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Tel: (+4021) 314 26 96, 314 26 97, Fax: (+4021) 314 26 66
E-mail: rjea@ier.gov.ro, Web: http://rjea.ier.gov.ro
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Guest article

A New EU Economic Governance and Fiscal Framework: What Role for the National Independent Fiscal Institutions (IFIs)?

Daniel Dăianu[1]

Abstract[2]: *The European Commission's communication on orientations for a reform of the European Union's economic governance framework asks the European Fiscal Board (EFB) and national Independent Fiscal Institutions (IFIs) to play a more significant role in it. This vision has plenty of merit, but one needs to be careful in how to implement it. Structural reforms and public investment analysis demand an expertise hardly existing at the level of most national IFIs, and any involvement in policy design would make its assessment tricky when IFIs are part of the process: an inescapable conflict of interest would ensue. It could also be perceived as a technocratic encroachment on a democratic decision-making process. In order to play a more significant role in the EU economic governance framework, national IFIs need more resources according to the EU-wide acceptable standards of operation, and, first of all, they need to bolster their macroeconomic and debt sustainability analysis capabilities.*

Keywords: *debt sustainability, EU economic governance, fiscal rules, fiscal capacity, IFIs, investment, risk sharing, reforms, transparency.*

JEL codes: *E61, E62, F15, F33, F34, F36, H6, O52.*

Introduction

For more than a decade, an intense debate has been ongoing among experts and policy-makers on the need to overhaul the economic governance and the fiscal framework of the EU, with the euro area in focus primarily. More than anything else, the financial crisis has made obvious that the EU economic governance is suboptimal, that it is lacking key elements – although, this was, presumably, known from the very beginning of the euro area. As Otmar Issing, the first chief economist of the European Central Bank (ECB) often said, a monetary union cannot function properly by sitting on a single leg, its monetary policy. Fiscal rules and frameworks function at both the supranational and national levels, as the EU is a political and institutional construction

[1] **Daniel Dăianu** is the President of the Romanian Fiscal Council and Professor of Economics at the National University of Political Studies and Public Administration in Bucharest; he is a member of the Romanian Academy, former member of the Board of the National Bank of Romania, former MEP and former Minister of Finance of Romania.
E-mail: daniel.daianu@bnro.ro; ddaianu@hotmail.com.

[2] This is a revised version of the material that was posted on the website of the Romanian Fiscal Council in February 2022. A shorter version was published as SUERF Policy Brief on 23 February 2022. Some of the views expressed in the paper were presented during various debates, including with representatives of the national independent fiscal institutions. The author bears sole responsibility for the views expressed herein, which should not be interpreted necessarily as those of the Romanian Fiscal Council.

among member states that maintain strong and broad sovereign prerogatives.

The European Commission (EC) encouraged the public debate on the reform of the EU economic governance framework, including its fiscal rules, and issued various documents to this end. The debate was relaunched in 2021, against the background of extraordinary, extreme events. The resurgence and persistence of high inflation and a consequent sharp tightening of monetary policies while public debts were already a major concern, make the reform of the EU's economic governance, of its fiscal framework, more salient and urgent. A recent EC document on this reform is *the Communication* of 9 November 2022, which was updated in early 2023[3].

This paper addresses the topic of the EU's economic governance framework (including its fiscal rules) and the role of national Independent Fiscal Institutions (IFI). It posits that the adequacy of the EU's fiscal framework has to be judged in relation to the overall structure of economic governance in the Union.

1. The context

Since the start of the single currency area, it was clear that ***formal institutionalised*** fiscal rules are necessary against the backdrop of no fiscal integration. I say "formal" rules since economic common sense, as an informal constraint, should induce rational decision-makers to fiscal and budgetary policy conduct that shuns recurrent large deficits and unsustainable public debts. In the euro area, market discipline (visible through sovereign bond yields) was blurred by the introduction of the single currency and a single monetary policy. The formal institutionalised fiscal rules, encompassed by the Stability and Growth Pact (SGP), operate in conjunction with the one-size-fits-all monetary policy of the ECB, with its pluses and minuses.

For the non-euro area members of the EU, financial markets, despite their erratic dynamics, continue to exert a disciplining effect on macroeconomic policies. However, liquidity squeezes and solvency crises can occur when strong boom and bust cycles are at play[4].

The sovereign debt crisis, which occurred in 2009, indicated the inadequacies of the fiscal rules which were pro-cyclical and paid insufficient attention to the big differences in the macroeconomic conditions of member states. Likewise, the rules underestimated the spillover effects, which made things worse for the euro area as a whole in the absence of stabilising instruments – such as a joint "fiscal capacity", and tools to deal with the doom loop between sovereign debt and bank balance sheets. In this regard, an EU *safe asset* would be a useful instrument.

The ECB turned out to be, as a *lender and buyer of last resort*, the *de facto* rescuer

[3] *Communication on orientations for a reform of the EU economic governance framework*, Communication from the Commission to the European Parliament, the Council, the European Central Bank, the European Economic and Social Committee and the Committee of the Regions, Brussels (9 November 2022), available at https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52022DC0583&qid=1669888504282.

[4] Several new EU member states had to be supported through official financial assistance programs after the global crisis struck and financial markets froze. These countries had run very large current account deficits caused primarily by massive capital inflows which went into non-tradable sectors. Consequently, painful adjustment processes had to be introduced.

of the single currency area via unconventional operations[5], by a massive injection of base money as a counterpart to the acquisition of sovereign bonds. Quantitative Easing (QE), however much maligned by some for its unintended consequences (among which an alleged perpetuation of resource misallocation[6]), prevented the euro area from a possible collapse by bringing down the skyrocketing bond yields of highly indebted member states.

The EU sovereign debt crisis, as a reflection of the financial crisis, showed that its root causes were both ***public and private over-borrowing***, and the ECB and other central banks received a strong reminder that price stability is not synonymous with financial stability. Here one finds a main explanation for the introduction of macro-prudential rules and regulations, that should help keep macro-imbalances under control by influencing the flow of credit. The European Securities and Markets Authority (ESMA), the European Banking Authority (EBA) and the European Insurance and Occupational Pensions Authority (EIOPA) are the new European regulatory institutions created in the aftermath of the financial crisis with a view to deal with systemic risks. The European Stability Mechanism (ESM), too, was instrumental in helping contain the sovereign debt crisis. These new institutions are a response to the monumental failure of the *light touch regulation* paradigm, that invited the financial debacle which erupted 15 years ago.

While macro-prudential regulations were enacted promptly and have undergone refinements over time, fiscal rules at the EU level stayed basically the same over the years, although the need to respond to peculiar circumstances forced their tweaking, nuancing and reinterpretation.

A European Fiscal Board and national Independent Fiscal Institutions (IFIs) were set up in order to monitor policy compliance with the EU and the national fiscal frameworks.

2. A new EU fiscal framework is needed

The pandemic, the energy crisis, and the invasion of Ukraine have delayed the overhaul of fiscal rules and of the EU's economic governance framework. Nevertheless, several action guidelines are clear:

- make the rules more transparent and reduce their complexity;
- do not abandon the numerical references of 3% of GDP for the budget deficit and 60% of GDP for public debt;
- adapt the rules to take into consideration national circumstances, encouraging compliance and making the adjustment of imbalances feasible;
- create tools to deal with asymmetric shocks, such as a "fiscal capacity", and a safe asset as an instrument of risk-sharing, that should operate in conjunction with risk-reduction measures;

[5] QE was also a response to *the zero lower bound*, the inability to use conventional monetary policy to prop up economic activity in periods of sharp downturns.

[6] This line of reasoning can be found in Bank for International Settlements (BIS) documents. See, for instance, Jaime Caruana, "Stepping out of the shadow of the crisis: three transitions for the world economy", Speech at the BIS General Meeting, 29 June 2014, available at https://www.bis.org/speeches/sp140629.pdf.

- debt sustainability, a major issue already is compounded by the tightening of monetary policies which has been required by a resurgent inflation; a "debt trap" is looming here;
- strengthen the role of the European Fiscal Board and of the national IFIs.

Some of these action guidelines are also mentioned in the EC Communication regarding the reform of the EU economic governance framework. This document refers to the need of more "national ownership of polices", for reasons that are easy to figure out. The European Fiscal Board has been quite vocal in advocating the revision of fiscal rules and stressed the need of a joint *fiscal capacity* and of *a safe asset*. The IMF[7], too, stressed the need of a *fiscal capacity*, as did many other experts.

National IFIs have supported a revision of fiscal rules as well, but there has been less agreement in favour of a joint fiscal capacity and of risk-sharing instruments. It can give food for thought that views in this respect have overlapped with the official positions of the respective member states, with the well-known divide between "frugal" states and other states. Opinions within the IFIs network have varied also on whether to judge the adequacy of fiscal framework and rules, in conjunction with the adequacy of the EU's economic governance framework, some views being that the overhaul of the EU's economic governance is a "political decision" *par excellence*.

I believe that one can hardly judge the adequacy of fiscal rules unless the design/structure of the economic governance of the EU and of the euro area, in particular, is addressed. This structure demands stabilisation and risk-sharing instruments, such as a *central fiscal capacity* and a *safe asset*, together with consistent implementation of risk-reduction measures. Nevertheless, reaching the right balance between risk-sharing and risk-reduction measures is not easy to define. Moreover, policy compromises on such sensitive issues are very difficult to achieve, owing to the high heterogeneity of economic circumstances and divergent interests among the EU member states.

I would also add that **the functioning of economies and the effectiveness of macroeconomic policies depend on the structure of the global financial system**. When the global financial cycles are derailed by a wide-ranging and deep deregulation of finance[8], against the backdrop of the dominant position of a major central bank, as is the case of the Fed, however prudent fiscal and monetary policies are, they can easily be overwhelmed, and pursuing a "corridor of stability"[9] is likely to be ineffective. **In addition, fiscal and monetary policies need to be complemented by macro-prudential rules and policies, since excessive private debt can be no less dangerous**

[7] Arnold, N. *et al.*, "Reforming the EU Fiscal Framework – strengthening the fiscal rules and institutions", Washington DC, IMF, 5 September 2022, available at: https://www.imf.org/en/Publications/Departmental-Papers-Policy-Papers/Issues/2022/08/31/Reforming-the-EU-Fiscal-Framework-Strengthening-the-Fiscal-Rules-and-Institutions-The-EUs-518388. This study suggests, *inter alia*, turning the EFB into a European Fiscal Council, as an independent European institution, with more prerogatives.

[8] As it happened with the waves of deregulation of finance that started with the Big Bang in the City of London in 1986 and continued in the US.

[9] The goal of such a corridor is mentioned by Claudio Borio and Piti Disyatat, "Monetary and fiscal policies: in search of a corridor of stability", presentation made at the DG ECFIN workshop "Fiscal policy in times of high debt and economic turbulence", 31 January 2023, Brussels.

than large public debt[10]**.** This is a major lesson derived from the sovereign debt crisis in the euro area, and other episodes of balance of payments crises around the world.

