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ON EUROPEAN UNION ECONOMIC GROWTH: IS COHESION POLICY STILL RELEVANT?

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Abstract: *The geostrategic and macroeconomic landscaped is quickly changing and, lately at a faster pace. The European Union is faced with many challenges and has to find appropriate instruments to address them. Cohesion policy was a staple of EU instruments addressing regional disparities by supporting competitiveness, human capital and territorial cohesion and quality of life. The fields of intervention of the cohesion policy have increased over time and have diversified in a multitude of objectives and programs diluting its resources. But new circumstances require new approaches. NextGenerationEU RRF has risen to be an adapted instrument to a multitude of crises with a performance mechanism that sees reforms performed at the same time with investments. In this article we analyse the concepts, macro-economic neoclassical theory and empiric results a show that there is still an important role for the Cohesion policy especially in increasing the efficiency factors in the neoclassical production functions which would ensure and advancement in the growth of the EU economy while also allowing for cohesion "the glue that keeps Europe together".*

Keywords: *Cohesion Policy; NextGenerationEU; Neo-classical theory.*

JEL Classification: E13; E60; E61.

1. Introduction

The Cohesion policy has long been a staple of European Union's social, economic and territorial integration. Induced as part of the regional development policy since the formation of European Economic Community, following the 1957 Treaty of Rome (Guyomarch, Machin and Ritchie, 1998) the Cohesion policy evolved to be a pillar of EU economic growth.

Although formally branded as „Cohesion policy" in 1993, following the 1992 Treaty of Maastricht, its purpose of addressing regional and territorial disparities and to ensure convergence in economic growth and prosperity, was inherently embedded in the solutions envisaged for the effects of establishing a free single market on the EU territory (Jouen, 2017).

EU Cohesion Policy is a key component of the European Union strategy, designed to reduce economic, social, and territorial disparities between EU regions. It aims to promote balanced and sustainable development by allocating funding to less developed regions, supporting infrastructure, innovation, and job creation.
The practical application of the Cohesion policy is done through interventions financed out of the following six funds:

- European Regional Development Fund (ERDF) – the largest fund in terms of allocation which tackles interventions in competitiveness, innovation, digital and green transition and territorial cohesion;
- Cohesion Fund (CF): dedicated to countries with a gross national income per capita below 90% of EU-average, targets environment and transport infrastructure but also energy interventions, with a strong green and digital dimension;
- European Social Fund Plus (ESF+): focuses on human capital development (employment and skills) and social aspects;
- Just Transition Fund: supports the green transition in regions previously dependent on fossil fuels' industry;
- European Maritime, Fisheries and Aquaculture Fund (EMFAF): budget for the EU common fisheries policy
- European Agricultural Fund for Rural Development (EAFRD) which represents a Cohesion/regional policy instrument but in tune with the Agricultural policy to foster development in rural areas;

In addition to these six main instruments, following the various crises that have occurred over time, the Cohesion Policy has been relied upon to identify funding instruments to support Member States in recovering from or mitigating the effects of the crises. Examples are:

- Recovery Assistance for Cohesion and the Territories of Europe (REACT-EU) – technically an NGEU instrument aimed at fostering crisis repair capacities following the coronavirus crisis, as well as investments in operations contributing to preparing a green, digital and resilient recovery of the EU economy.
- Cohesion's Action for Refugees in Europe (CARE) – which supports Member States and regions in providing emergency assistance to people fleeing from Russia's invasion of Ukraine.

All the programs presented previously are implemented generally through indirect management and present very high granularity in the forms of hundreds of operational programs at the level of the regions/countries of the EU.
This underlying complexity and fragmentation impose extensive burdens on strategic programming and advancement at the EU level (Schwab, 2024).
Cohesion policy is considered to be a redistributive policy (Albanese et al. 2018).The criticism of redistributive approach revolve around the interpretation to which the European redistribution supports extant national systems with all their imperfections and ineffectiveness and was not in a position to shepherd reforms to these policies (Adamski, 2018).
However other points of view regard the Cohesion policy as a conduit to equal opportunity in economic development and moreover as a tool to increase economic growth overall, or at least to ensure the pre-requisites to growth and development in the Union (European Parliament, 2024).

Since 1998 the Cohesion/Regional policy allocation in the EU budget have amounted to approximatively 2 trillion EUR in current prices. The allocation percentage out of the total EU budget over the programming periods averaged 27% percent, with a peak during the 1993-1999 programming period of 34% of the total EU budget.

