Abstract

Since the creation of the EU, its focal economic objective has been to achieve economic growth and improved employment. The European Union’s present ‘Growth, Jobs and Investments’—strategy (GJI) is a recent attempt to promote these goals. Since the global economic and financial crisis the EU has been suffering from low level of investments. The purpose of this study is to assess the development of growth, employment, and investments in the Member States from 1995 to 2015. For this purpose, a relatively simple ‘GEI-index’ is developed. This aggregate index is a composition of indicators in GJI, which in general evolve in the same direction. The study provides: (1) a comparative evaluation of the haves and losers among the EU countries and (2) an empirical summary for the main objectives in the GJI-strategy. The primary methods used are based on the GEI indicator and data-analyses. The key findings of the study are: First, there seems to be some catching up concerning new member states that joined in the EU in the 2000s. Second, during the whole period from 1995 to the beginning of the financial crisis all the EU-28 countries— including the late members — show a positive development in the GEI-index. However, from 2009 to 2015 seven countries — all of which belong into the euro area — had declining GEI-index. These same countries had low level of investments and long lasting economic recession. Third, all the other EU-28 countries, but except Greece, had positive development in the GEI-index in 2015 as compared to the previous year. Obviously, our GEI-analyses cannot give a straight answer about the success of the EU’s GJI-strategy as such. However, we see that our GEI-index provides a simple but effective tool for the practical assessments of the EU’s growth policies. It is easy to interpret and visualize. Based on our illustration of the GEI-index, we recommend that there is a serious need to re-evaluate the EU’s growth strategies and economic policies concerning the employment and investments.

KEYWORDS: EU strategies, economic growth, employment, index, investments, macroeconomics.
The purpose of this paper is to elaborate macroeconomic development in the EU–28 region in years 1995–2015. We evaluate the success of the European Union’s ‘Growth, Jobs, and Investments’ strategy over the twenty years using the Eurostat Database (2017). The long run EU policy was built on three elements: (1) the Maastricht Treaty, (2) the Stability and Growth Pact, and (3) the Lisbon Strategy. These three conventions define the general framework for economic policies in the EU (see e.g. Calmfors 2001, Buiter, 2005, Buti et al. 2005, Collingnon 2009, Bednarek-Sekunda et al. 2010, Dubra 2016).

The Maastricht Treaty defined the fiscal framework for Member States. The Stability and Growth Pact mainly included the rules for the Excessive Deficit Procedure under Article 126 of the Treaty (formerly Article 104). The Lisbon Strategy was set up by the EU Heads of State or Governments in March 2000. It included the ambitious aim of turning the EU into ‘the most competitive and dynamic knowledge-based economy in the word capable of sustainable economic growth with more and better jobs and greater social cohesion.’ (Lisbon European Council Conclusions 2000) In the report ‘Investment for Jobs and Growth’ (2014), the European Commission defined the third pillar of EU’s economic strategy.

The article is organized as follows. First, we describe macroeconomic growth as a strategic target in the EU–28 region. Second, we elaborate employment, and finally, investments are inspected. In Summary, we present key statistical findings of the GJI index examination. We conclude that the most problematic target of the EU policies is that economic growth and investments have not created jobs, i.e., the jobless growth problem can be recognized (see Ioannou et al. 2008, European Commission 2005, 2014, Demosthenes & Stracca 2014, Christiansen et al. 2012).

Figure 1 shows average gross domestic product at market prices in the EU–28 countries, current prices, PPS per capita, years 1995-2015. The purchasing power standard (PPS) is the name for the artificial currency unit in which the PPPs and real final expenditures for the EU-28 are expressed in euros, constructed by Eurostat (OECD 2007).

Figure 1 reveals that Benelux countries, Nordic countries, Austria, Germany, and Ireland have the highest per capita GDP levels, which can be interpreted as a crude measure of potential material well-being. Baltic countries, Eastern European countries, and Mediterranean countries have relatively lower per capita GDP levels. There are huge differences in potential economic welfare between the Member States, for example, per capita GDP in Luxemburg is almost six time higher than in Bulgaria. France and the UK stand on quite average positions.
In Figure 2 we present average final consumption expenditure in the EU-28 countries. This gives another viewpoint to the potential material welfare that economic growth can bring to citizens as consumers.