It is worth highlighting that the EC Communication mentions that the ability to steer the fiscal stance of the euro area remained limited in the absence of a "central capacity with stabilisation features" (p. 3). This remark is quite telling, namely that, while there seems to be a prevailing train of thought in favour of a *central fiscal capacity*[11], a political stalemate among member states impedes its creation. The same happens, presumably, with the European Deposit Insurance Scheme (EDIS).

3. What role for the national IFIs?

The EC Communication stresses that national IFIs have to "play an important role in each member state in assessing the assumptions underlying the plans providing an assessment on the adequacy of the plans with respect to debt sustainability and country-specific medium-terms goals, and monitoring compliance with the plan"[12]. The Communication seems to call for an extension of the IFIs' mandates. Whereas up to now IFIs have provided, basically, assessments/endorsements of macroeconomic and budget forecasts[13], EC's new vision would extend the mandate to **an assessment of structural reforms and public investment** (*the medium-term fiscal-structural plan*)[14].

This proposal has a rationale, but it raises significant questions. Thus, how would reforms in various sectors, in education and medical systems, for instance, be evaluated? A few national IFIs may have expertise in such undertakings, but most of them do not. In addition, investment projects are hard to discern in terms of concrete results. The outcome of structural reforms and investments may take years to show, whereas national IFIs would be asked to provide assessments on a regular basis. Arguably, the EC has to come up with clarifications in this regard. As adjustment paths of large public debts and deficits have to be feasible, and this is a major tenet of the orientations of the EC Communication, new tasks of the national IFIs should be approached similarly.

The concerns of the EC are fully justified in view of the enormous challenges that the Union is facing: the energy crisis, climate change, digitalisation, the impact of artificial intelligence, an overall productivity problem, security concerns, etc. On the other hand, national IFIs have a validated niche of work that concerns fiscal/budget policy and tax regimes that impact budgets. They can also judge, and some of them do it increasingly, the overall macro policy mix, though, inadvertently or not, they can insinuate themselves in the realm of monetary policy evaluation. By the way, the ECB

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[10] Ricardo Reis, among others, highlights the role of macro-prudential policy in the structure of a policy mix (see also "What can keep euro area inflation high?", 76th Economic Policy Panel Meeting, Berlin, 20-21 October 2022, available at: https://cepr.org/events/economic-policy-panel-what-can-keep-euro-area-inflation-high).

[11] See also Marco Buti and Marcelo Messori, "A central fiscal capacity to tackle stagflation", VoxEu, 3 October 2022, available at: https://cepr.org/voxeu/columns/central-fiscal-capacity-tackle-stagflation. It is telling that Marco Buti is the head of cabinet of EU Commissioner Paolo Gentiloni and a former Director General of DGECFIN.

[12] *Communication on orientations for a reform of the EU economic governance framework*, p. 10.

[13] Many EU national IFIs do not undertake macroeconomic forecasts themselves.

[14] This view is supported by Olivier Blanchard, Andre Sapir and Jerome Zettelmeyer as well in "The European Commission's fiscal rules proposal: A bold plan, with flaws that can be fixed", www.piie.com, 30 November 2022, available at: https://www.piie.com/blogs/realtime-economics/european-commissions-fiscal-rules-proposal-bold-plan-flaws-can-be-fixed.

and other EU central banks refer often to fiscal policy, which shows that the overall policy mix can hardly be shunned in policy analysis in such a complicated and complex environment.

Nonetheless, getting involved in an analysis of structural reforms and public investment could become "mission impossible", unless proper conditions exist. One can examine the impact of public investment, as an aggregate, on potential economic growth, but to get into an analysis of the composition of public investment is arguably very tricky. Spending reviews are done by a few national IFIs (but not by most of them), aside from what is required on the part of national governments[15]. Spending review assessments, which are different from spending reviews per se, may become a component of the work of EU IFIs in the years to come[16]. Nonetheless, having national IFIs involved in a detailed analysis of spending and investment is an open issue.

National IFIs are apparently asked to be involved in the design of policies, since the *Communication* says, "Independent fiscal institutions could provide an *ex-ante* assessment of adequacy of the plans and their underlying forecasts, which would help national government in the design phase" (p. 16). Examining underlying forecasts sounds sensible, but an involvement, albeit subtle, of national IFIs in the policy-making process can be problematic. There are at least two relevant aspects involved in this matter.

The first aspect pertains to the substance, in view of the broader scope of assessments that would be asked of the national IFIs by the suggested new mandate. And here, it should be noted that the IFIs may not necessarily have the best views, although they may be presumed as an embodiment of "technocracy" and "independent thinking". For "independence" does not automatically imply the best judgement. For instance, public agencies/entities failed as regulatory bodies with their *light-touch regulation* of financial systems. The same happened with fiscal rules, when these were implemented during the sovereign debt crisis and austerity measures were enforced pro-cyclically and with neglect of spillover effects. The procrastination of regulatory agencies in dealing with shadow banking, as well as with crypto activity, is also unfortunate. Similarly, the EU energy market, with its underpinning rules, has flaws that have been conspicuously highlighted by the energy crisis, and examples can continue.

Macroeconomic models can hardly cope with radical uncertainty and non-linearities. In addition, economists themselves may have different theoretical propensities, which influence their policy recommendations. Therefore, caution should accompany policy prescriptions. That rigor is needed so that major policy blunders be avoided is very much true, and national IFIs can help shape policy construction to this end and enhance good practices, but one should not take for granted that independence secures the best policies by itself.

For the sake of fairness in considering the *EC Communication*, however, it is plausible to assume that the suggested broadening of national IFIs' mandates is an attempt to better capitalise on their knowledge of national circumstances.

[15] In almost two thirds of the OECD member states, governments undertake spending reviews on a regular basis.

[16] For instance, Romania's national recovery and resilience plan envisages for the Romanian Fiscal Council to undertake spending review assessments.

A second aspect about national IFIs' direct or indirect involvement in policy design refers to their participation in this process, resulting in an inescapable conflict of interest. If national IFIs get involved in the policy design process, then a third party would presumably have to come into the picture, as a genuinely neutral assessment entity.

It is easy to comprehend that the Commission would like independent assessments of the national recovery and resilience plans implementation, coupled with more "national ownership" of these plans. However, one needs to be careful in asking national IFIs to change their mandates in ways that may unnecessarily expose them publicly, since reputational risks could ensue.

It is the *secret of Polichinelle* that policies in several EU member states have been perceived as being imposed by external institutions, especially after the eruption of the financial crisis. This perception likely added to the decried "democratic deficit" rhetoric in the Union. It is necessary to reflect on the possibility of IFIs simultaneously helping the strengthening of "national ownership of policies" by getting involved in policy design while also staying independent, as independent/neutral guardians or arbiters of fiscal rectitude and economic policy rationality. Such a situation can become counter-productive. Some may even see it as a surreptitious "technocratic encroachment" on what are and should be democratic policy-making processes. *De facto* and semantically, IFIs would have to change, and become a sort of "independent economic policy councils."

There are national IFIs in the EU that operate as large think tanks (e.g., in Belgium, in the Netherlands), which undertake a wide range of analyses, including the economic platforms of political parties. However, to consider such entities as role models that can and should be replicated all over the Union, no matter what, can be misleading. Apart from their current mandates and available resources, the varied cultural, historical, political, and institutional settings within the EU member states condition what is feasible and, probably, desirable to do in upgrading the mandates of the national IFIs. There could be an argument in substantiating a very broad policy analysis activity and possible involvement in policy design: when there is a high turnover of succeeding ministers and governments, which can be seen as endemic political and governance instability with the potential to harm policy making, therefore such involvement could operate as an "economic policy stabilizer". Nevertheless, such an argument is not so convincing, since economic policy design and implementation cannot be put on *automatic pilot*, which may itself be flawed. It is undeniable, however, that IFIs must be strengthened and the Commission and the EFB are right to emphasise that minimum common standards have to exist to this end.

At the same time, there should not be a normative approach to the national IFIs' assessment of fiscal adjustment paths which derive from official economic and fiscal forecasts. It is expected, however, that IFIs can influence policy-making through their opinions and assessments.

Table 1. EC proposal of bolstering IFIs' mandate vs. current status

Current status of IFIs	EC proposal	Pitfalls of EC proposal
Ex ante: large variety of mandates and capabilities, but a common denominator focuses on economic forecasts and budget construction analysis	*Ex ante*: evaluate assumptions underlying country medium-term plans, including **reforms and investment programs**; assess assumptions underlying forecasts and debt development	1) very limited existing expertise for assessing structural reforms and investment plans 2) getting involved in policy making may create a conflict of interest and incur reputational risks
Ex post: assessment of budget performance and compliance with national and EU rules	*Ex post*: monitor compliance with medium-term plans and of budgetary outturns with the expenditure path	**Summing up: IFIs need to evolve toward the EU wide minimum standards of operation and focus on what they can do best. New tasks should be realistic**

Source: compiled by the author.

On debt sustainability analysis

Regarding debt sustainability analysis, it is useful to have common conceptual constructs when factoring in aging and climate change costs in national IFIs assessments. As the IMF departmental paper suggests, a common methodology for debt sustainability analysis should be used by the national IFIs[17].

It is also necessary to consider the costs of the war in Ukraine and the probable significant rise in defence expenses in many EU member states in the years to come: *the peace dividend* has probably come to an end. Against the backdrop of the energy crisis and the war in Ukraine, some economies are becoming a sort of *sui generis* "war economies" and resource allocation is heavily impacted. De-globalisation and *decoupling* in the world economy would also influence potential economic growth and debt sustainability.

The energy crisis, with the ensuing high rise in the relative price of energy (and of other critical materials), impacts incomes and resource allocation heavily, with massive distributional effects. All these evolutions affect public budgets and debt sustainability analysis should take them into account.

National tax regimes should be considered as well in view of very low fiscal revenues in some member states. Likewise, the international fiscal regime needs to be reformed further to reduce tax evasion and avoidance, however ambitious this objective is due to extremely powerful vested interests. Tax-havens jurisdictions in the EU need to be eliminated, even if it is done gradually.

[17] Arnold, N. *et al.*, "Reforming the EU Fiscal Framework – strengthening the fiscal rules and institutions", Washington DC, IMF, 5 September 2022, available at: https://www.imf.org/en/Publications/Departmental-Papers-Policy-Papers/Issues/2022/08/31/Reforming-the-EU-Fiscal-Framework-Strengthening-the-Fiscal-Rules-and-Institutions-The-EUs-518388.

Debt sustainability assessment has to consider *hidden liabilities* that come into the open ever more due to monetary policy tightening (and *quantitative tightening* – QT).

Fiscal rules and macro-prudential rules

An evaluation by the EFB of the overall fiscal policy stance of the euro area does make sense, but it cannot be done separately from examining the macro-prudential policy stance in the euro area, as private sector deficits can harm the euro area as much as public sector deficits. Such an evaluation must consider the functioning of the global financial system as well, in which a dominant role is played by the monetary policy of the Fed[18]. It is justified for the EFB to consider overall systemic risks, which go beyond the remit of judging fiscal policies.

National IFIs may also have to judge national macro-prudential policy stances as the latter influence external imbalances. Additionally, heads of national IFIs should attend the meetings of national supervisory bodies that deal with overall systemic risks.

It should be noted that the European Systemic Risk Board (ESRB) and the ECB examine the application of macro-prudential regulations, and increasingly this is extended to the non-bank financial sector, which poses growing systemic risks as it is poorly regulated.

