De Grauwe (2013); De Grauwe and Heens (1993); De Grauwe and Ji (2014); De Grauwe and Ji (2015); De Grauwe and Vanhaverbeke (1991)). The critic has also emphasised the effectiveness of monetary policy, which was a major problem and primary motive behind the decision for setting-up a banking Union.

From a theoretical perspective, the Keynesian IS-LM analysis reminds that such effectiveness in monetary policy associates not only to ECB decisions but also to the position, association and steepness of IS and LM curves, for each state (as most textbooks on macroeconomics would argue, e.g. Abel et al., 2010). During a crisis, money supply reduces, shifting LM to the left (see in Figure 1A). Applied restrictive fiscal policies, through cutting expenditure and raising taxes, reduce the rising pressure upon interest rates, shifting the IS curve to the left, and consequently limiting the aggregate demand and lowering interest rates. An ECB policy that raises money supply could help to lower interest rates and bring income at similar, initial levels (see Figures 1A and 1B). On the other hand, if fiscal tightening is reduced, aggregate demand shall rise.

Figures 1A and 1B: A simplified reminder of the IS-LM framework at the currency zone

Figure 1A

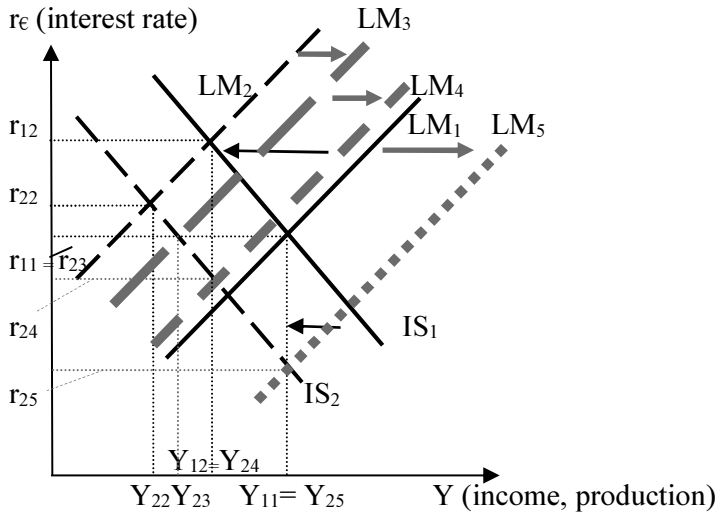
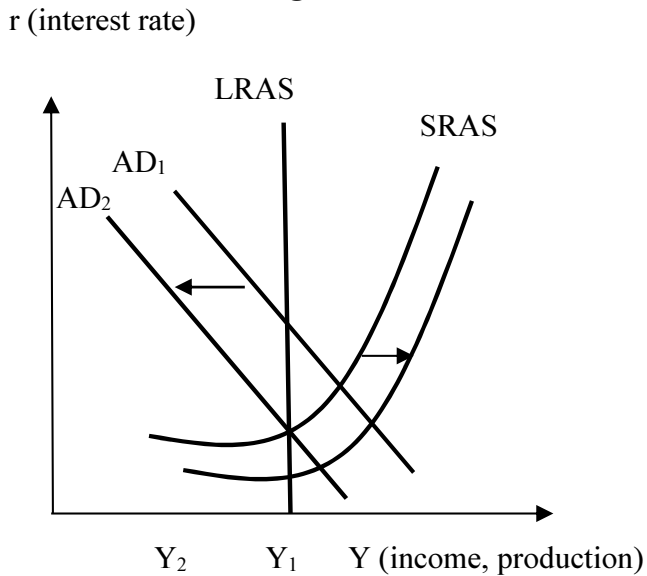


Figure 1B

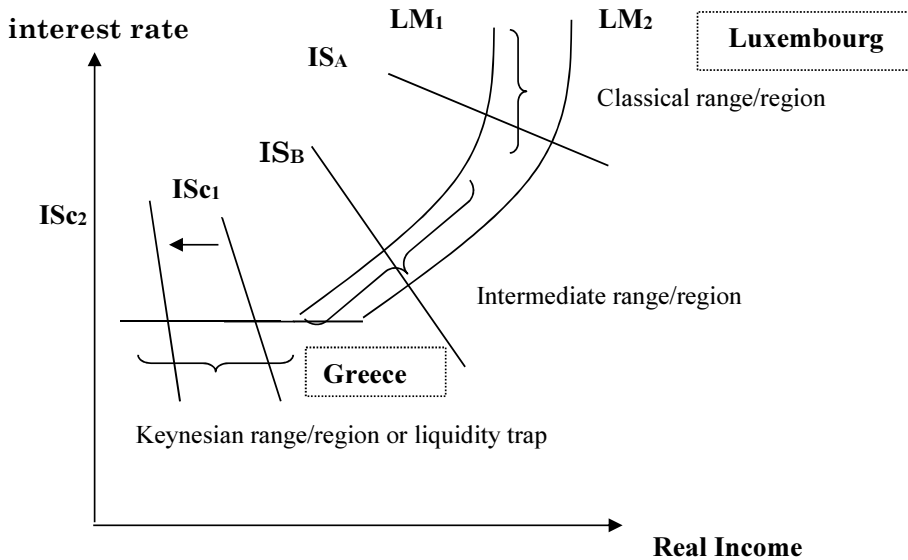


Note: Description of Figures 1A and 1B

Following a crisis, the money flows away from weaker member-states of the currency zone, and the LM curve turns to the left depicted with a shift from LM1 to LM2 (Figure 1A). To cope with the rise of interest rates across these states (and the rise of their spreads), restrictive fiscal policies and tax raising is applied on them, leading to a shift of the IS curve to the left, from IS1 to IS2 (Figure 1A). Measures to enhance money supply will start taking place progressively in the currency zone, as interest rates have to remain stable and low. The rise of income -and consequently wealth- becomes a matter of common concern at the common currency, whose success relies on the efficacy of the transmission mechanism. The first increase of money supply, illustrated in Figure 1A by a shift from LM2 to LM3, brings interest rates back at initial levels, at $r_{23} = r_{11}$, while the second increase, from LM3 to LM4, even lower, at r_{24} , raising income at levels found before the application of restrictive fiscal policies. Continuing on this direction, the central bank can increase money supply more, raising income and lowering interest rates even further. Overall, shifting the LM curve from LM1 to LM5, brings back income at pro-crisis levels, at $Y_{25} = Y_{11}$. However, consecutive money supply increases risk hitting the lower-zero bound of interest rates.

Figure 1B explains that a post-crisis fall in aggregate demand (due to a shift of both IS and LM curves to the left), depicted with an AD shift to the left (from AD_1 to AD_2) can be followed by an increase in aggregate demand, if policies raising money supply are applied (shifting the LM curve to the right). Such result can also be reached by applying a common supply- side policy for the currency zone that causes a shift of AS curve to the right.