Table 1: Total Cohesion envelope in the EU budget

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Indicator / Budgetary period	**1988-1992**	**1993-1999**	**2000-2006**	**2007-2013**	**2014-2020**	**2021-2027**
Cohesion (nominal prices)	53.14	176.40	213.01	308.04	325.15	327.79
Cohesion (2024 prices)	113.42	326.46	344.93	462.79	435.60	403.12
Percent of total UE	20%	34%	28%	29%	26%	27%

Source: Own analysis based on The History of the EU Budget (Benedetto, 2024)

Totaling around 2 trillion EUR in current prices, the entirety of the EU – Cohesion budget for the last 40 years is equal to 10 years' worth of Germany's national budget or 11% of one year's of EU GDP. For the current programming period total Cohesion policy allocations are under 0.03% of annual EU GDP, therefore in comparable terms, the Cohesion allocation is secondary to other national funding sources.
However, the Cohesion allocation is not negligible, especially to less developed countries/regions and it is very important to understand weather this important amount of funding has had an impact on the objectives of reducing disparities/convergence, territorial cohesion and equal prosperity.

2. A theoretical framework

The theory of reducing economic disparities is based on the 1957 Solow - Swann growth model, which is a very simple and elegant framework to describe the main factor pushing economic growth in the form of capital accumulation per capita (Prettner and Bloom, 2020).
The capital stock envisaged by the Solow – Swann model is based on gross investment in productive facilities like factories, equipment but also infrastructure like roads, railways etc. However, capital accumulation is offset by capital depreciation and where in an economy the change in gross investment meets the change in depreciation is where it is considered that the economy is in a 'steady state' a, point of equilibrium where further positive change should be subject to other factors related to capital accumulation and/or labor productivity.
Later on, Solow (1957) showed that capital accumulation alone (physical capital) is not enough and that technological progress is at heart of advancing economic growth in the long.
Romer (1990) showed that technological progress is advanced by innovation and Mankiw, Romer and Weil showed that beside technological and related innovation

the human capital factor can also augment the Solow model and explain differences in disparities and speed of convergence of different economies.
The production function developed following Solow-Swann model is also dependent of the productivity of labor. The productivity factor was proven to be improved by technology and efficiency and out of the two the efficiency has a larger contribution to disparities between different regions/countries (Howitt and Weil, 2008).
There are many variables that affect efficiency, including know-how, health and social welfare but also infrastructure and services, especially mobility and accessibility.
In particular mobility infrastructure, especially roads infrastructure was determined to have a positive effect on reducing inequities and „crowding-in" other factors that help efficiency (Eden, M. and A. Kraay, 2014, Calderon and Serven, 2014), especially when combined with education, technology and research (Zhang and Fan 2004).
Aschauer (1989), Barro (1990) and Aniket (2021) showed that accumulation of capital in the Solow model could be not only private but also public through a separate (tax) channel. Interestingly, Barro showed that it is actually the flow of public productive expenditure and not the public capital that has a greater contribution to growth of output and that the welfare-maximizing level of productive expenditure is shown to be the same as that which maximizes the economy's growth rate which is achieved when the share of productive government expenditure in GDP (hence the tax rate) equals the elasticity of aggregate output with respect to the same variable (Calderon and Serven, 2014).
The neo-classical models presented above introduce the notions of convergence/divergence as the movements towards the 'steady state' of a country's economy from either side of the gross investment curve.
The accumulation of capital / gross investment is considered to ensure economic growth and the further from the 'steady state' an economy is, the faster the growth should be.
The neo-classical model therefore predicts a conditional convergence in the case of similar regions/countries depending on how far from the steady state the respective economy is. However, the neo-classical model does not predict absolute convergence where there are dissimilar regions/countries. There are very many factors that differentiate between regions/countries and throughout the last half century many economists tried to figure out which other factors affect output per capita and as such differentiate in the amplitude of the capital intensity curve
The speed of convergence calculated by means of regressions show that that the neoclassical model predicts a negative coefficient which measures the speed of convergence. Barro and Sala-i-Martin (1992) use this model in their influential empirical analysis of convergence across US states. The general conclusion is that there is indeed convergence and the estimated coefficients are surprisingly similar across different data sets and point to a speed of convergence of about two percent per year in the US (Sala-i-Martin (1996). This percentage is similar in the EU (Licchetta and Mattozzi, 2023).
Factors that are generally considered to determine differences between regions/countries include: mobility and transport infrastructure, education, health and life expectancy, demographic change, openness of an economy, strength of the

judicial process, governmental efficiency, corruption, cultural habits, strength of the financial/capital markets, fertility of land, climate and geographical characteristics.