4. The EU economic governance: risk reduction and risk sharing[19]

The *EC Communication* does not tackle the risk-reduction vs. risk-sharing issue, though it says that a missing "central fiscal capacity" is limiting the stabilisation policy options. A central fiscal capacity, as well as the European Deposit Insurance Scheme (EDIS), is not yet operating in the EU. This is consequential for the new EU and national fiscal frameworks, and for the work of national IFIs and of the EFB as well.

Nonetheless, it is ominous that the Recovery and Resilience Facility/ NextGenerationEU is funded by issuing joint bonds, which may prove to be more of a permanent instrument eventually. Such a development is likely one venue of action in the EU regarding its economic governance framework.

Nota bene: after the ECB announced the QT, a tightening of monetary conditions in the euro area, a special instrument – the transmission protection instrument (TPI) was announced as a means to deal with the situation of highly indebted countries[20].

[18] As Helene Rey says, the trilemma is a dilemma for most of the emerging economies and, as such, capital flows controls can be useful ("International channels of transmission of monetary policy and the Mundellian trilemma", *IMF Economic Review*, vol. 1, no. 64, 2016, pp. 6-35).

[19] I referred to it in "In the euro area discipline is of the essence, but risk-sharing is no less important", SUERF Policy Note, Issue No. 30, April 2018, available at: https://www.suerf.org/policynotes/2437/in-the-euro-area-discipline-is-of-the-essence-but-risk-sharing-is-no-less-important.

[20] At that time, big spikes in Italian, Spanish and Greek bond yields took place. The announcement of the new special ECB facility brought them down.

Risk-reduction vs. risk-sharing

Some member states highlight the need to reduce non-performing loans (NPL) – a *legacy problem* – as a *risk reduction* measure, prior to implementing a *risk-sharing* scheme (such as EDIS – a collective deposit insurance scheme, and a central fiscal capacity). However, over time, the flow of non-performing loans hinges essentially on economic performance, and not on a particular level of NPLs. In the absence of mechanisms and instruments fostering economic convergence in the euro area, the NPL stocks at national levels would tend to diverge again. One can imagine a diversification of banks' loan portfolio that would diminish the threats posed to their balance sheets by activities in weaker economies. However, a complete decoupling of banks from the economies of the weaker member states is not realistic and, more importantly, is not welcomed, while contagion effects can still be significant. If banking groups diversify their government bond portfolios while considerable competitiveness gaps persist among member states, and if sovereign bond ratings are no longer "risk-free", a strong preference for holding safer bonds would ensue.

European "safe assets" and financial integration

Eurobonds, as risk-pooling assets, would make the euro area more robust, but mutualisation of risks is rejected for fear of a "transfer union". Hence came the idea of a synthetic financial asset (sovereign bond-backed securities – SBBS)[21], which results from the pooling and slicing of sovereign bonds into tranches without joint liability[22]. Nevertheless, the SBBS pose a key problem: the supply of senior tranches depends on the demand for junior tranches, and this demand is likely to fall dramatically during periods of market stress, when some member states' market access may be severely impaired.

Would the Capital Markets Union (CMU) and Banking Union (BU) overcome market fragmentation and economic divergence in the absence of arrangements that would enable the accommodation of asymmetric shocks and foster economic convergence? Some argue that a complete BU (and CMU) would dispense with the need of public risk-sharing. But is it sufficient for a robust Euro area (EA) that risk-sharing applies to finance only? Additionally, would private risk-sharing be sufficient to cope with systemic risks? What about the lender of last resort function in capital markets in view of the expansion of shadow-banking? Would a collective deposit insurance scheme involve private money only? Fiscal risk-sharing may be needed in worst-case scenarios.

The progress of the euro area and of the banking union demands a reconciliation between rules and discipline on one hand, and private and public

[21] Brunnermeier, M. K., Garicano, L., Lane, P., Pagano, M., Reis, R., Santos, T., Thesmar, D., Van Nieuwerburgh, S., & Vayanos, D. (2011), "European Safe Bonds (ESBies)", The Euronomics Group, available at: https://personal.lse.ac.uk/vayanos/euronomics/esbies.pdf.

[22] A senior tranche (deemed to be equivalent in strength to the German Bunds), a mezzanine (medium-risk) tranche, and a junior (seen as highly risky) tranche, with the latter bearing the brunt of losses in case of default.

risk sharing on the other[23]. Finding an adequate calibration between rules and risk-sharing, and between private and public risk-sharing, remains however an open question.

Arguably, only private risk-sharing schemes (CMU) would not make the euro area more robust. Financial markets are too fickle and produce systemic risks recurrently. Unless it will get adequate risk-sharing schemes, the euro area will continue to be rigid and prone to recurrent tensions. ECB special operations are a de facto risk-sharing instrument.

The euro area needs several elements: liquidity assistance during times of market stress; schemes to cushion asymmetric shocks; non-automatically triggered sovereign debt restructuring (automaticity as a condition for ESM support programmes would cause panic in the markets); rules for adjusting imbalances should not be pro-cyclical; the macroeconomic imbalance procedure (MIP) should operate symmetrically (for both large external deficits and surpluses countries); a euro area-wide macroeconomic policy that should reflect in the fiscal policy stance over the business cycle; no de-regulation of finance and strong regulation of non-bank financial entities including crypto assets.

5. Final remarks

EC's Communication on orientations for a reform of the EU's economic governance framework is more than timely and adds value to a series of similar documents. It puts emphasis on medium-term plans that should target robust economic growth and public debt sustainability, feasible adjustment paths for public debts, fiscal risks-based assessments and surveillance. More national ownership of these plans is a valuable aim, though the "technology" to achieve it is still to be elaborated.

The EFB and national IFIs are asked to play a more significant role in the architecture of the EU economic governance framework. While this vision has merit, one needs to be careful in how to conceive and implement it. There are benefits, but also pitfalls of broadening the national IFIs' mandates.

IFIs have a niche of work that concerns fiscal/budget policy and tax regimes which impact budgets. They also judge overall macro policy. Getting them involved in an analysis of structural reforms and public investment could backfire unless proper conditions exist. The involvement of national IFIs in the policy design process can be problematic. There are at least two aspects involved here. One is of substance in view of the much broader scope of assessments that would be asked of IFIs. And here, national IFIs may not necessarily have the best view, be they presumed to be an embodiment of independent thinking. A second aspect of IFIs' involvement in policy design refers to their participation in the process, while they are expected to perform its assessment: an inescapable conflict of interest ensues.

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[23] See also A. Benassi-Quere *et al.*, "Reconciling risk-sharing with market discipline: A constructive approach to euro area reform", Centre for Economic Policy Research, *Policy Insight*, No. 91, January 2018, available at: https://cepr.org/system/files/publication-files/103106-policy_insight_91_reconciling_risk_sharing_with_market_discipline_a_constructive_approach_to_euro_area_reform.pdf; J. Bini Smaghi, "Reconciling risk-sharing with market discipline", LUISS School of European Political Economy, *Policy Brief*, 30 January 2018, available at: https://sep.luiss.it/wp-content/uploads/2022/09/PB3.18-RECONCILING-RISK-SHARING-WITH-MARKET-DISCIPLINE.pdf.

To think that IFIs could, simultaneously, help strengthen "national ownership of policies" by getting involved in policy design while also being independent, supposedly neutral guardians of fiscal rectitude and economic policy rationality, can become counter-productive. It could be perceived as a technocratic encroachment on a democratic decision-making process, and there are cases of "technocratic" governments which had modest results, or had even failed.

What is clear is that national IFIs have to make their contribution in discouraging egregious populist temptations and demagoguery, to help instil public governance with common sense and vision, and consolidate good practices.

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Implications of the EU Sanctions for the Resilience of the Russian Financial System under the Current Geopolitical Environment

Dorina Clichici[1], **Andreea-Emanuela Drăgoi**[2]

Abstract: *The military invasion of Ukraine by the Russian Federation turned into Europe's most prominent military conflict since World War II, severely modifying the economic and financial relations between the European Union (EU) and the Russian Federation. Since the beginning of the Russian aggression, the EU has imposed a large number of sanctions against the Russian Federation, which aimed at limiting Russian resources to finance the war and restricting its access to European financial markets. In this context, the paper aims to investigate the impact of the EU sanctions on the Russian financial system by assessing the banking system's resilience to imposed restrictions. The findings highlight that, in the initial phase, the Russian financial system has been significantly disrupted by the EU sanctions, facing a collapse of the rouble, the most significant drop in the history of Moscow's stock market, a banking liquidity crisis, but also a contraction in lending and in the interest rate spread. In a later phase, due to large-scale countermeasures taken by the Russian authorities and the Bank of Russia, it has been stabilized, reflecting its high level of resilience to risks.*

Keywords: *EU sanctions, Russian Federation, banking system, banking liquidity crisis, countermeasures.*

JEL classification: F51, G18, G28, G21.

Introduction

International sanctions have increasingly become a key element in contemporary international relations. They have evolved from a weapon of economic warfare to the most powerful peaceful tool of the international community designed to prevent or resolve threats to global peace and security. The use of sanctions to meet the challenges of armed conflict, terrorism, the proliferation of weapons of mass destruction and violations of international humanitarian law originates from centuries of coercive diplomacy trial and error (Carisch *et al.*, 2017). They have the purpose to send a message to the sanctioned entity by an international actor to make a change in

[1] **Dorina Clichici**, PhD, is a Senior Researcher at the Department of Economic Integration and Financial Markets of the Institute for World Economy. Her research interests focus on economic integration, financial markets, international investment, and financial stability. She is the author and co-author of academic books and studies, book chapters, and articles published in international peer-reviewed journals.
E-mail: dorina.clichici@iem.ro.

[2] **Andreea-Emanuela Drăgoi**, PhD, is a Senior Researcher at the Center for European Projects of the Institute for World Economy. Her research interests focus on EU – Russia relations, European policies and economic integration. She is the author and co-author of academic books and studies, book chapters, and articles published in international peer-reviewed journals.
E-mail: andreeadragoi@iem.ro.

its behaviour or to "coerce" its behaviour (Özdamar and Shahin, 2021).

The Russian Federation's unprecedented and unprovoked military attack against Ukraine, started on 24 February 2022, led to the largest territorial annexation in Europe since the end of the Second World War, directly contradicting all international objectives and values related to respecting the sovereignty and territorial integrity of states. This act of aggression against a sovereign state has determined the imposition of an unprecedented number of economic, commercial and financial sanctions by the Western states, aiming at putting pressure on Russia to change its foreign policy towards Ukraine. According to the Peterson Institute for International Economics, more than 120 financial sanctions were imposed against the Russian Federation between February 2022 and October 2022 (PIIE, 2022).

Most of these sanctions were directed towards the energy and financial sectors, given their essential role in the Russian economy[3], pursuing to reduce the ability of the state to continue financing its war in Ukraine. The energy sector was targeted through bans on the export of technology to Russian companies in the field, bans on the exports of technologies to Russia's defence and security industry, and multiple bans on importing energy. In addition, G7 and the EU countries agreed on a price cap on Russian oil, while the EU banned Russian crude oil imports. Sanctions imposed against the Russian financial sector had the purpose of isolating Russia financially by cutting the Bank of Russia's access to foreign reserves, limiting its credit institutions' access to external financing and international payment systems, restricting financial transactions with Russian state-owned enterprises that support war operations, and reducing financial flows originating from Russia.