Figure 2: Luxembourg versus Greece, an IS-LM analysis



Note: Greece and Luxembourg stand in two opposite regions, the Keynesian and the classical, respectively. In Luxembourg, income shall rise after money supply increases. The scope of fiscal expansion is limited, if meaningful at all. In Greece, the scope of money supply increases

is harmful, because it pushes the economy deeper inside the liquidity trap (if LM rises from LM1 to LM2). On the contrary, policies aiming at fiscal expansion can move the economy out of the liquidity trap. Fiscal tightening (from ISc1 to ISc2) has put the economy deeper in the -Keynesian- liquidity trap. The two states have contradictory interests and since policies pursued by ECB may harm one of them, supply-side policies should be employed along with fiscal and monetary policies, to resolve problems in Greece, as long as they don't put a threat for the economy of Luxembourg and can be used by Luxembourg to profit from new benefits and income revenues.

A critical point to consider is the steepness of IS and LM curves that influences the outcome of policies. Assume the following hypothetical example to compare two separate states inside the common monetary space. Using an IS-LM analysis for a currency union, a common LM curve can be extracted, since money supply is created by the ECB only and money demand is the added sum of individual money demand schedules, for each state. Assume that at the individual level of the state, states have different IS curves, since some are wealthier than other. We can illustrate exemplary cases of separate IS curves and focus on two opposite cases of states, Greece and Luxembourg, with the latter being much wealthier than the former (Figure 2).

After the crisis erupted, capital was transferred outside Greece as an immediate effect of the crisis, thereby limiting significantly money supply in the Greek economy. Assume these funds are all transferred at Luxembourg. The individual levels of money supply are not the same in the two countries, despite the presence of a common monetary policy. In terms of the common LM curve, Greece is more likely to be positioned to the left and Luxembourg to the right (Figure 2). Hence, each state can be positioned at a specific LM region (a Keynesian, intermediate or even more advanced region), where another state is not. If Greece's individual IS curve is assumed to have lied initially at the intermediate range before the crisis, the imposed fiscal tightening would have shifted anyway the economy's IS curve towards the Keynesian range. Moreover, ECB policies to raise money supply (e.g. through quantitative easing), which may benefit other common currency states, are expected to shift the common LM curve to the right, pushing the Greek economy deeper in a (Keynesian) liquidity trap. Getting out of this liquidity trap is impossible by means of common monetary or common fiscal policies, if the latter are restrictive¹.

Turning fiscal policies to less restrictive at an economy like the Greek (e.g. by raising government expenditure and reducing the tax burden) could influence its growth outcome, provided that money supply remains more or less fixed. Such a policy is difficult to promote, due to the fiscal competition from other common currency partners, applying similar tax rates. Furthermore, raising money supply acts to the interest of states like Luxembourg. As Luxembourg lies at the

classical range, where money expansion is more effective in terms of growth and the effect of fiscal policies actually suspended, the prospect of limited value for this particular state. States lying at the intermediate region may accept adjusting their fiscal policy but the more they lose out of the monetary unification process, the more unwilling will be to give up fiscal privileges and “acquis”. The risk of losing macroeconomic stability at the currency zone makes the problem of a single state that lies at the liquidity trap significant for the rest of states.

The above IS-LM analysis is used to highlight that economies participating at the common currency may lie in different positions, the causes of the weakening of one of these economies may derive from the mix of common monetary and fiscal policies pursued inside a currency zone and that, given the contradiction of interest among member-states, the common way of policies is not to pursue the same type of policies across all states, unless they are all located at the same position of the common IS-LM region. States participating in the monetary union require different policy mixes (fiscal, monetary or supply-side, at least for one of these policies). Even if a one-size-fit approach is agreed, a special care should be given at least for extreme cases, because -among other reasons- they represent a potential threat to macroeconomic stability. Of course, such estimation is subject to the effectiveness of the transmission mechanism (strengthened after the place in motion of the Banking Union). In the case of states like Greece, whose GDP had significantly shrunk after the crisis, the principal way to overcome this common currency problem, without affecting ECB’s policy to keep interest rates low or raise money supply is by applying common currency supply-side policies in Greece (or in other similar cases).

Importantly, the above diagrams emphasize that common supply-side policies can become useful for the most extreme cases of less advanced states, and are a more secure way to allow them getting out of the liquidity trap, given the contradictory interests formed among states. Such an analysis is indicative and subject to the transmission mechanism, its efficacy, the operation of international trade and the economic, financial and monetary ties formed among the economies².

With this analysis in mind, it is expected that states will diverge and benefits from the common currency will not be equally shared. The analysis that follows investigates such a prospect.

4. Economic development results out of the European integration (1971-2015)

In Table 1 the levels of GDP per head are provided for the EU-15 OECD countries-members and other selected OECD member-states, measured in constant purchasing power parities, at the beginning of each decade (starting from 1971). Purchasing power parities are used because they take into account domestic prices and, as such, allow comparability across states that had different price levels, have received dissimilar pressure upon prices and have different standards of living. Thus, using constant purchasing power parities improves comparability across different inflationary environments, inside or outside the EU. Per capita GDP is also provided for a final year, 2015, and for the year each of the EU-15 states has joined the EC/EU. Each country's change is calculated for the whole period after 1971 and throughout the period of its membership (after 1971). Average annual change is calculated for the 1971-2015 period and the period of membership for each EU-15 state. Changes are also provided for the early period of Eurozone implementation (2001-2015), its first decade (2001-2011) and the first half of the last decade (2011-2015) that coincides with a greatest part of the crisis in Greece and the Eurozone. The choice of the final year allows studying the UK case, as it refers to the years of its full EC/EU membership before the referendum for leaving the EU. The Table comprises countries up to the EU-15 enlargement, since those countries joining with the following EU-25 enlargement had not been given sufficient membership time to assess their integration results. Twenty years since the 1995 enlargement and another twenty-four before 1995, are a sufficient period to assess the results of EU integration up to this enlargement. Historically, the year 1995 lies at the beginning of the replacement of a Common Market era by a Union era, when the second preparatory phase for the EMU has started. What is more, 12 out of the EU-15 members are founding members of the Eurozone, offering the best available period for assessing the results from their participation at this advanced degree of integration.

As opposed to GNI, GDP per head measures the final output of goods and services within a country's territory, by both residents and non-residents, irrespective of whether it is claimed from foreigners or domestic residents (Todaro and Smith, 2015). Thus, in common integrated spaces, such as the EU and its surrounding integrated area, where less advanced states are expected to suffer from greater human and capital resource flight towards the more advanced (rather than the opposite), GDP per capita can offer a better approximation for production differences and the minimum existing possible gaps between the

wealthier and less wealthy countries, in comparison to GNI per capita that is likely to exaggerate such gaps. Furthermore, in large and advanced states, where a large non-residential population is likely to play a significant role in the economy, GDP per head can reflect the best possible state of economic development in these countries than GNI per head.