![Figure 2](image)

Average final consumption expenditure in the EU-28 countries, current prices, PPS per capita, years 1995-2015


Few interesting observations can be made. As compared to Figure 1, (1) Baltic, Eastern European, and Mediterranean countries retain their relative positions. (2) In France consumers gain the average level of consumption expenditure, but interestingly, the British consumers get higher benefits in relation to their position in the GDP growth, that is even higher than in Germany. (3) Distinctively, Finland seems to drop out from the group of Nordic countries in consumption. That is, Finnish consumers are in much weaker position than their Nordic neighbors, even with a similar kind of success in potential well-being. In Figure 3 we report the average final consumption expenditures of general governments in the EU.

Figure 3 raises some interesting questions concerning economic growth policy and the role of government in welfare generation processes. Figures 1, 2 and 3 suggest that there might be some

![Figure 3](image)

Average final consumption expenditure of general government in the EU-28 countries, current prices, PPS per capita, years 1995-2015

causalities going on. Namely, the countries that have shown higher success in potential welfare also have higher final consumption expenditure of general government, and vice versa. European average is about 4500–5000 euros per capita. In Greece, this public expenditure is less than 4000 euros per capita. In fact, Greece seems to be a distinctive outlier in this respect. This observation gives some alarming features that should be scrutinized for policy re-evaluation that Figure 4 reinforces. Figure 4 describes the average real rate of per capita GDP growth in the countries.

![Figure 4: Average annual real growth rate (%) of GDP per capita in the EU-28 countries, chain linked volumes, years 1995-2016](image)


It is notable that the Baltic countries and Eastern European countries show very high growth rates and growth of real labor productivity (Fig. 5). However, Greece is no longer part of this group, as it was elsewhere, but lacks the high growth that is the most critical factor for the possibility to increase well-being in the future. The growth rates of Mediterranean countries have generally been low. Despite this, as Figure 2 suggests, consumers in these countries have enjoyed relatively high consumption. In the long run this can be a threat to economic sustainability.

![Figure 5: Average annual growth rate (%) of real labour productivity per hour worked in the EU-28 countries, percentage change on previous year, years 1996-2016](image)

In Figure 6 we elaborate the average changes of employment in the EU-28 countries in period 2001–2016. The successful Member States in employment have been: Luxembourg, Malta, Ireland and Cyprus. On the other hand, the less successful countries have been some latest EU-members and EURO-members that have been in economic troubles after the recent economic crisis: Romania, Portugal, Greece, Latvia and Lithuania.

![Graph showing employment changes in EU-28 countries](image)


In the field of investment policy, the EU-28 region has not followed a unified strategy. Figures 7–9 show that the investment policies among Member States vary. Some countries show business investment while others seem to be more oriented towards public investment. The total investment percent in the EU-28 countries varies from 17.3 (UK) to 28.8% (Czech Republic). Business investments dominate investment activity in many Eastern European countries (Czech Republic, Estonia, Latvia, Slovakia, Bulgaria, and Slovenia). The lowest business investment activity is in Greece (Fig. 8).

Public government investment activities are reported in Figure 9. Government investment activities have deviate from 2.2% to 5.2% while business investments deviate from 6.5% to 19.2%. Estonia is showing the biggest investment rate while Germany has the smallest rate of government investment.
Figure 7
Average level of total investment, % of GDP in the EU-28 countries, EU-28 region and Euro area, average of years 2002-2015


Figure 8
Average level of total business investment, by institutional sectors, % of GDP in the EU-28 countries, EU-28 region and Euro area, average of years 2002-2015. Data from Luxembourg and Malta are missing


Figure 9
Average level of total government investment, by institutional sectors, % of GDP in the EU-28 countries, EU-28 region and Euro area, average of years 2002-2015

To summarize development in relation to ‘Growth, Jobs and Investment’, we have calculated a GEI Index, which gives equal weight (1/3) to each economic policy goal. Officially, the European Union and its Member States aim to get more economic growth, jobs and investments. The GEI Index is defined as follows:

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GEI = \frac{1}{3} \times [\text{Indicator of the change in GDP} + \text{Indicator of the change in Jobs (Employment)} + \text{Indicator of the change in Investments (Total investments)}]
\]

In other words, the GEI-index is a summation of the individual indicators in the form of change. In economic theory, GDP, Employment and Investments are correlated and, for example, the nation’s aggregate demand identity is the summation of private consumption, investment, public expenditure and net export. However, the purpose of the index is not to describe structural functions or economic causalities for analytical purposes. Instead, the GEI-index can be used to describe the comprehensive development of chosen policy variables with one figure. This can be justified, because according to economic theory, all these variables develop at the same direction despite of the causalities and possible loops: investments increase GDP, which increases demand, which increases employment, which increases demand and investments, etc. and vice versa. As we see below, this kind of index tool can give very interesting results and points of view for further analyses.