EU sanctions are of utmost importance in changing Russia's behaviour, considering the close economic ties prior to the invasion. The European market was the second destination for Russian crude oil and natural gas, while Russia represented the main supplier of crude oil and natural gas in the EU (DG Trade, 2021). The decision to break this co-dependence with Russia was a costly decision for the EU authorities. According to some studies (Drăgoi *et al.*, 2022), the EU sanctions represent a "declaration of independence of the European authorities" that aimed not only at reducing energy dependence from an authoritarian and aggressive regime, but also at limiting the financial flows gained from the energy exports.

Previous studies that investigated the effects of international sanctions in the context of the annexation of Crimea in 2014 have revealed that the Russian economy and its financial system have not been significantly affected by them. Many studies found that the retaliatory measures did not generate a severe economic crisis, as Russia was able to cope relatively quickly with their direct impact (Ahn and Ludema, 2016), due to the major role of the state in the economy (Connolly, 2018). Despite a remarkable number of international sanctions adopted against Russia to stop the war, there is a lack of studies examining the impact of the 2022 sanctions on the Russian economy and its financial system, but also of those that explore how the Russian authorities act to mitigate the effects of the sanctions.

[3] The energy sector generates 25% of the revenues of the budget of the Russian Federation. In comparison, the banking sector continues to play an important role in financing the economy, reaching the level of 92% of GDP. At the same time, banks constitute the basis of the Russian financial sector, holding approximately 87% of the total assets of the financial sector (Ministry of Finance of the Russian Federation, 2023; Bank of Russia, 2023).

Given the importance of the EU's sanctions for limiting the Russian Federation's ability to finance the war and isolating it financially and economically, the objectives of this study are to examine the implications of the EU sanctions on the Russian financial system and to analyse how the Russian monetary authorities responded to mitigate the effects. The methodology employed to achieve these aims consists in a chronological analysis of the EU financial sanctions against Russia, imposed between February 2022 and December 2022, alongside with the analysis of the main financial sector indicators of the Russian Federation, between August 2021 and August 2022. In addition, a chronological perspective of the main decisions of the Bank of Russia has been pursued, starting from February 2022 to October 2022. The information on the EU financial sanctions against Russia was gathered from the official database of the European Commission, the financial sector indicators of the Russian Federation were retrieved from the official database of the Bank of Russia and from Thomson Reuters Eikon, and the decisions of the Bank of Russia were collected from the official site of the monetary authority.

Literature review on the sanctions against the Russian Federation

When the Russian Federation illegally annexed Crimea and developed countries started to adopt sanctions against Russia to stop the war, a body of research investigated the effects of international sanctions on the Russian economy (Gurvich and Prilepskiy, 2015; Ahn and Ludema, 2016; Tuzova and Qayub, 2016; Connolly, 2018; Mamonov and Pestova, 2021a; Pala, 2021; Mamonov, 2021b). However, while the studies that analyse the effects of sanctions in the context of the military invasion of Ukraine are few (Astrov et al., 2022; Clichici et al., 2022), those that address the impact of the EU sanctions are completely lacking.

Gurvich and Prilepskiy (2015) argue the impact of the EU, the U.S. and a number of other states' financial sanctions imposed due to the 2014 annexation of Crimea on Russian banks and companies, through the lens of capital flows (taking into account the decline in oil prices). The results show that the sanctions directly affected sanctioned state-controlled banks and companies in the oil and gas industry, but also in the military industry, by severely constraining foreign financing, indirectly affecting unsanctioned companies.

Based on detailed firm-level data, Ahn and Ludema (2016) affirm that the US sanctions are quite "smart" as they strongly impact the targets themselves with relatively minimal collateral damage. According to the study, the sanctions had a relatively small impact on the Russian economy compared to the international oil price, which explains most of the decline in Russia's GDP, with only 1% of the economic decline being driven by sanctions. The conclusion that the international oil price was the main cause of Russia's weak macroeconomic outlook in 2014 is also presented by Tuzova and Qayub (2016).

According to Connolly (2018), international sanctions have greatly affected Russia, but not in the direction sought by Western states. One of the main reasons was the major role of the state in the economy, which is a typical environment that would hinder economic growth, competitiveness and innovation. However, in a crisis, it proved capable of mitigating the effects of sanctions. Although the Russian economy has avoided the devastating effects of sanctions, in the future it is set to become less competitive and innovative compared to other states.

Mamonov and Pestova (2021a) found that the effects of financial sanctions on the Russian economy were adverse in the case of both waves of sanctions, from 2014 and 2017. They significantly affected the financial macroeconomic variables (real interest rate and private external debt) and moderately impacted the actual variables (production, consumption, investment, trade balance and the real exchange rate of the rouble). Moreover, according to the research of Mamonov *et al.* (2021b), financial sanctions determined banks to adjust their international and domestic exposures by reducing their external assets and liabilities. Despite the government's support, the sanctioned banks have substantially contracted their lending to the domestic corporate sector, resulting in a potential loss of at least 4% of the domestic GDP. At the same time, the sanctioned banks increased lending to the population by almost the same magnitude, largely offsetting the GDP loss.

However, some authors argue that the Russian Federation is an example of the ineffectiveness of sanctions (Pala, 2021). Considering the main objective of the international sanctions imposed on Moscow in the context of the annexation of the Crimea region in 2014, i.e., to withdraw and stop supporting the self-proclaimed republics, the author mentions that it has yet to be achieved.

In the context of the Russian invasion of Ukraine, Astrov *et al.* (2022) analyse the scenarios regarding the economic impact of imposed sanctions. The results show that Western sanctions will not have a statistically significant impact on GDP and the exchange rate. However, the authors discovered that the Russian state is highly vulnerable to a reduction in the price or volume of energy exports. Apart from this, the most severe effects of the sanctions on the economy are the exclusion of Russian banks from the SWIFT system, the limited access to international currency markets, and the prohibition of exports of high-tech goods to the Russian Federation.

According to the results obtained by Clichici *et al.* (2022), despite an unprecedented number of international sanctions that were imposed on the Russian Federation in 2022, their negative impact was mitigated by extensive measures adopted by the monetary authorities, which managed to stabilize the financial system and restore lending to the real sector. However, Goldman (2022) argues that the massive waves of sanctions imposed by Western democracies will most likely deepen Russia into isolation, which will have a negative impact on its economic and technological development.

The contribution of this research to the literature is threefold. Firstly, we provide a review of financial sanctions imposed by the EU against the Russian Federation in the context of the invasion of Ukraine which started in February 2022. Secondly, we extend the literature by investigating the effects of the EU sanctions on the Russian financial system, specifically on the banking system. Thirdly, we present the most important countermeasures that the Russian authorities adopted to avoid a financial crisis.

Review of EU's financial sanctions against the Russian Federation

To impose a change in the Russian Federation's behaviour towards Ukraine, the EU adopted nine sanctions packages between 23 February and 16 December 2022 (Table 1). All nine sanctions packages targeted the Russian financial system, aiming at limiting its credit institutions' access to external financing and international payment systems. Although the financial sanctions imposed by the EU entailed a high cost for the member states, their unprecedented severity was necessary to send a strong message that the EU will not be intimidated by Russia's aggressive actions, and it will continue to act as a guarantor of state sovereignty in the region.

For the first time in the history of the Russian financial system (due to the EU sanctions adopted in February 2022), the ability of the state to use its foreign exchange reserves held in the EU banks was undermined. With no access to reserves to cushion the collapse of the rubble, the Bank of Russia was left with only two options, i.e., interest rate hikes and capital controls. Even though the largest stock of foreign exchange reserves is located in China, reaching a value of 16.8% of the total reserves[4] (followed by Germany, France and Japan, with 15.7%, 9.9% and 9.3%, respectively), it could not be accessed by the Russian government, as the Chinese authorities avoided violating Western sanctions. The sanctions were also primarily respected by the Chinese state because most Chinese banks could not afford to lose access to international financing. In contrast, many Chinese industries would have been seriously affected if they had lost access to Western technology.

With the freezing of international reserves, the EU authorities banned European banks from accepting bank deposits exceeding the amount of EUR 100,000 held by Russian citizens or legal entities from Russia and restricted the access of Russian citizens to the European capital market by banning the sales of securities to them. Regarding the impact of this sanction, it must be specified that it cannot be extraterritorially applied. Therefore, the Russian subsidiaries of the EU parent companies are not obliged to comply with the sanctions. However, the EU parent companies are prohibited from using their Russian subsidiaries to avoid sanctions obligations.

By March 2nd, the EU decided to exclude the most important Russian banks (Bank Otkritie, Novikombank, Promsvyazbank, Bank Rossiya, Sovcombank, VEB, VTB) from the SWIFT network, the main purpose being to prevent Russia from looking for ways to bypass the sanctions. Moreover, the European authorities banned the supply of euro banknotes to Russia and crypto-asset services, aiming to impose additional restrictive measures regarding the provision of specialized financial messaging services to certain Russian credit institutions.

By its next sanction packages, the EU imposed full transactions ban on four more Russian banks (VTB, Novikombank, Sovcombank and Otkritie Bank), excluded three other Russian banks (SberBank, Credit Bank of Moscow and Russian Agricultural Bank) from the SWIFT and imposed a ban on business-relevant financial services provided by European entities, such as accounting and tax consultancy, consultancy in management, market research and public opinion polling services for the Russian government as well for companies established in Russia. The most important financial

[4] The stock of international foreign exchange reserves of the Bank of Russia reached the level of 629.4 USD billion in February 2022 (Bank of Russia, 2023).

sanctions adopted by the EU are included in *Table 1*.

Table 1: The EU's financial sanctions against Russia imposed between February 23 and December 16, 2022[5]

Date	Sanction Package	Measures Imposed
23 February	I	• Prohibition of granting new loans or credits to any legal entity associated with the Russian government, as well as the total prohibition of transactions with Russian state-owned enterprises that support military efforts. • Prohibition of financing the Russian Federation, its government and the Bank of Russia by any bank located on the territory of the EU.
25 February	II	• Freezing international reserves in euros and dollars held by Russia. • Prohibition of accepting deposits exceeding EUR 100,000 from Russian citizens or residents. • Imposing a ban on the sailing of euro-denominated securities to Russian clients.
28 February and 2 March	III	• Excluding seven Russian financial institutions from the SWIFT financial messaging system (Bank Otkritie, Novikombank, Promsvyazbank, Bank Rossiya, Sovcombank, Vnesheconombank - VEB, and VTB Bank). • Prohibition of investments in projects co-financed by the Russian Direct Investment Fund. • Imposing a ban on the supply of euro banknotes to Russia. • Imposing a ban on transactions with the Bank of Russia, which aims to prevent it from accessing the large amounts of foreign exchange reserves held in the EU.
9 March	"Compliance package"	• Crypto-assets fall under transferable securities. • This package of sanctions also confirms that loans and credits also include crypto-assets. These clarifications were provided precisely so the financial sanctions could not be evaded.
15 March	IV	• Imposing a ban on the rating of Russia and Russian companies by EU credit rating agencies as well as a ban on providing rating services to Russian customers.