The two out of the EU-15 states mostly benefiting from the EU integration process are Luxembourg and Ireland. Luxembourg has gained since 1971 almost \$61 thousands per head (in constant PPP units), while Ireland almost \$46 thousands since 1973 (within 42 years). Using the Irish case for comparative purposes is difficult, as it amended its GDP levels during the crisis. However, the annual change in both states is far better than that of Germany, Netherlands or Belgium (almost twice for Ireland and much more in the case of Luxembourg). Similarly, Sweden has remarkably improved by an annual change of \$1,508, during the 20 years of its EU membership, almost twice that of Finland, its Scandinavian partner and Eurozone's member. Sweden's average annual change is much greater during its membership period than during the whole period after 1971 (\$1,508 instead of \$685). This is also the case with Finland, where it is a little less than its double (\$555 as opposed to \$252). Clearly, the EU effect is high in these two states. The comparison to Norway, a third -but non-EU- Scandinavian state, whose GDP per head has reached almost \$59.3 thousands in 2015, brings in the ranking of these three states first the EU member-state, second the non-EU member-state and third the Eurozone state. The levels of Swedish GDP per head in 2015 were similar to those of the fourth Scandinavian state that has chosen to refrain from the Eurozone, Denmark. As if participating at the Eurozone does not bring the same welfare effect as choosing to refrain from it. One cannot ignore here a possible additional explanation that the Scandinavian welfare regime better contributes in improving per capita GDP distribution.

The 1995 enlargement towards the North (Sweden, Finland and Austria) is the most successful, if one compares the annual change of GDP per head during their membership and the full period studied. The first decade of Eurozone implementation (2001-2011) and the full period of Eurozone membership (2001-2015) are quite successful for these three states that comprise a non-Eurozone member.

Table 1: GDP per head and its change, PPP, \$, periods of membership and annually (PPP), reference year 2010, EU-15 and other OECD states

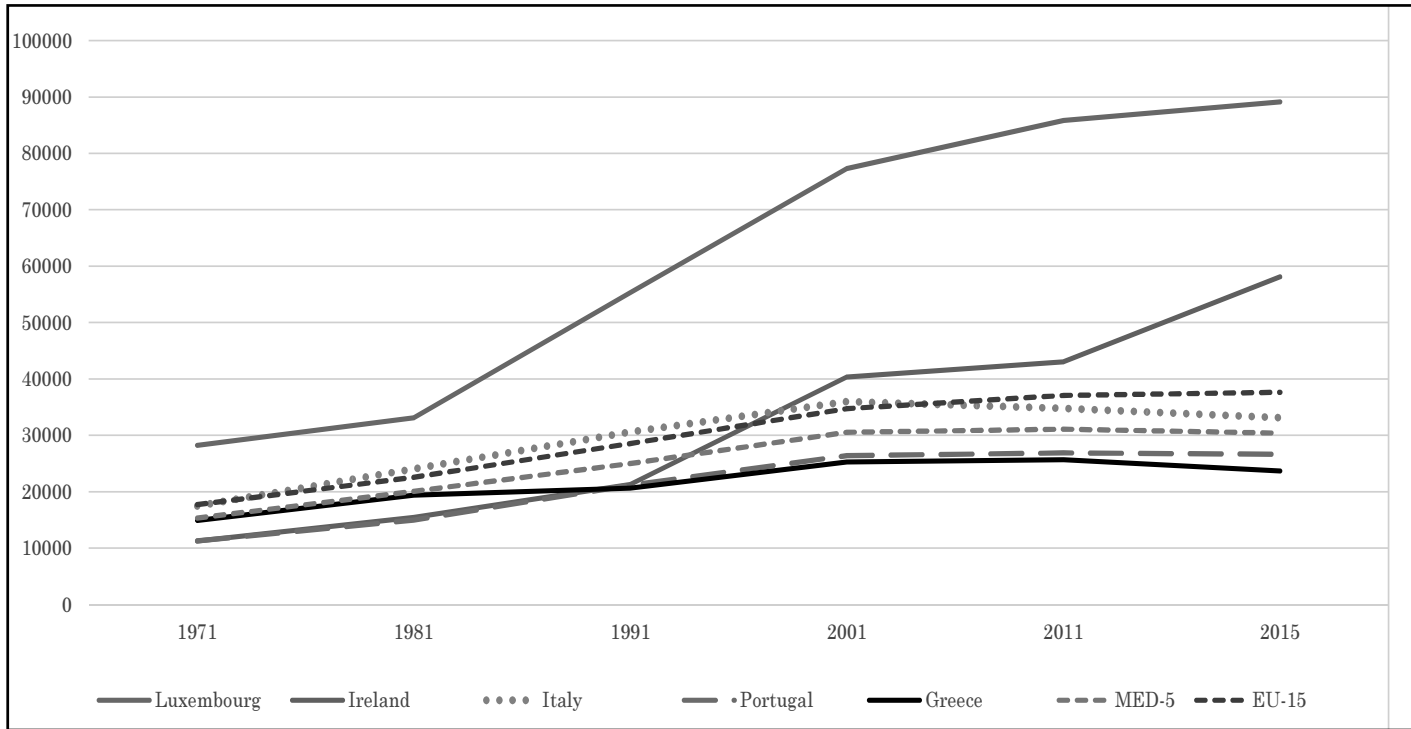
Country, EU joining group	1971	1981	1991	2001	2011	2015	1971-2015 Change	Entry year (No of years)	Average annual Change	2015-2001	2015-2011	2011-2001
Luxembourg - 6	28,237	33,091	55,323	77,327	85,845	89,147	60,909	60,909 (44)	1384/(1384)	11,820	3,302	8,518
Ireland - 9	11,275	15,468	21,266	40,350	43,043	58,117	46,842	45,932 (42)	1044/(1094)	17,767	15,074	2,693
Austria - 15	18,343	24,613	31,079	38,035	42,954	42,798	24,456	10,179 (20)	231/(509)	4,763	-156	4,919
Germany - 6	18,975	24,580	31,722	36,619	41,462	42,522	23,547	23,547 (44)	535/(535)	5,903	1,060	4,843
Netherlands - 6	21,923	26,249	31,945	41,423	45,117	45,419	23,496	23,496 (44)	534/(534)	3,996	302	3,694
Sweden - 15	21,230	24,964	29,471	36,222	42,456	44,138	22,908	30,155 (20)	685/(1508)	7,916	1,682	6,234
Finland - 15	15,779	21,742	26,345	34,778	39,626	37,973	22,194	11,094 (20)	252/(555)	3,195	-1,653	4,848
Belgium - 6	18,885	24,778	30,418	36,575	40,544	40,977	22,092	22,091 (44)	502/(502)	4,402	433	3,969
Denmark - 9	23,191	26,828	33,459	41,662	43,484	44,549	21,358	19 755 (42)	449/(470)	2,887	1,065	1,822
UK - 9	17,002	19,951	26,050	33,310	35,983	38,036	21,033	19,247 (42)	437/(458)	4,726	2,053	2,673
France - 6	18,591	24,069	29,147	34,534	36,626	36,928	18,337	18,337 (44)	417/(417)	2,394	302	2,092
Spain - 12	14,404	17,780	23,641	30,516	31,556	31,726	17,322	12,432 (29)	283/(429)	1,210	170	1,040
Italy - 6	17,504	24,092	30,608	36,004	34,818	33,180	15,676	15,676 (44)	356/(356)	-2,824	-1,638	-1,186
Portugal - 12	11,291	15,004	21,178	26,437	26,901	26,668	15,376	10,854 (29)	247/(374)	231	-233	464