3. Impact of the EU' Cohesion Policy

The Cohesion policy includes fields of intervention that tackle all the factors and main variables included in the macro-economic growth theory and neo-classical models presented above and as such should have produced significant impact on the growth of the regions/countries which were treated by this policy.

So, did the Cohesion policy interventions have a positive impact on regional economic growth?

During the years many studies tried to answer this question and the results are mixed. The academic papers on the economic effectiveness of cohesion policy are not conclusive, despite a generally positive tendency (von Ehrlich, 2024).

Studies, reports and evaluations released by the European Commission show in general positive impacts both on economic growth and convergence for the Cohesion/Regional policy interventions, even if usually the ex-ante evaluations are more optimistic than the ex-post results.

Studies by other researchers show that all regions in the EU have increased in economic prosperity since the creation of the Single Market and that convergence is taking place among the regions of Europe (Gerland and Schwab 2022) and that less developed regions/countries have had remarkable increases (Kopiński et al., 2024, Konya, 2023)

Certain studies present favorable outcomes. For example, (Bucur, 2012) prove the fact that the new member states (the EU-10+2 group) enjoyed a higher rate of convergence compared to the old member states (the EU-15 group) and that this situation actually confirms the neoclassical theory concerning the economic growth which supports the convergence within the countries with similar elements, according to which the poorer economies have certain advantages in terms of economic growth compared to the richer countries, advantages which allow them to grow more rapidly and to make up for the existing gaps.

On the impact of Cohesion policy (Paliova and Houbenova-Delisivkova, 2020) suggest for Bulgaria a 1 to 3% annual additional economic growth by end-2020 compared to the baseline scenario.

Other papers find that Cohesion policy is likely to generate substantial positive spillovers (for example, Mohl and Hagen, 2010, and Fidrmuc et al., 2019). On the spatial spillovers, finds show that there are possibly larger spillovers in the core than in the periphery (Bourdin, 2019).

Blouri and von Ehrlich (2020) show that of three important channels of Cohesion interventions (wage subsidies, local productivity amenities and infrastructure, it is actually infrastructure most likely to generate positive spillover effects across the EU regions.

Giannakis, Bruggman 2020 reveal that there are significant differences in economic resilience across the urban–rural divide. Their model indicated that migration is the factor with the greatest positive effect in regional resilience, whereas the ageing population had a strong negative effect on regional resilience. Both effects were highest for rural areas.

Not all studies present favorable outcomes. For example, certain regions are stagnating / diverging, being in or at threat of being in a “development trap” (Diemer et al., 2022, European Commission 2023) or inequality between urban and rural areas or within countries is increasing (Marzinotto, 2012. Eurofound, 2023).
Di Caro and Fratesi (2021) find that the long-term macroeconomic effect of the EU policy varies across and within EU countries, with positive and significant effects registered in about 40% of EU regions. This suggests that regional specificities need to be considered when discussing about the one size fits all approach of policy in Europe (Bachtler et al., 2019).
The same empirical analysis showed that there are regions where large amounts of cohesion funds do not correspond to positive growth effects - this category includes several regional areas in Southern and Mediterranean Member States. On the contrary, there are regions, mostly located in Germany and France, which received relatively low amount of EU funding, but where we find positive and significant policy effects. There are also cases of effective policy, with high amount of funds and positive and significant effects, like in Eastern Germany, in some NMS and Northern countries.
Finally, yet importantly, Di Caro and Fratesi (2021) suggest that the heterogeneous effects of cohesion policy effectiveness can be related to the presence of a selected number of national and regional contextual factors, including the level of national development, the quality of regional institutions and regional human capital endowment.
On the other hand, Breidenbach et al. (2019) suggest that spillovers may be negative due to intensified competition for scarce production factors.
San Juan Mesonada and Sunyer Manteiga (2020) have estimated the impact of the structural funds on the convergence in per capita GDP between autonomous communities, and. The empirical results show that in the period 2000-13, without taking into account the crisis, the models using the data of both the European Regional Development Fund (ERDF) executed and that of the set of budgeted structural funds (not implemented investment) seems to detect a weak impact of these projects on growth.
Capello and Caragliu (2021) show that in the wake of COVID 19 Crisis - in the long run, total disparities decrease, but within country disparities increase.
The concept of Cohesion policy is not relevant only for the European Union. There are other countries/regions that have appreciated the value of such a regional policy. One of such examples is China where there are significant differences in regional development between Eastern, Central and Western China, with Eastern China being the most developed region.
Zhang (2021) shows important disparities between Easter China and Central and Western China in respect to technological innovation and discover that the factors have a positive impact on reducing disparities are innovation investment, market environment, support and foreign technology spillover.
Hong, Chu and Wang (2016) using data from a sample of 31 Chinese provide strong evidence that differences in transport infrastructure, physical capital and labor quality did account for a significant part of the observed variation in the economic growth of provinces.