[5] Note: Due to our research subject, we have chosen to select and briefly present only the financial sanctions. However, the nine packages of sanctions are also imposing multiple trade bans (including on the imports of oil and petroleum products), travelling and visa bans.

8 April	V	• Imposing a ban on providing services for cryptocurrencies and a ban on providing advisory services for trusts owned by Russian oligarchs. • Imposing a ban on Russian companies from participating in the EU public procurement tenders. • Freezing assets of four other Russian banks (VTB, Novikombank, Sovcombank and Otkritie Bank). • Imposing a ban on providing financial advice on trusts owned by Russian oligarchs.
3 June	VI	• Excluding three other Russian banks (SberBank, Credit Bank of Moscow and Russian Agricultural Bank) from the SWIFT financial messaging system. • Imposing a ban on the EU companies from providing accounting, auditing, statutory audit, bookkeeping, tax consulting, business and management consulting or other public relations services to the Russian government and to legal entities established in Russia.
21 June	"Maintenance and alignment package"	• Prohibition of European banks from accepting deposits from legal entities established in third countries if they are majority owned by Russian citizens or by persons residing in Russia. • The acceptance of deposits for non-prohibited cross-border trade will be subject to prior authorization from the competent national authorities.
5 October	VIII	• Extending crypto-asset bans to all crypto-asset e-wallets, accounts or custody services, regardless of their value (the previous sanctions allowed such e-wallets and accounts up to EUR 10,000).
16 December	IX	• Three other Russian banks were sanctioned, including by imposing a total ban on transactions with the Regional Development Bank of Russia. • Imposing a ban for EU citizens from participating in the financial management boards of all Russian state enterprises, including joint ventures with a Russian state company.

Source: Authors' representation based on the European Commission data (2022).

As a result, after the imposition of these financial sanctions, almost 70% of the major Russian state-owned companies and banks are unable to access funds on the EU capital market (European Commission, 2022). In addition, Cygan (2022) shows that the sanctions also affected the Russian Sovereign Fund which is now unable to sell assets abroad to finance Russia's military operations. As a result, Russia's strategy to accumulate foreign assets in peacetime in order to finance its war no longer seems viable.

Moreover, because these sanctions are internationally coordinated and include countries that are normally reluctant to participate in such actions – such as Switzerland – they are expected to have substantial effects, particularly as they force the Russian economy to rely heavily on current revenues from energy exports and other basic resources. In addition, as countries that currently import energy resources from Russia will find alternative sources of supply, the constraint exerted by financial sanctions on Russian foreign exchange reserves will become stronger.

The main implications of the sanctions imposed on the Russian financial system

The decision to invade Ukraine which led to large-scale financial sanctions by the EU, starting with the prohibition of financing the Russian Federation and its financial institutions, but also freezing its international reserves, has severely disrupted the Russian financial system in the initial phase. The primary financial risks materialized through the channel of foreign exchange and stock market, starting from 24 February. Similar to previous periods of increased volatility in the Russian financial market, investors sought to quickly sell assets held in Russia and convert the national currency (rouble).

Significant capital outflows led to the biggest drop in history on the Moscow stock market on February 24, when its main index (IMOEX) dropped by 39%, causing losses of approximately 70 billion dollars to the largest companies in Russia. Russian banks and oil companies were among the hardest hit by the stock market decline, with shares of Sberbank, Russia's biggest bank, losing 43% of their market value. Rosneft's value fell by 43%, while Gazprom's shares decreased by 35%. In this context, the Bank of Russia suspended trading in the stock market to eliminate the risk of excessive volatility of securities starting with February 28 (*Figure 1*).

Figure 1. Dynamics of the main index of the Moscow stock market, between January 2022 - October 2022

Source: Authors' representation based on Thomson Reuters Eikon data (2022).

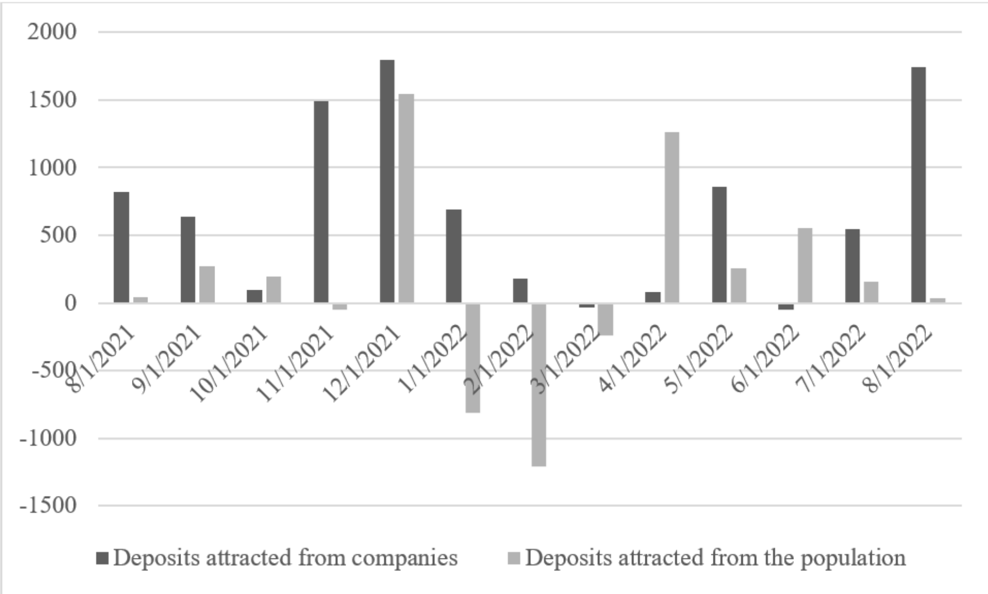
The stock market trading was resumed only on March 24, after large-scale countermeasures adopted by the Bank of Russia, aimed at mitigating the effects of the sanctions. Although the authorities managed to stabilize the stock market, IMOEX no longer recorded values similar to those of January 2022. In addition, limited access of the Bank of Russia to foreign reserves, one of its main instruments to stabilize the currency, led to a collapse of the rouble. It touched a record low on March 11, reaching 120 to the dollar, losing almost 60% of its value since the start of the year (*Figure 2*).

Figure 2. The evolution of the exchange rate between the Russian rouble and the US dollar, between January 2022 and October 2022

Source: Authors' representation based on Bank of Russia data (2022a).

In the second phase, when the European Commission adopted the third sanction package and excluded the Russian banks from SWIFT, the uncertainty related to the effects of sanctions on the banking system, but also the collapse of the rouble generated panic among the population. It spurred significant withdrawals of funds from Russian banks in February and March (*Figure 3*). However, the situation stabilized in less than a month, when the value of funds on current and deposit accounts recovered, due to an unprecedented rise of the key interest rate, from 9,5% to 20%, by the Bank of Russia on February 28.

Figure 3. Resources attracted from companies and the population, between August 2021 and August 2022 (monthly change, in billions of roubles)

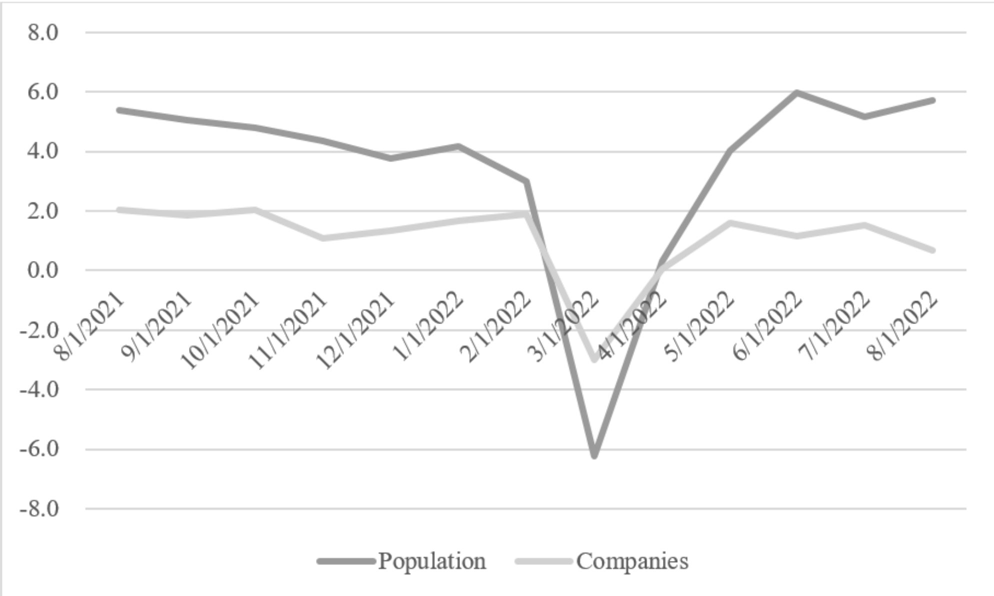


Source: Authors' representation based on Bank of Russia data (2022a).

Russian companies have been less affected compared to the population, having access to government support in the context of international sanctions. In addition, high international prices for energy fuelled the growth of Russian oil and gas companies' revenues.

Although, by rising the key interest rate, Bank of Russia mitigated the withdrawal of funds by the population from the banking system, which led to an increase in financing costs and a significant reduction in the banking interest rate spread. Thus, the interest rate spread on population, with a maturity of more than one year, reached a negative value in March, of -6.2 percentage points, while that related to companies was -3 percentage points (*Figure 4*).

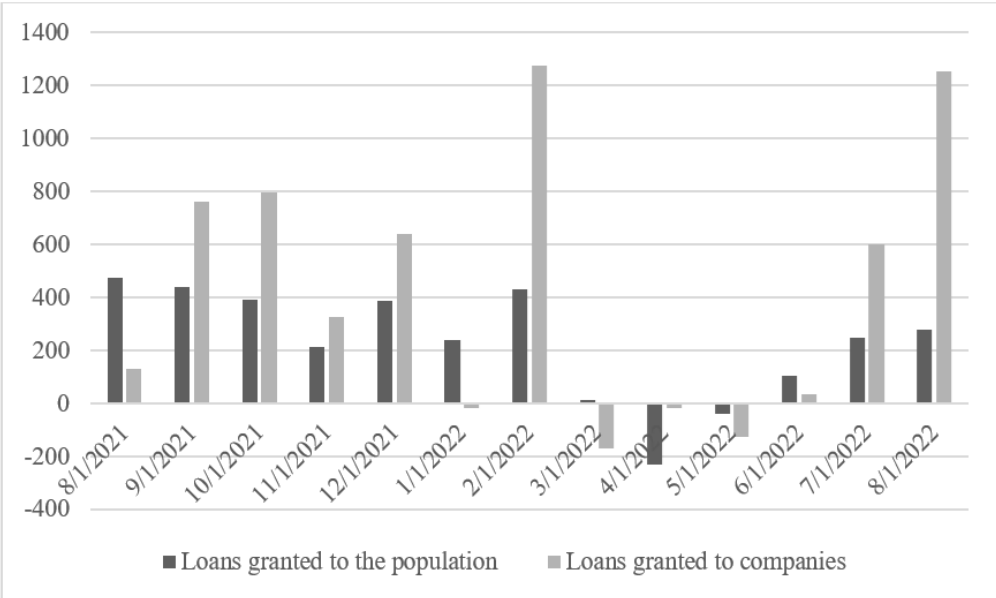
Figure 4. The interest rate spread on the population and companies, between August 2021 and August 2022 (with a maturity of more than one year, in percentage points)



Source: Authors' representation based on Bank of Russia data (2022a).