Greece - 10	14,912	19,369	20,622	25,262	25,665	23,656	8,744	4,287 (34)	97/(126)	-1,606	-2,009	403
EU-15	17,733	22,564	28,570	34,749	37,077	37,660	19,928	-	453	2,911	583	2,328
EU-28	-	-	-	30,637	33,805	34,714	4,077	-	291	4,077	909	3,168
OECD - Total	16,721	21,015	26,385	32,309	35,788	37,572	20,851	-	474	5,263	1,784	3,479
Norway	22,411	32,526	40,924	54,929	57,804	59,274	36,863	-	838	4,345	1,470	2,875
Switzerland	35,577	38,787	44,031	48,004	53,295	53,860	18,283	-	416	5,856	565	5,291
Iceland	16,624	25,312	28,399	34,563	39,055	42,230	25,606	-	582	7,667	3,175	4,492
China	480	734	1,602	3,886	10,149	13,263	12,783	-	291	9,377	3,114	6,263
Costa Rica	-	-	7,808	9,944	13,155	14,544	6,736	-	281	4,600	1,389	3,211
USA	23,772	29,123	35,726	45,007	48,704	51,592	27,820	-	632	6,585	2,888	3,697
Japan	15,085	20,681	30,656	33,217	35,021	37,068	21,983	-	500	3,851	2,047	1,804
South Africa	-	-	9,572	9,811	12,043	12,182	2,610	-	109	2,371	139	2,232

Source: OECD database, GDP per head (expenditure approach), constant prices, constant PPPs, \$ 2010, reference year 2010. Data appear in Ikonomou, 2018

Note: EU-15 states are ranked by their change for the whole 1971-2015 period. The “entry year” contains GDP per head at EU/EC entry year and the years of membership during the period (in parentheses), for EU states only. In “average annual change”, numbers without parentheses refer to the whole 1975-2015 period and numbers in parentheses to EU membership period. Missing data for EU28, Costa Rica & S. Africa. For South Africa, data missing for 2015 were replaced by 2014 data. Numbers close to country names refer to the group of countries joining the EU/EC/EEC (EEC-6, EC-9, EU-15 etc). Sweden, Denmark and the UK had not become Eurozone members at any point of the study period.

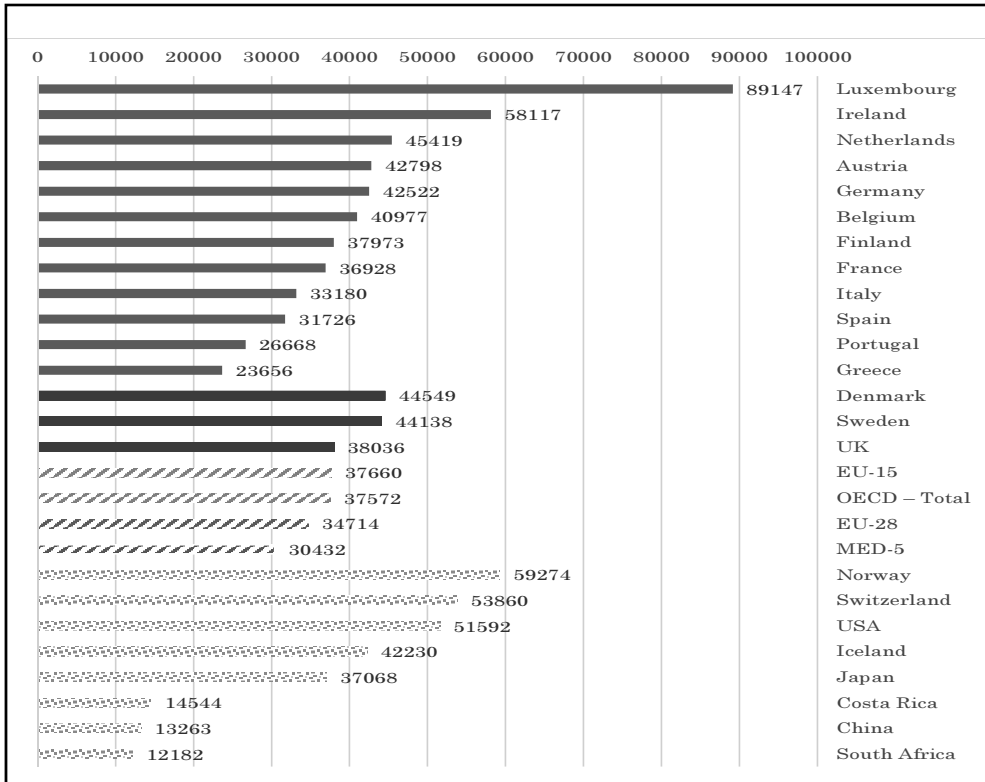
Figure 3: GDP per head, Constant PPP, \$, selected OECD countries, MED-5 and EU-15, 1971-2015



Source: OECD database, as provided in Table 1

Note: MED-5 is a composite index, calculated as the average for Greece, Italy, Portugal, Spain and France.

Figure 4: GDP per head, Constant PPPs, \$, selected OECD countries, 2015



Source: Table 1.

The southern EU partners on the contrary, namely Portugal, Spain, Italy and most notably Greece, are the four main states that have lost out of the integration process, in terms of annual change of GDP per head. Clearly, the integration of Southern Eurozone states has failed to deliver similar results with those towards the North. It is this contradiction with their northern partners that is the most worrying aspect, because the greatest amounts of funds have been historically transferred in southern EU, through the additional consecutive periods of application of EU Cohesion policy prior to the 1995 enlargement. One could suggest that such results reveal the lack of capacity of EU Cohesion policy to deliver long-term, sustainable growth in southern EU states, given their choice to further integrate by participating at the Eurozone. Or -even worse- the practical weakening of EU Cohesion Policy effects due to the application of common monetary policies, which appear to have harmed these Cohesion economies at the early Eurozone period. Ireland is an exception to this rule.