However, at the beginning of the third decade of the century, the Cohesion policy started to fade from the forefront of EU policy discussions.

NextGenerationEU (NGEU) programs were developed on a backdrop of COVID-19 crisis and even if rushed by the European institutions they were programmed with a profound mission of reshaping of the structure of EU economy especially in the fields of digital and green transition. This was moreover accentuated in February of 2022 when the Russian invasion of Ukraine occurred and the economic relationship between EU and Russia, especially in the energy sector started to be reconsidered. All these funding instruments developed on an urgency background are considered temporary instruments under the title "NextGenerationEU". Indeed, the COVID-19 crisis, together with the subsequent inflationary crisis in the euro area and the conflict in Ukraine, have been the basis for the development of an innovative financial instrument under Cohesion Policy in the form of the Recovery and Resilience Facility (RRF). The RRF is a temporary instrument and a central element of NextGenerationEU - the plan to make the EU stronger and more resilient in the wake of recent crises. The RRF is also essential for the implementation of the REPowerEU plan - the Commission's response to the socio-economic hardship and disruption of the global energy market caused by Russia's invasion of Ukraine.

Therefore, the Recovery and Resilience Facility is in fact "cohesion policy" but contains the innovative aspect of raising its financial resources by borrowing on the capital markets (it issues bonds on behalf of the EU). These funds are then made available to its Member States to implement reforms and investments to make their economies and societies more sustainable, resilient and ready for the green and digital transition, in line with the Union's priorities, as recommended in the country-specific recommendations of the European Semester for economic and social policy coordination.

The Recovery and Resilience Facility is implemented via National Recovery and Resilience Plans (RRPs) submitted by EU governments, outlining important reforms and investments, in particular in line with the Council recommendations following the European Semester exercise. Total allocation of the Facility is 650 billion EUR, of which 359 billion EUR in form of grants and 291 billion in form of loans.

The Recovery and Resilience Facility is performance based, which means that the Commission only pays out the amounts to each country when they have achieved the agreed milestones and targets towards completing the reforms and investments included in their RRP.

Currently all 27 RRPs were approved and disbursements amount to a total of 269.5 billion EUR, of which 174,8 billion EUR in form of grants and 94.7 billion EUR in form of loans.

NGEU/RRF is also in line with policy studies that aim to increase freedom of action by the EU as a whole by allowing a unitary fiscal system. For instance, Allemand et al. (2023) argue that only the production of European public goods financed by a truly European tax system, not by national contributions, would enable the creation of a genuine democratic basis for the EU, a further step in the European integration process that would permit the EU to face urgent challenges. Moreover Allemand et al. (2023) suggests that with a permanent NGEU, Europeans could decide to allocate for themselves a share of the common wealth drawn from the high profits made from the internal market which would mean a true Hamiltonian moment for Europe: the advent of a European fiscal capacity to provide public goods and, meanwhile, to tax the internal market and give birth to a European democracy, since "no representation (can work) without taxation".

RRF is supposed to run from 2022 to 2026 and is too soon to evaluate the impact of the program however midterm evaluations performed by the Commission do reflect a positive impact.

Also, estimates by European Central Bank suggest that NGEU could raise euro area potential output by 1.4% over the long run and over the longer run, NGEU may also mitigate some of the most entrenched structural divergences in EU as a whole.by triggering a catch-up process for investment and, therefore, involve a capital reallocation across EU Member States.