In addition, the tightening of lending standards by credit institutions, but also the sharp decrease in imports as a result of the sanctions imposed on Russian companies, affected the lending activity of banks. Starting from March, the companies' demand for loans decreased for three consecutive months, by 310 billion roubles (*Figure 5*), being amplified by logistics problems, international restrictions on equipment imports and goods, as well as difficulties in finding new partners and markets for the Russian products. However, with the reorientation of the companies' exports to the markets that did not impose sanctions on the Russian Federation, paired with other sources of imports, the demand for credits increased starting from July.

Figure 5. Loans granted to companies and to the population, between August 2021 – August 2022 (monthly change, in billions of roubles)



Source: Authors' representation based on Bank of Russia data (2022a).

At the same time, the demand for bank loans from the population decreased in April and May by 271 billion roubles (*Figure 5*). However, the situation stabilised with the reduction of the monetary policy rate in April, from 20% to 17%. Starting from June, an upward trend in demand for loans from the population can be observed. In addition, the high level of capitalisation and the relaxation of capital buffer requirements allowed banks to absorb loan losses.

Russia's countermeasures to mitigate the impact of sanctions on the financial system

The governmental authorities and the central bank announced unprecedented large-scale measures aiming to mitigate the adverse effects of the EU sanctions on the Russian financial system[6].

Against the background of severe devaluation of the rouble, as the monetary no longer had the option of using foreign exchange interventions, a series of capital controls were introduced on February 28. Firstly, the requirement of mandatory sale of 80% of the foreign exchange earnings of the exporters was announced. Moreover, the key rate was increased, from 9.5% to 20%, aiming at mitigating the withdrawal of funds from bank deposits, preventing the materialization of systemic liquidity risk and reducing inflationary pressures. Starting with March 1st, quantitative restrictions

[6] Between February and October 2022, more than 50 measures were adopted to restore the normality of the stock market and of the foreign exchange market, as well as for the stability of the banking system (Clichici *et al.*, 2022).

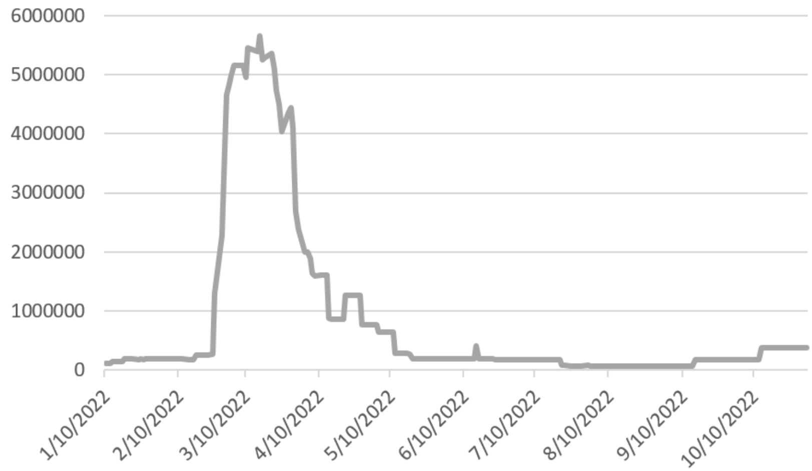
were introduced on cash withdrawals in foreign currency and cross-border currency transfers, as well as restrictions on the purchase of foreign currency on the Russian market by non-residents. To limit the demand for foreign currency, an additional 30% commission fee for the purchase of certain types of foreign currencies (USD, EUR, GBP) was introduced. In response to the fourth package of sanctions approved by the EU, the Russian authorities have approved, starting from April 1st, that the payment of debts to foreign debtors be made only in roubles and that the purchase of natural gas is only possible with payment in roubles.

As the currency stabilised, the authorities decided on the same date, to relax the limits on the maximum values that can be transferred abroad, the conditions on the sale and purchase of foreign currency and the requirements for the sale of foreign currency by exporters. In addition, starting from May, banks were allowed to sell, without restrictions, except for US Dollars and Euro, foreign currency to citizens.

A number of measures were also taken to stabilize the stock market. On February 28, the Bank of Russia banned the sale of securities and other Russian assets by non-residents, limiting foreign currency transfers, and suspended trading on the Moscow Stock Exchange. To prevent excessive volatility and risks to financial stability, the central bank announced its readiness to purchase Russian government bonds on 18 March. However, on March 23, the Bank of Russia announced the resumption of trading for 33 shares included in the main index of the Moscow Stock Exchange.

Moreover, with a significant portion of the central bank's international foreign exchange reserves frozen, the central bank could no longer provide foreign currency liquidity to banks through foreign exchange swap and repo operations. Instead, in addition to the rouble lending facility offered to banks, the Bank of Russia announced that it would continuously inject rouble liquidity into the banking system starting from February 28. As a result, credit institutions repurchase agreements with the Bank of Russia reached 5.6 trillion roubles on March 16 (*Figure 6*).

Figure 6. Value of repo operations, in national currency, of the central bank between January 2022 and October 2022 (in millions of roubles)



Source: Authors' representation based on Bank of Russia data (2022a).

At the end of March, aiming to increase banks' access to the central bank's resources, the central bank relaxed the requirements for participation in refinancing operations and extended the term of permanent credit facilities from one day to 90 days. In addition, it reduced the minimum reserves requirement from 4.75% to 2% for all categories of funds attracted by credit institutions, freeing up additional liquidity in the amount of 2.7 trillion roubles. The monetary authority also eased the requirements regarding the liquidity of systemically important financial institutions, approved the temporary use of capital buffers, thus making available 891 billion roubles, but also cancelled the mandatory contributions to the deposit insurance system, determined by the increase in interest rates to deposits (Bank of Russia, 2022b).

Consequently, at the end of March 2022, the liquidity demand of credit institutions decreased due to massive interventions of the central bank. Moreover, against the background of the liquidity surplus registered at the end of April, the Bank of Russia raised the minimum reserve requirements for foreign currency liabilities and announced that it would start to absorb liquidity from the banking system. In addition, the Bank of Russia initiated the monetary policy interest rate reduction cycle, from 20% to 17%, following six interest rate cuts, reaching in September 2022 a level of 7.5%.

Although five more EU sanctions packages have been adopted starting with April 8, the Russian authorities' unprecedented capital restrictions have limited the rouble's convertibility, and the exchange rate has returned to its pre-Ukraine war level starting from April. At the same time, the relaxation of prudential requirements towards banks, but also the significant amount of liquidity injected into the banking system, contributed to mitigating the liquidity crisis. The national payment infrastructure played an important role in stabilizing the situation. The National System of Card Payments ensured the accessibility of cashless payments on all types of cards within Russia. At the same time, the Financial Messaging System of the Bank of Russia enabled the processing of financial messages within Russia, supporting communication with 12 countries[7].

Conclusions

The analysis of the main implications of the EU's financial sanctions on the resilience of the Russian financial system reveals some important aspects. Firstly, it has unveiled that all nine sanctions packages adopted by the EU authorities between February and December 2022 targeted the financial system of the Russian Federation, aiming at reducing its ability to finance the war with Ukraine, as well as its exclusion from the European financial system. The EU resorted to unprecedented measures, such as freezing the international reserves of the Russian Federation, excluding the main Russian banks from the international payment system, but also limiting the access of Russian citizens to the European capital market and to the EU banks.

Secondly, the loss of access of the Bank of Russia and of the Russian financial institutions to foreign currency resources and to the international payment system led to the largest drop in the history of the rubble and of the Moscow stock market index.

[7] Since 2019, a number of agreements have been concluded to connect the Financial Messaging System of the Bank of Russia to the payment systems of other countries, such as China, India and Iran, but also the countries of the Eurasian Economic Union (Armenia, Belarus, Kazakhstan, Kyrgyzstan).

As a result, stock market trading was suspended for about a month. Uncertainty related to the effects of the Western sanctions, but also to the severe collapse of the rubble led to the withdrawal of funds from the current and deposit accounts by the population, causing a major liquidity crisis in the banking system in March 2022. In addition, the increase in the key rate affected the demand for loans from both the population and companies, but also the bank income, significantly reducing the interest spread.

Thirdly, to counteract the impact of the sanctions and to avoid a financial crisis, the Russian authorities have adopted more than 50 measures, mainly resorting to extensive capital controls, the increase in the key rate, but also to the massive injection of liquidity into the banking system. Through such measures, the Russian authorities managed to stabilize the financial system and to overcome the currency and the liquidity crisis from March 2022.

In conclusion, although Russian financial institutions have managed to adapt to the new situation, the effects of the asset freeze will have long-term repercussions, with the Russian financial system becoming increasingly autarchical and vulnerable. In addition, as a result of maintaining the EU's sanctions in 2023, the war effort will become increasingly burdensome, and this fact shows that the impact of the financial sanctions will constitute a major stress factor for the stability of both the Russian economy and its financial sector if the current geopolitical status-quo remains unchanged.

However, considering that the Russian financial market is working on different grounds than the financial markets from Western countries, further research is needed to explore the peculiarities between these markets, along with the implications of other countermeasures taken by the Russian authorities that are not related to the financial sector.

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Agricultural Technology Start-ups – Romania and Hungary Compared

Andrea Szalavetz[1]

Abstract: *This paper departs from the hypothesis that in the era of agriculture 4.0, start-ups specialised in digital agricultural technology (AT) have the potential not only to rapidly grow, but also to have a beneficial impact outside the core countries of agricultural innovation. To validate this assumption, we compiled data about a sample of Romanian and Hungarian AT start-ups entering the market with self-developed digital solutions. Based on extensive desk research, we identified the main distinctive features of the surveyed start-ups, compared to their peers in advanced economies, and answered the related key research question: how meaningful is the impact of these start-ups on the much-needed upgrading of agricultural production in these countries? Our analysis reveals that although local AT start-ups in these countries do develop innovative solutions in the field of precision farming, farm management software, applications, and e-marketplaces, their number is below a threshold where they could have an impact on the upgrading of local agriculture. More importantly, the reduced size of the local market for technology and other hard-to-overcome barriers make it barely possible for them to grow as rapidly as some AT start-ups do in advanced economies.*

Keywords: *agriculture 4.0, agricultural technology start-ups, precision farming, Hungary, Romania.*

JEL classification: *Q16, O33, Q18.*

Introduction

Agriculture has recently become an important target of technology start-ups all over the modern world. Since digital technologies bear the promise to further revolutionize agricultural productivity, funding to agricultural technology (AT) providers has been increasing at an unprecedented rate. According to *AgFunder* (2022), the number of venture capital deals increased rapidly in 2021, with total funding amounting to $51.7 billion, representing an 85% increase over 2020.