A more accurate conclusion though should take into account human capital migration from southern to northern EU states that takes place for better job prospects, especially after the Eurozone was put in operation. Even if dynamic aspects, such as labour and human capital mobility cannot be considered in the present analysis, Table 2 presents the percentage change in population from 2001 to 2015 in the EU-15 countries that it compared with the percentage change of their GDP per head (measured in constant PPPs, calculated from Table 1).

Table 2: Percentage population change vs percentage GDP per head change, selected OECD countries, 2001-2015

	% population change, 2001-2015	% GDP per head change, 2001 - 2015	GDP per head change (constant PPPs), 1971-2015
Luxembourg	28,9%	15,3%	60909
Ireland	21,5%	44,0%	46842
Austria	7,3%	12,5%	24456
Germany	0,2%	16,1%	23547
Netherlands	5,6%	9,6%	23496
Sweden	10,2%	21,9%	22908
Finland	5,6%	9,2%	22194
Belgium	9,6%	12,0%	22092
Denmark	6,1%	6,9%	21358
United Kingdom	10,1%	14,2%	21033
France	8,5%	6,9%	18337
Spain	13,8%	4,0%	17322
Italy	6,6%	-7,8%	15676
Portugal	0,0%	0,9%	15376
Greece	-0,4%	-6,4%	8744
EU-15	6,8%	8,4%	19928
Norway	15,0%	7,9%	36863
Switzerland	13,8%	12,2%	18283
Iceland	16,0%	22,2%	25606
Japan	0,2%	11,6%	21983
United States	12,5%	14,6%	27820

Source: Population is extracted from AMECO series. GDP per head (in Constant PPPs) is extracted from Table 1 (OECD database).

Note: Percentage changes are measured using as initial year 2001 (for both population and GDP per head). Last column reminds the ranking of GDP per head change for the full period studied.

Few points can be suggested based on Table 2. Firstly, Luxembourg and Ireland, the two Eurozone member-states with the highest levels of GDP per head and the highest change during the study period, have also the highest levels of percentage population change. Secondly, the two Eurozone member-states that have gained less in GDP per head have also zero (in the case of Portugal) or negative (in the case of Greece) population change in the early period of the implementation of the Eurozone (2001-2015). This Table unveils a rather inverse relationship between percentage population change and percentage change in GDP per head, for the 2001-2015 period. This point could reflect the operation of a detrimental mechanism, since states with higher GDP per head levels may also be recipients of domestic immigration influxes within the Eurozone and the EU, along with the rise of births in their territory, and states with lower GDP per head levels may be migration senders (mixed with illegal migration to their territory from places outside the EU).

Greece has gained only \$126 annually since 1981, its joining year, at least ten times less than Luxembourg (\$1384) or approximately Sweden (\$1094). Her annual change compares only to South Africa's (a state far from participating in advanced common integration efforts). Greece has gained only a little less than \$1,300 (a period when Luxembourg has gained a little more than \$22,000) within its first decade of EU membership, a little less than \$5,000 in the 1990s (when Luxembourg gained another \$22,000) and has remained almost stagnant during the 2000s. What Greece has managed to achieve within a period of 34 years of membership (from 1981 to 2015) was a rise of its GDP per head by only \$4287. In 2015 it appears to return back in GDP per head levels found before the year joining the Eurozone, and is a notable case of the most significantly disconnected partner from the integration process. A marginal rise of GDP per head during the 1980's and 2000's is mixed with increases by almost \$5,000 GDP per head in the 1970s and 1990s. Clearly, this country forms an opposite end from Luxembourg (see also Figure 3). Since 1971, a divergence process takes place against its Eurozone partners that develop faster than Greece in GDP per head terms.

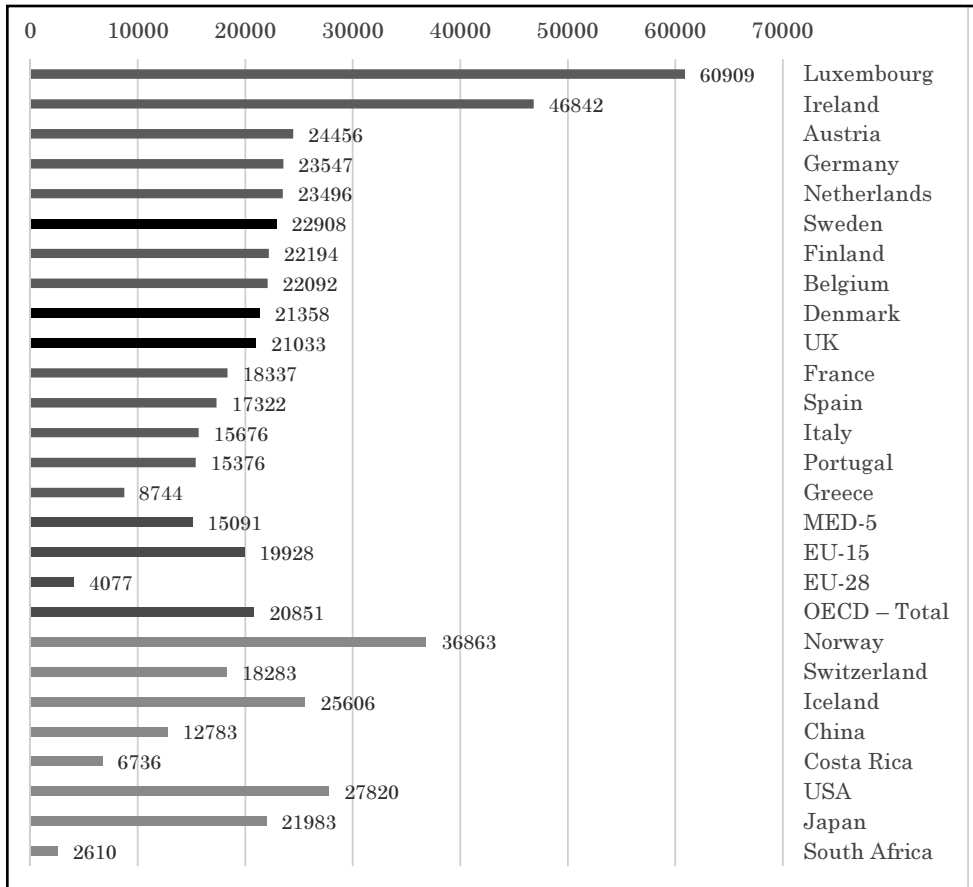
These per head figures deteriorate for Greece, in the event that emigration of several hundreds of thousands of domestic unemployed Greeks and illegal immigration towards Greece are taken into account. Based on Table 2, it is worth underlining that not only Greece's GDP per head has fallen for 2001 - 2015 but also that official population has shrunk during the same period. Hence, one could argue with certainty that Greece's GDP was distributed at even less people during this period and, as such, the problem is even larger than what appears to be. Overall, the results for Greece based on Tables 1 and 2 indicate that not only there has been no convergence with the rest of EU-15 states during the years of

its membership but, as opposed to this, a process of divergence takes place. This finding is quite significant and contradicts several of the findings from regional economic studies that compare the Greek to the rest of the European regions, provided over the last two decades. Perhaps one should remember here the operation of Myrdal's detrimental mechanism, still after many decades of EU membership and active common policies applied in Greece.