Bańkowski et al 2022 estimate that the NGEU programme is expected to increase GDP in the euro area by up to 1.5% by 2026. However, there are some caveats. For example, NGEU can only unfold its full potential if all national investment and reform plans are completed in a timely and effective way. It could be possible that problems might arise in certain euro area countries from possible administrative bottlenecks.

A good indication in terms of future strategy that the EU will develop is comprised in the Draghi report issued by in September this year. Starting from the existing macro-economic issue of the EU of which of relevance is that since 2019, production per European worker has grown by 0.5% a year, compared with 1.6% in the United States. An that the economic disparity between the two real GDPs has widened, from 17% in 2002 to 30% in 2023 the report lays out the following priorities for the next term of the Commission:

The first is aiming at closing the innovation gap with the United States and China by facilitating innovation. Eliminate bureaucratic hurdles and progress to a Capital Market Union.

The second area for action is a joint plan for decarbonization and competitiveness but firstly prioritizing lowering the energy prices, then pressing ahead with clean energy installation in a technology-neutral way and invest in strengthening the grids

The third area for action is increasing security and reducing dependencies by increasing EU independence through securing supply chains for critical raw materials and technologies and increasing production capacity in strategic sectors, like, for example in defense and space, by raising the share of joint defense procurement and common R&D spending.

The report also resets the aim of the Cohesion policy by re-focusing it on areas such as education, transport, housing, digital connectivity and planning in order to increase the attractiveness of a range of different cities and regions.

The report also concludes that the achievement of the three directions of action would entail EUR 750-800 billion in additional investment each year, an estimation which is confirmed by an analysis of the European Central Bank.

In terms of identifying the most suitable funding instruments for conducting this amount of investment, the report hints towards the NGEU, considering that the current macro-economic imbalances of the European Union, even if not as dramatic as the crisis which preceded NGEU still present circumstance that are equally serious.

4. Conclusions

It is obvious that the strategy for the future of the EU sees the Cohesion policy having a secondary and supportive role to other instruments which are fiscally empowered to address regulatory changes and investments/capital accumulation in the key competitiveness weaknesses of the EU.
As mentioned previously the neo-classical growth models shows that accumulation of capital through the saving channel combined with technological and related innovation and educated and skilled working force with efficiency increasing factors like basic infrastructure and mobility is required to have economic growth. Taking this into account the Draghi report keeps in line with these economic models.
However, as also shown above in order to achieve technological and related innovation and educated and skilled force you need a number of efficiency pre-requisites among which basic infrastructure like land and water transport infrastructure water and waste infrastructure, as well as health and education infrastructure are very important.
The implementation of basic infrastructure represents also capital accumulation, albeit public capital funneled through a tax channel which is competing for uncommitted output with the savings channel (Aniket, 2021). In addition, basic infrastructure has the advantage of “crowding-in” other factors that help boost growth.
All this indicates that investments in basic infrastructure should not be discarded even if not precisely in line with the digital and green transition in order to ensure the foundation for economic growth. However, caution has to be given not to “over-accumulate” this type of stock as this will divert important capital accumulation in productive capital and overall will diverge from the equilibria and achieve a diminishing output.
The excessive granularity of EU programs under the Cohesion policy can make it more challenging to monitor and evaluate their effectiveness. With numerous programs targeting different objectives and regions, it can be difficult to achieve the overall desired impact on output in an efficient way.
A possible reconciliation of Cohesion policy and NGEU approach could be the association of reforms that specially tackle the efficiency of the tax channel to promote public capital accumulation, as well as the efficiency of government by reducing red tape, governmental inefficiencies and corruption and other factors impending project implementation and efficient accumulation of public capital in the developing regions/countries.
Another idea worth further studying is for the Cohesion policy to cater for regional particularities in terms of competitiveness and human capital development, but ensuring and adequate level of endowment of mobility and other types of basic infrastructure as well as spatial development of adequate level of agglomerations. The levels of appropriate endowment of each type basic infrastructure and agglomerations should be subject to empirical research in various types of regions all across the EU.
In conclusion Cohesion policy seems to fall out of fashion, however it still has plenty to offer for the desired goal of increasing European competitiveness and economic growth for all member states. The policy could shape itself to include reforms

together with investments especially those aimed at increasing governmental efficiency and administrative capacity in the implementation of especially publicly funded investments.

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