Since AT start-ups' emergence and funding are highly concentrated – according to the report mentioned, US-based AT start-ups accounted for 41% of total funding, followed by China, India, and Israel[2] – and academic research discussing this phenomenon also focuses on advanced economies[3], there is scant research on AT start-ups in Central and Eastern Europe (CEE).

This is a clear gap in the literature for two reasons. Firstly, local AT start-ups

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[1] **Andrea Szalavetz** is a research advisor at the Institute of World Economics, Centre of Economic and Regional Studies. This paper was supported by the Hungarian National Scientific Research Fund (K138846).
E-mail: szalavetz.andrea@krtk.hu.

[2] European countries (e.g., Germany, Netherlands, Spain) are distant followers.

[3] Examples include Mikhailov *et al.*, (2021), Singh *et al.* (2022). As regards the developing economies, the studies mainly tackle the factors influencing the adoption of advanced AT (e.g., Takahashi *et al.*, 2020).

may contribute to the innovation-driven development of a sector that has a considerably higher weight in the economies of CEE than on average in the EU[4]. More importantly, while there is remarkable market concentration in the area of specific AT solutions, e.g., advanced agricultural machinery (Birner *et al.*, 2021), the providers of other agriculture 4.0 technologies (e.g., farm management software, sensor-based monitoring and analytics, artificial intelligence-powered decision support solutions) are marked by a smaller concentration[5]. The main reason is the interaction intensity of custom-tailored solution provision, which compels the large, established agricultural production companies in these countries to collaborate with domestic solution providers (Szalavetz, 2020).

Consequently, AT start-ups specialised in digital solutions are likely to grow and rapidly internationalise also in CEE. Since these start-ups are critical channels of knowledge spillovers, they may have an impact on the qualitative development of the sector they target with their solutions. Hence, the analysis of their characteristics and development perspectives leads to important policy implications.

This paper addresses the above-mentioned perceived gap in the literature by exploring and analysing the landscape of digital AT start-ups in Hungary and comparing their performance with that of their Romanian peers. We rely on extensive desk research and dedicated, hand-collected datasets of Hungarian and Romanian digital AT start-ups. We aim to contribute to the research on (1) digital AT start-ups by highlighting their specifics in an under-researched context; (2) agriculture 4.0 by investigating this phenomenon through the lens of blurring industry/sectoral boundaries.

Our research questions are as follows: What characterises the landscape of digital AT start-ups in Hungary and Romania? Which are the main distinctive features of the surveyed start-ups compared to their peers in advanced economies? How meaningful is the impact of these start-ups on the much-needed upgrade of agricultural production in these countries?

The paper is organized as follows: Section 1 briefly reviews the literature on Agriculture 4.0 and presents the developments in this respect as a prime example of blurring industry/sectoral boundaries. Section 2 introduces the context, providing some details about the relevance of agriculture 4.0 in the two countries. Section 3 presents the applied research method. Section 4 reports and discusses the findings. Finally, in section 5, we provide some concluding remarks and elaborate on the policy implications of our results.

Literature review

Drawing on the comprehensive review by Maffezzoli *et al.* (2022), we apply a global value chain perspective to define agriculture 4.0, specifically, as *the infusion of digital technologies in and the consequent transformation of agricultural pre-production, production, production-related support, and post-production activities*. In the following paragraphs, we will analyse each of the four constituents of this definition as follows: (1) digital technologies, (2) value-adding activities, (3) transformation, and (4) infusion.

The relevant digital technologies – among others, autonomous robotic systems,

[4] While agriculture contributed on average 1.3% to the EU's GDP in 2021, the respective data for Romania was 4.42%, Hungary: 3.33%, Poland: 2.37%, Bulgaria: 3.24%. Source: https://www.theglobaleconomy.com/rankings/share_of_agriculture/European-union.

[5] Big players, such as SAP, IBM, or Microsoft dominate the market also in this field, but there is demand for the solutions of small local technology providers as well.

drones, big data capture and analytics technologies (such as sensors, machine learning, or artificial intelligence), image processing technologies, communication, and cloud computing technologies, geographic information systems, and so forth (see a detailed review in Abbasi et al., 2022) are highly heterogeneous and have numerous application possibilities. Maffezzoli et al. (2022) classified them into three groups, which facilitates their analysis also from the perspective of this paper, namely (1) precision farming equipment and the embodied digital technologies, (2) disembodied software tools, such as apps and farm management software, and (3) online platforms (agricultural marketplaces).

The first two groups comprise technologies that replace repetitive physical labour and assist farmers in planning, decision-making, and execution. In other words, these technologies automate and/or augment (Zuboff, 1988) pre-production, production, and production-related support activities. Online platforms, that is, e-marketplaces connecting producers, actors engaged in processing agricultural output, wholesalers (and retailers), and customers are related mainly[6] to post-production activities. Besides enhancing the efficiency of business-to-business transactions (procurement and distribution), these solutions also enable business model innovation, in terms of introducing a direct-to-consumer business model.

In summary, agriculture 4.0 technologies transform the practices of value creation in agriculture and enhance the efficiency of all value-adding stages (including the efficient use of agricultural inputs such as water (irrigation), fertilizers, feeds, crops, etc.). Over and beyond increased productivity and value-added, the structure of input costs also undergoes considerable change.

Regarding the last constituent of our definition, the infusion of digital technologies, we contend that Agriculture 4.0 is an excellent example of digital transformation blurring industry (or sectoral) boundaries. An important sign of blurred boundaries is that technological innovations in industries/sectors outside the focal industry/sector (in this case agriculture) catalyse a series of process and product innovations in another industry/sector. The blurring of industry/sectoral boundaries is driven by technological change and actors' strategic responses to this change, in terms of technology adoption and innovation.

From this perspective, agriculture 4.0 exemplifies that in the era of digital transformation, industries/sectors (including agriculture) combine specialised knowledge from numerous technological fields (Teece and Linden, 2017). The entry of technology companies in one of the most traditional, established sectors i.e., agriculture, marks the blurring of industry/sectoral boundaries (Szalavetz, 2022). These developments are manifested in a multiplication of inter-industry transactions. Examples include transactions between the representatives of mainstream agriculture production and representatives of emerging industries, including robotics, drones, AT (classified in numerous sectors, e.g., Industrial Internet of Things (IIoT), software, financial technology, material technology, biotechnology, and so forth.

It is against this background that we explore the development perspectives of local start-ups specialised in smart solutions for agriculture, operating in Hungary and Romania, that is, two CEE countries where agriculture has a much larger share of total

[6] Online platforms are not only in the downstream segments of the agricultural value chain: upstream marketplaces connect producers with input suppliers.

GDP than the EU average (see footnote 4).

Research context: The relevance of agriculture 4.0 in Romania and Hungary

Although from the perspective of official government strategy, both countries lay particular emphasis on the transition to agriculture 4.0[7], the fragmented land ownership that characterises both countries and farmers' low educational attainment in general and their low digital capabilities in particular, together with their low-income level are serious obstacles hindering a rapid digital upgrading in this sector (Bazsik et al., 2022; Nagy, 2022). According to Bazsik *et al.*, (2022), except for some outlier corporations, even the diffusion of technologies representing agriculture 3.0 is low.

Although these factors indicate a low size of the market for AT in these countries, surveys exploring farmers' knowledge and opinions on digital trends in agriculture (e.g., Anitei et al., 2021; Somosi and Számfira, 2020, Zeca, 2022) show that local farmers are aware of digital trends in agriculture and, more importantly, they perceive agriculture 4.0 as an opportunity rather than a threat[8].

This is no surprise, since over and beyond the promise of AT's beneficial effects on productivity, resource efficiency, and sustainability, the existing production constraints, for example, the increasingly pressing labour shortages in agriculture, also compel farmers to adopt smart labour-saving technologies (Vlăduț *et al.*, 2020).

Another factor suggesting appropriate business opportunities for local AT start-ups is that most AT solutions are not off-the-shelf technologies but require careful customisation and continuous support; it seems self-evident that local farmers who are not only sufficiently knowledgeable to recognize the potential of these technologies but also have the wherewithal to invest in and integrate these solutions, would look for local technology providers. At the same time, there are several software-based AT solutions that are in principle easy to scale through targeting the global markets and engaging in international business activities immediately after inception[9]. The fact that emergent local start-ups may have sizeable market opportunities outside the core countries of agricultural innovation calls for exploring the development perspectives of digital AT start-ups in the two countries.

Data and method

In the first phase of our research, we compiled a dedicated, hand-collected database of Hungarian digital AT start-ups. This database has been extracted from a review of European databases and websites focusing on start-ups[10] combined with an extensive review of business press articles.

The websites of potential sample companies were checked to verify for matching with our sampling criteria. We included only domestic-owned start-ups and scale-ups specialised in the development of digital technology-based smart agricultural solutions.

[7] Hungary published a Digital Agricultural Strategy in 2019 and Romania incorporates its sector-specific digital strategy in the National Rural Development Programme.

[8] 'Increasing the level of technology acceptance' is a subjective interpretation. Somosi and Számfira (2020) emphasised the flipside of the coin, pointing out that acceptance of AT is still far lower among Hungarian farmers than the acceptance of digital technologies in society as a whole.

[9] One example of a 'born-global' solution is a smart application (developed by a Hungarian start-up in the sample) that can accurately estimate the live weight of the cattle.

[10] More details are available here: https://www.eu-startups.com/; https://beststartup.eu/; https://europeanstartups.co/.

When deciding about the sampling strategy, we deliberately adopted a narrow focus, including only technology ventures specialised in (a) precision farming-related solutions (i.e., solutions based on Internet of Things technology, field imaging, sensors, etc., that assist farmers in controlling agricultural production activities, minimizing waste, cutting costs, and increasing resource efficiency through automated collection and analysis of data); (b) decision support solutions (i.e., farm management software and specific agricultural applications); (c) automation solutions and intelligent farming equipment; and (d) information platforms and marketplaces. Accordingly, we excluded AT start-ups specialised in biotechnology, e.g., geno-and phenotyping, and simulations. The first three of the above-listed four categories are related to *process innovation* in agriculture, the fourth group concerns agricultural *production-related support activities* (such as procurement and distribution), while the excluded biotechnology-specific solutions are related to *product innovation*.

Furthermore, we also excluded start-ups specialised in smart, alternative agricultural production (e.g., hydroponics solutions applied in an urban context and vertical farming), fintech solutions improving supply chain transparency, and nutrition and wellbeing-specific solutions. We have not included start-ups specialised in smart services provision that employ technology developed by other businesses, for example, drone-as-a-service companies for agricultural operations and start-ups specialised in the distribution and service provision of smart agricultural equipment developed by third parties.

This long list of excluded technologies indicates that agriculture 4.0 is 'a large umbrella term' comprising a multiplicity of heterogeneous solutions. This calls for a precise delineation of the companies that our research focuses on, to avoid obtaining a distorted picture caused by technology-specific characteristics.