Greece and Italy are the two states mostly deteriorating ever since the Eurozone was placed in operation (2001-2015) (see Table 1). But while Greece's population shrinks, Italy's population rises by 6.6% (Table 2). Portugal, Spain and to some extent France too, appear to be the cases of states that have gained only but a limited rise in their GDP per head ever since the launch of the common currency (Table 1). Portugal is the most significant case among these three because of its zero population change in comparison to a significant rise for Spain (13.8%) and France (8.5%) for the 2001-2015 period (Table 2). The GDP per head change of Cohesion-4 states and France fell below EU-15 average, over the 45-years period studied. This is depicted with the use of an average index MED-5, in Figure 3. In other words, five member-states that had joined quite early the EC, having integrated more than the rest of EU economies and chosen in 2001 to continue a stage further in their integration efforts, are not finally winning out of their choices, especially in the 2001-2015 period and at least in GDP per head terms. It appears from Table 1 that in the early period of implementation of the Eurozone, the Northern and Central European (EU and non-EU) states have benefited much more than the Southern Eurozone states, whereas one might expect the opposite to take place for the older member-states. This is emphasized in the 2011-2015 period, when the crisis spreads across Eurozone (again with the exception of Luxembourg and Ireland).

The comparison of the 1971-2015 change for the EU-15 average and especially EU-28 average to OECD average, Japan or USA highlights a lower growth change of GDP per head at the common European economy and the EU-15 (see Figure 5). Only the two small in size states, Luxembourg and Ireland, perform better than USA in terms of GDP per head. The Southern Eurozone states have smaller change of GDP per head than Japan and, with the exception of France, even below that of the OECD-Total.

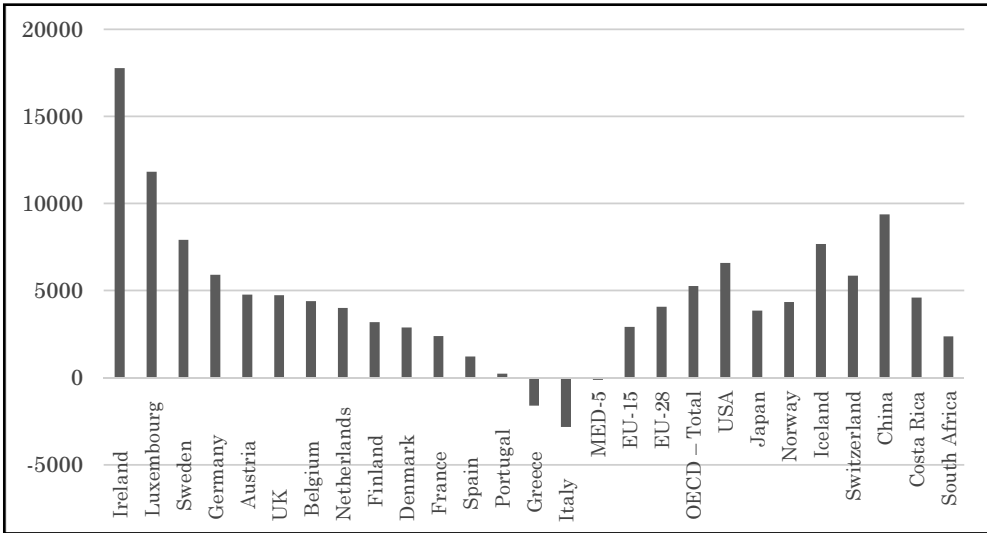
Figure 5: GDP per head change, Constant PPP, \$, selected OECD countries, 1971-2015



Source: Table 1

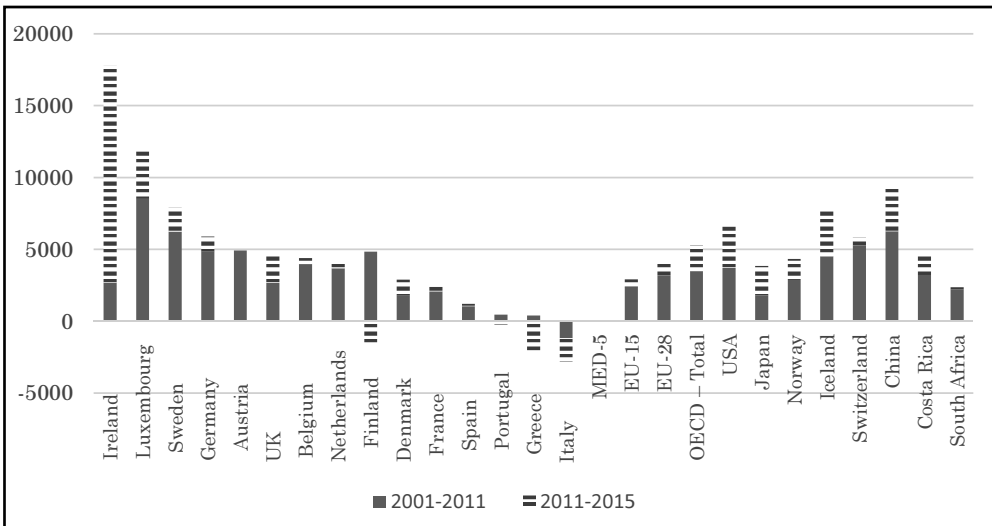
Furthermore, one can observe that the crisis has hit the Eurozone economies. From 2011 to 2015, the Eurozone states -with the notable exceptions of Luxembourg, Ireland and partially Germany- remained stagnant or even witnessed a fall in GDP per head (Figure 6). Portugal is found to have a negative change and Greece only a marginal positive. The wealthier Eurozone states in GDP per head terms (particularly Luxembourg and Ireland) and states with their own currency -EU-members or not- have managed to recover in the 2011-2015 period and to enhance their GDP per head (Table 1). Common monetary policy and currency independency have contributed to these results, especially if the cases of Denmark, Sweden, Norway and the UK are taken into consideration. Most EU-15 countries-members of the Eurozone had a 2011-2015 change well below the OECD average and far beyond that of Japan and USA (Figure 6).