In Figure 10 we report minimum, median, and maximum levels of the GEI Index for EU-28 countries. It is important to understand that different Member States have very specific starting conditions for their economic policies. The new Member States have faced more big differences in the key factors. The established EU Member States have shown quite stable development.

Figure 11 indicates that the observations are compatible with the endogenous growth theory, according to which less developed countries have potential to catch up more advanced countries in economic development (for example, see Aghion & Howitt 1998, Barro & Sala-i-Martin 2004). The catching up requires active economic and growth policies. Possibly the most important policy variables that affect growth processes are investments in R&D&I and education. In practice, for an individual Member State, catching up can be pursued by the effective utilization of the STI (science, technology and innovation) policy programs that the European Union provides.

As an example, countries like Latvia, Lithuania, Estonia, Bulgaria and Romania have the highest GEI-index (measured as median) in Figure 11. Correspondingly, in Figure 1 we can see that the
same countries have the lowest per capita GDP. This can be interpreted that catching up processes has indeed occurred.

In Figure 12, relative contribution of sub-indicators on the GEI-index in the EU-28 countries are reported.

The average annual relative deviation (percentage) from the annual average value of the GEI-index is reported in Figure 12. We can observe that the annual average of GDP and investments indicators between 1995 and 2015 have increased the annual average value of the GEI index (in exception of investments in Croatia and Germany). Correspondingly, the employment indicator...
has decreased the magnitude of the GEI-index. In relative terms, investments in Bulgaria, Latvia and Poland have had a considerable importance the growth of their GEI indices. On the other hand, the employment indicators have reduced the GEI-indices for all the countries. This may indicate the so-called ‘jobless growth’ effect where economic growth is not able to increase employment as effectively as previously has been the case.

Next, we summarize the trends of the GEI Indices. Financial crisis caused discernible problems for the Growth, Jobs and Investment strategy. In Figures 13 and 14 we present the development of the GEI indices in years 1995-2008 (before financial crisis) and in 2009-2015 (after financial crisis). These figures show that European economies enjoyed positive development before the financial crisis (we call this as ‘fun-effect’), but after financial crisis we can identify the so called ‘fan effect’ where parallel progress dispersed.

During the area of the fun effect of European integration, steady economic growth can be recognized in Europe. As the GEI indices in Figure 13 show, especially Latvia, Lithuania, Bulgaria,
Estonia and Romania benefitted from the growth and jobs strategy, at least in relative terms, even though they joined in the EU at the later stage.

Figure 14 displays the fan effect, i.e. the dispersion of economic development after the financial crisis. We can recognize two kinds of countries. First, Malta, Lithuania, Estonia, the UK, Ireland and Sweden have been winners according to the GEI indices. Second, Greece, Cyprus, Spain and Portugal have lost the most as the GEI indices are negative as compared to year 2009.

It seems that there are three main processes behind the fan effect: First, the decline of investment activities in the latter countries explains almost all of the drop in the GEI index. The investments explain also the success of the former countries, their total investments have been growing steadily. Second, successful countries have recovered quite soon from economic decline in GDP. Instead, unsuccessful countries have had great difficulties to reach the growth path. Third, the employment indicators show no drastic changes in general, even though the development
has been positive in the first group of countries, and negative in the latter group. As exception, Greece has suffered quite radically.

We can summarize that:

- Practical and easily interpreted indicator analyses for the objectives of the EU’s growth strategies – like ‘Growth, Jobs and Investments” – can give a concise picture of the real world development to support the decision-makers and policy-makers knowledge needs both at the EU level and national level as well.

- Aggregate indices – like the GEI-index (Growth, Employment, Investment) constructed in this study – can reveal successful and regressive member states in relation to the objectives of EU’s growth strategies.

- GEI-index performance varies a lot among the EU-28 countries. During the steady economic growth between 1995 and 2007 the GEI indices were positive for all member states.

- The GEI-index analysis suggests that financial crisis years (since 2008) have been very challenging for the Growth strategies of the European Union: The exceptional ‘fan effect’ can be recognized among the EU countries. Seven euro countries have fallen deep and long lasting recession, and concurrently the rest of the EU countries had performed better.

- Comparison of the year 2015 to the previous year, the GEI indices have risen for all but Greece.

- Versatile indicator analyses and rigorous evaluation studies concerning the EU’s ‘Growth, Jobs and Investment’ strategy is further needed.

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