Figure 6: GDP per head change, Constant PPP, \$, selected OECD countries, 2001-2015



Source: Table 1.

Figure 7: GDP per head change, Constant PPP, \$, selected OECD countries, 2001-2011 and 2011-2015



Source: Table 1

While Ireland is not a good case to study because of the amendment of its GDP during the crisis (where most of its change is coming from), Luxembourg is clearly benefiting after 2001 and the setting up of the common currency, along with Germany and Austria (Figure 7). Similarly, this is the case with Sweden and the UK (Figure 7).

The three larger in size states, France, Germany and the UK, which have worked substantially to prepare the unification process, its gradual building and significantly contributed in funding EU Cohesion, Common Agricultural Policy and other common policies, are not amongst those benefiting mostly in GDP per capita terms for the whole period studied (1971-2015). Notice for example the growing gap from 2001 to 2015, when France is compared to Sweden, in Table 1 and Figure 7. France's annual change for the 2011-2015 period³ has fallen well below its annual change for the whole period. Some of the explanations for such performance may be common, such as the currency policies and the rise of immigration and demographic pressure exercised on them. Others may differ per state, for instance the German unification may explain Germany's performance.

The UK in particular, a non-Eurozone member, has gained less than the other EU-6 countries since 1973, in annual terms (only France gained even less). It was outperformed by: i) Switzerland, a European state that has chosen to refrain from the EU and -similarly to the UK- has focused historically to promote financial services, ii) other non-EU states, such as Norway or Iceland that had managed to achieve better welfare results, while remaining EFTA members and enjoying the benefits of participation in the Single European market (that should have been mostly a privilege for the UK than for them), iii) all former EFTA members included in Table 1 (with the exception of Portugal), members of the EU/EC or not, iv) Ireland and Denmark, the other two countries that have joined the EC, in the same enlargement with the UK and, last but not least v) most EU states, members of OECD (Eurozone members or not) that had benefited more out of the integration process.

One could realize why the UK is the characteristic type of state considering exiting the EU: despite its pro-European choices, efforts and funds invested, it fails to compare successfully on GDP per capita terms against all other categories of states surrounding it. At the same time, the prospect to insert at a new stage of integration stage by joining the Eurozone is also of limited scope and potential success for the UK, because of the lack of success in Eurozone member-states, Eurozone's incompleteness and its aforementioned defects, which risk harming even further the large UK economy. Finally, as seen in Table 2, the UK receives strong demographic pressure after 2001. Clearly, the UK, a relative loser in comparison to other northern European states that had either joined the EU or not, is trapped in its historical decisions and choices.

5. Conclusions, discussion and final thoughts

The present analysis has unveiled two types of states incapable to follow even further this integration deepening process. Firstly, states like Greece that forms the case of a historical loser out of the unification process in GDP per head terms (measured in constant purchasing power parities), both relative and absolute. It has remained hard in this country to cross some growth and development barriers over the decades, despite its intense efforts to participate in all integration stages and its other sacrifices made. Despite what other studies might have acknowledged before the crisis, Greece has clearly diverged from the rest of economies up to 2015 and failed to benefit as much as the rest of EU countries out of the integration process. The comparison to other countries from all over the world that had followed individual development paths may not justify much of the Greece's development choice to join the European Community (EC) and participate in all consecutive integration stages. The missing aspects and components of the European unification process had not acted in favour of Greece's interests, despite the extent of common EU funds transferred to Greece via EU Cohesion policies that has been applied at its territory (see in Ikonomidou, 2018, for a more complete description of the structural policies applied in Greece and the domestic causes of the Greek crisis). What is more Greece's population has shrunk after the country has joined the Eurozone, due to human flight abroad, making its actual position even worse than it appears (Table 2). Comparative evidence from Table 1 could be used to excuse why the prospect for a Grexit has been suggested by various domestic interests, political forces and Eurosceptics in Greece.

Secondly, cases of most advanced states like the UK, whose choices and contribution in the past in promoting common integration and economic goals appear to have brought them limited benefits in GDP per capita terms, throughout the decades of its membership. These states are identified by comparison to other European states that have refrained from such choices and any obligation for contribution but substantially benefited from the unification process.

In a Union that espouses democratic values and is still learning out of this unique in history, man-made, and with mistakes integration process, if circumstantial reasons lead a country at a certain historical period to the harsh-but democratically taken decision- to limit its engagement to the unification path, then the right to disintegrate partially or fully has to be granted, by returning a stage back or exiting the Union respectively. This right could also act as an additional motive to join this Union for those states -such as former EFTA members- that had deliberately chosen to refrain from the unification process, while benefiting at the same time from economies of scale, trade expansion,

freedom of capital and labour, as well as numerous other economic and social spillovers of the EU integration process and benefits granted to them by the Union (for example the lack of imposition of same competition rules on their national monopolies that allow them to acquire firms in European states that cannot cope with intra-EU competition). Driven by its aim to diffuse the unification ideal across the continent and its tolerance for individual development choices, the EU has never envisaged seriously the prospect to follow an easier development path, by imposing hard-to-cross, protectionist barriers against European states that had never decided to join. However, such a prospect against the “free-riders” of the integration is not impossible to start taking place, especially after the recent global upsurge of protectionist policies and the post-crisis political and social unrest and turmoil taking place in several European states that is possible to turn to some form of pan-European nationalism.

While the EU-15 as well as the EU-28 average of GDP per head was increasing from 2001 to 2015 (in the early period of implementation of the Eurozone), two countries, Greece and Italy have seen their GDP per head levels deteriorating, Portugal has remained stagnant, while Spain (and then France) had only a limited increase. The Southern periphery of the Eurozone, composed of Greece, Italy, Portugal and, to some extent, Spain has benefited less in GDP per head terms out of the integration process. Furthermore, it was also found that from all EU-15 states, the Eurozone member-states did not perform as good as the non-members. The presence of some detrimental mechanism is likely to enhance due to the inefficacies in the early operation of the Eurozone.

The present research has not investigated the most recent EU enlargement towards Central and Eastern Europe and its implications. Though it is early for its assessment, it is worth acknowledging that common decisions about this particular enlargement have not acted equally to the benefit of existing member-states. The economies of some member-states have significantly profited in terms of trade and exploited the opportunities for their own industries that have been investing in Eastern economies. However, other less export-oriented economies suffered from the competition of low-priced, low-cost products from new member-states that have penetrated on equal terms in European markets (in agriculture, food, manufacturing or other industries). Such economies have witnessed the removal of their own products out of the European shelves, despite the substantial investments from European businesses -and indirectly from EU citizens- that have funded common EU policies to make these products more competitive. Trade divergence had not been mutually beneficial for all old EU member-states.

To overcome current problems and cope with existing challenges, the Eurozone member-states, aided by EU authorities, are currently building

various institutions, improvising new policies and organizing various, hitherto neglected, aspects of the unification process, such as the Banking, Fiscal and Capital Markets Union. The breadth and energy of this institutional and policy-building process reminds of the period that has culminated in the formation of EEC; it is hard to find another parallel if compared to earlier unification periods. Such major amendments and additions to the common edifice should be based on the sound logic of economic theory. When common currency policies focus on the macroeconomic consensus, the most advanced states are expected to benefit more from raising money supply (while disengaging from restrictive common fiscal policy is not useful for them), while the less advanced can profit from raising expenditure and limiting restrictive fiscal policy in the short-run. Long-term austerity and fiscal restriction in those economies like the Greek (as a way to face its extended domestic borrowing) may have a limited success and result in harming the common economy, since the former has suffered from two consecutive financial crises, substantial shrinking, macroeconomic imbalances and the entering in a (Keynesian) liquidity trap.

In such cases, organizing and promoting the application of common production and supply-side policies could become a valid development path to follow. These policies could be of common character, scope and interest (for the currency zone and even more broadly), possibly leading to what could be termed as a *common production union*, a common policy currently missing from the EU policy agenda. Instead of investing in factories and production in non-EU states, the Eurozone partners could decide to offer incentives for allocating sufficient investments in places diverging the most, where unit labour costs have already improved due to the application of a variety of reforms in their labour markets; in places as such, high added-value products can be manufactured in existing or infant industries, for the common EU benefit and use, bringing stabilizing effects for the common economy and turning such policy to an actual cornerstone for the unification process.

One could listen behind the doors that had shut with Brexit, the sound of a bell that tolls for Europe as a whole. This first separatist move came from a nation-state that has worked hard to promote European unionization, whose economy has been trapped, in many respects. Unable to integrate further by joining the monetary union, it has not delivered the appropriate economic growth and development results that would fulfill the expectations of its citizens over the decades of its own integration choices. The dilemmas posed for the UK economy, its difficult position before the vote for Brexit, the specific pressure exercised upon it (for example through enhanced immigration from English-speaking Europeans and non-European after the discrete fall of most barriers in

the movement inside the EU that was never acknowledged by the EU as a unique problem), could make the rest of European states willing to offer the UK another opportunity to rejoin the EU, in the near future. Besides, the permanent loss of membership is not a path compatible with the common future of EU nations that would lead the EU at a new, successful stage of integration.

The EU nation-states should better emulate and participate in the common family of nation-states on equal terms, within a spirit of co-operation and competition. Instead of pursuing a model of rivalry among national economies and national businesses, more association and collaboration among EU interests is needed. Large-scale investments through common supply-side policies, organizing long-lasting European projects and the coalition of European businesses is needed to forge European interests and unite the Europeans further. Such common currency projects should relate to the future of the EU, the needs of European markets and those of Greece and other Southern economies. For example, in Greece they could relate to the promotion of aerospace engineering and industry, offering the construction of specific types of airplanes, such as hydroplanes that are now promoted in domestic flights or new type of airplanes such as silent aircrafts, and the development of whole new industries that would reduce the cyclical activity of the Greek economy and its strong dependence on tourism, such as on-line work or 3D printing. The launch of new products and new materials, with peculiar qualities, already tested and produced in scientific laboratories is another direction to follow. Similarly, the investigation and exploration of physical geographical spaces and their uses, the use of new geographical technology (such as G.I.S. or other applications) and its introduction both in production and in the protection of ecosystems and natural resources could help taking a path at the Greek economy towards a more eco-friendly, sustainable model of growth that would manage to protect natural resources from climate change and explore their use, preserve human and historical geographies, and create new jobs and entrepreneurial opportunities.

At the aftermath of two consecutive crises, instead of pushing towards further monetary and fiscal unification, substantial new solutions have to be provided in those states suffering mostly from the inefficacy of past monetary and current fiscal restrictive policy that have acted against their convergence. Since economic development has been acknowledged to arrive in stages in less advanced states (in Rostowian or other stages), a new development stage has to be advanced in such states, which will inaugurate a new era for the European unification, provided that their administration can cope with it.

Notes

1. A debate can be held whether Greece, a part of the Eurozone is or was found at a liquidity trap and what kind of liquidity trap, based on more contemporary views in economic theory.
2. It is worth noting that the IS-LM model has received strong critic and was relatively recently left behind in most macroeconomic analyses. This is despite its value and use for decades in analysing policies, which has contributed at a great expansion of wealth, income and money both in domestic environments and globally and helped to reduce macroeconomic imbalances.
3. This figure is found if the 2011-2015 change for France is divided by the number of years.

Bibliographical References

- Abel, A.B., Bernanke, B.S. and Croushore, D. (2010) *Macroeconomics*, New Jersey: Prentice Hall.
- De Grauwe, P. (2013) 'Design Failures in the Eurozone: Can they be fixed?' LEQS Paper No 57/2103, February 2013, <http://www.lse.ac.uk/europeanInstitute/LEQS%20Discussion%20Paper%20Series/LEQSPaper57.pdf>. Accessed 19th of December 2019.
- De Grauwe, P. and Heens, P. (1993) 'Real exchange rate variability in monetary unions', *Researches Economiques de Louvain*, 59(1-2), 105-117.
- De Grauwe, P. and Ji, Y. (2014) 'The Future of Eurozone', *The Manchester School*, 82, 15-34.
- De Grauwe, P. and Ji, Y. (2015) 'Correcting for the Eurozone Design Failures: The Role of the ECB', *Journal of European Integration*, 37(7), 739-754.
- De Grauwe, P. and Vanhaverbeke, W. (1991) Is Europe and optimum currency area? Evidence from Regional Data, In Masson, P.R., & Taylor, M.P. (Eds), *Policy Issues in the Operation of a Currency Union*, pp. 111-129, Cambridge: Cambridge University Press.
- Frieden, J. and Walter, S. (2017) 'Understanding the Political Economy of the Eurozone Crisis', *Annual Review of Political Science*, 20: 371-390.
- Ikonomou, C. (2018) *Funding the Greek Crisis: The European Union, Cohesion Policies and the Great Recession*, Cambridge, MA: Elsevier/Academic Press.
- Ikonomou, C. (2020) A New Integration Era in the EU: Theory, Assessment and Main Challenges, text uploaded at SSRN.
- Maraveyas, N. (Ed.) (2016) *European Union: Creation, Evolution and Prospects*, Athens: "Kritiki" Editions, in Greek.
- Maraveyas, N. and Katsikas, D. (2016) 'The Economics of European Integration', in Maraveyas, N. (Ed) *European Union: Creation, Evolution and Prospects*, p.p. 149-189, Athens: "Kritiki" Editions, in Greek.
- Todaro, M.P., and Smith, S.C. (2015) *Economic Development*, New York: Pearson.