By contrast, we did not apply an age limit when sampling the start-ups to be included, e.g., we did not exclude companies founded more than 10 years ago given that creating a new product/solution can be a long process. Agriculture 4.0 entrepreneurs, similar to other start-up founders, have to learn about the problems that they are providing solutions for. They have to develop, test, and validate their solutions, which could take months or even years. Starting from the investigated cases, it results that some entrepreneurs decided to establish a start-up only when their solution was ready for deployment or at least when they had a minimum viable product (Ries, 2011). Other entrepreneurs started by founding a company and consequently, in the first couple of years had no income from sales. When evaluating the characteristics of the sample, we have to consider the consequent distortions.

We did not exclude companies with zero turnover (we identified several start-ups without any revenues) but did not include companies that were not listed in official registers. Interestingly, we encountered several AT start-ups whose solutions have already received traction (for example, they have obtained an innovation prize), but we could not find them in the official database of Hungarian companies as they have not submitted a financial statement yet.

Altogether, our Hungarian sample comprises 18 start-ups. Most of them have been operating for three or four years but four companies were founded before 2015. At the end of 2022, the average age of the start-ups in the Hungarian sample was 5.5 years. We collected the available data on employment and turnover of the companies in the sample and included qualitative information based on interviews with founders, LinkedIn descriptions, and business press articles.

In the second phase of the research, we conducted a similar analysis to collect a data sample about the Romanian AT start-ups. We followed a similar procedure to identify Romanian start-ups that match our criteria. The recently issued report by Impact Hub / Activize (2022), providing a comprehensive overview of Romanian agri-food technology start-ups significantly facilitated this part of the sampling process. We checked and validated the companies listed in the cited databases to ensure that they match the sampling criteria. Our final sample comprises 17 Romanian start-ups. At the end of 2022, the average age of the start-ups for the Romanian sample was four years. Using media and internet resources, we compiled quantitative[11] and qualitative data about their characteristics, specialisation, and performance.

Results

Specialisation

Our first review of the companies listed in the databases from the selected sample revealed an interesting difference between the specialisation of AT start-ups in the two countries, namely that in Romania there are more AT companies specialised in connecting food producers with potential local customers and agricultural input providers. These smart platforms and marketplaces (online stores) also accommodate online payment and logistics services.

Although these digital platforms definitely belong to the category of smart digital solutions and contribute to the digitalisation of a specific value-adding phase within the agricultural value chain, for the sake of comparability, we included only two representatives of this type of offering in the Romanian sample.

A commonality that crystallised already from the first bird's eye review of the sample is that there are few start-ups specialised in the manufacture of smart agricultural equipment, such as autonomous agricultural machinery and robots. While we identified several smart service providers who offered drone-based monitoring and analytics services to farmers, instead of focusing on designing and manufacturing these capital assets themselves, these companies would collaborate with drone manufacturers or simply procure the physical assets necessary for the provision of smart services. The reason is obvious, manufacturing requires significant upfront investment and thus bears much higher risks than software-based technology development. Consequently, the majority of the 35 surveyed start-ups are specialised in precision farming, software, and other decision support-related solutions.

The main areas of sample companies' services include the monitoring of the growth and health of crops, livestock, soil parameters, and microclimatic conditions. Monitoring is based on data captured by sensors or images captured by drones. Combined with artificial intelligence-powered analytics, these solutions offer real-time information supporting farmers' decision-making processes. Decision-making refers, for example, to determining the volume and timing of fertiliser and pesticide application and irrigation. Some solutions offer early warning (early detection of illnesses of the livestock or crop damages, weed, etc.) or provide microclimatic predictions. Both country samples include companies (one respectively) that developed smart applications for agricultural use

[11] Data about the employment and turnover of the Romanian and Hungarian companies was retrieved from https://www.romanian-companies.eu/search.asp and https://e-beszamolo.im.gov.hu/oldal/kezdolap, respectively.

cases, another company (respectively) offering integrated farm management software, and another pair of companies are specialised in autonomous robotic solutions – used in vineyards and horticulture (H), and automating venom collection from an apiary (R).

Taken together, the specialisation of the AT start-ups in the two samples is highly similar, which is a key precondition for comparing their performance.

Performance

Our analysis of the employment data revealed that the two samples are highly similar in terms of having only a low number of employees. While the average number of employees in the Hungarian sample) is 3.5 (n=16), the maximum was 10 employees. The respective data in the Romanian sample is 3.56 (n=16). However, the Romanian sample includes a high-performing outlier company with 29 employees. Without this latter start-up, the Romanian average is 1.87.

The low number of formal employees (with employment contracts) is self-evident in the case of start-ups that may have no income for years. The author's prior interviews with Hungarian start-ups conducted in the framework of a different research (Szalavetz, 2015) revealed that while the development of smart solutions requires knowledge work input by high-skilled professionals, team members are either the co-founders of the start-up (but not necessarily formal employees) or external (contracted) professionals. These latter are paid by the owner(s) who may use angel investors' capital or venture capital funding to be able to pay them. Notwithstanding, the employment data of the surveyed start-ups is not in accordance with the conventional wisdom that start-ups and small firms are the most important factors behind job creation (e.g., De Wit and De Kok, 2014; Haltiwanger *et al.*, 2013). The contribution of the surveyed start-ups to job creation was minimal.

Regarding performance in terms of turnover, our findings are similarly discouraging. The average turnover of the companies in the sample (n=31) was €217,800 in 2021, which is not in accordance with the common perception of the growth performance of technology start-ups. Except for 5 companies, the annual revenue of the surveyed start-ups has never reached €200,000. Moreover, if we eliminate the high-performing outlier firms (two firms from the Hungarian and three from the Romanian sample) the average revenue amounts to ~ €67,000. There is a clear difference between the two samples: the surveyed Romanian firms have on average far higher sales performance than their Hungarian peers (the Romanian average was €344,718, and the Hungarian €98,816). The reviewed qualitative data indicate that several start-ups recognized the push factor that the low size of the domestic market for technology represents (Sass, 2012) and started to internationalise, but no comprehensive data was available in this respect.

Similarly, qualitative data indicates that the knowledge intensity of the solutions accounts for a much higher value-added ratio of the surveyed start-ups sales than that of the national average, but no specific data was available in this respect either.

The low overall performance of this sector suggests that a massive change in the agricultural development trajectories of the two countries is unlikely. However, innovative the solutions of the surveyed start-ups are, neither their number nor their performance qualifies them for becoming engines of innovation-driven growth. Few established agricultural firms are committed to integrating and exploiting the innovative solutions of local AT start-ups, or from the opposite perspective, few AT start-ups have been able to build the required customer base.

Innovation-driven growth occurs if growth in a sector/industry is primarily[12] generated by innovations that increase productivity (process innovations), lead to the emergence of new products, and/or increase demand through reducing transaction costs and/or the cost of products (provided this cost reduction is translated into reduced product prices). Additionally, innovators drive growth by introducing new intermediate inputs that are used by final output producers, who integrate these solutions into the value chain (Grossman and Helpman, 1991). Although all of the above-listed contingencies apply to the activities and outputs of the start-ups in the sample (their solutions generate process innovations in the user industries; the start-ups create new products that are used as intermediate inputs by agricultural companies; and some of them, e.g., e-marketplaces, contribute to the reduction of transaction costs) the number of these start-ups (in both countries) is so small that they cannot drive innovation-driven growth.

It seems necessary, in this respect, to provide additional details about the outliers (in terms of above-average performance) in the sample: two Hungarian and three Romanian start-ups. One of the Romanian outlier companies specializes in autonomous robotic solutions that are sold not only in agriculture but also in other sectors[13]. Another Romanian outlier, an agricultural consulting and R&D company also has an e-marketplace. An important offering of this company is a self-developed smart image-processing solution that is able to detect diseases in crops and monitor the parameters of soil: this is what qualifies it to be included in the sample. However, income from the e-marketplace distorts turnover data and makes this company hardly comparable with the other companies that develop smart agricultural solutions.

Consequently, we focused on the three remaining outliers: two Hungarian and a Romanian AT start-up. The main commonality revealed by the review of the qualitative data is that all are spinoffs (of large established companies and a university): one Hungarian start-up is a spinoff of a large pig farm, the other is a spinoff of a university, and the Romanian start-up is a spinoff of a large business software company. The Hungarian spinoff of the pig farm developed an integrated farm management software – first for its mother company and later, after a substantial (€800,000) venture capital investment by a government-owned venture capital fund, it entered the domestic and international markets. The Romanian start-up (founded in 2021) is responsible for the development, implementation, and support of multiple IT systems and solutions for the Romanian Ministry of Agriculture and various governmental agencies. Consequently, neither of these two outliers had to go along a typical trajectory of start-up evolution – they are outliers in every respect. The Hungarian university spinoff started a more typical evolutionary journey. Four years later it received non-reimbursable public funding (more than €1 million) supporting innovation. Currently, investment from a government-owned venture capital fund also supports its growth.

Concluding remarks and policy implications

This paper used the hypothesis that in the era of agriculture 4.0, AT start-ups that have emerged outside the core countries of agricultural innovation have the potential

[12] The innovation-driven growth is also associated here with Porter's (1990) third stage of national development, the first being the factor-driven stage, the second the investment-driven, the third the innovation-driven and the fourth is the wealth-driven stage.

[13] The demand for the non-agricultural robots of this company was particularly high in 2021, since it introduced an autonomous disinfection robot used in hospitals during the COVID-19 pandemic.

not only to grow rapidly, but also to have a beneficial impact on upgrading the local agriculture. To validate this assumption, we identified and compiled data about a narrowly defined sub-group of AT start-ups, limiting our selection to Romanian and Hungarian start-ups entering the market with self-developed digital AT solutions (proprietary technology). Our review revealed that such start-ups can emerge also outside the core countries of agricultural innovation. Like their peers in advanced economies, local AT start-ups develop innovative solutions that belong to the categories of precision farming, agricultural decision support systems, applications, and marketplaces.

The main difference is, however, that their number is below a threshold where they could have an impact on the upgrade of local agriculture. More importantly, the reduced size of the local market for technology and other deep-rooted and hard-to-overcome barriers that we have briefly touched upon in the 2nd section, make it barely possible for them to grow as rapidly as some AT start-ups do in advanced economies[14] – irrespective of the high local political ambition to promote innovation-driven efficiency increase in agriculture.

Consequently, the policy space (Mayer, 2009) for achieving rapid change is quite limited. Programmes that address the most important barriers hindering a large-scale adoption of smart AT solutions would take decades to bear tangible results (for example a meaningful improvement of farmers' digital capabilities). Agricultural advisory organisations and programmes helping farmers implement all the complementary innovations that are indispensable for the integration of smart solutions in their practices are highly important in this respect. Dedicated support to the integration of smart solutions (financial support combined with innovation vouchers that allow farmers to draw on AT applications-related to professional advice) would certainly be useful. However, it needs to be considered that farmers 'have to be skilled enough to become upskilled', that is, these policy instruments can be effective only in the case of the best agricultural units as Somosi and Számfira (2020) characterised it: the tip of the iceberg.

Instead of targeting demand (fostering the local market for technology and creating an enabling environment for AT adoption), policy measures supporting the survival and growth of local AT start-ups bear the promise of achieving more rapid and spectacular results. There is a clear difference between Hungary and Romania with respect to access to entrepreneurial finance. The 2022 report on the 'state of European tech' (Atomico, 2022) compares the amount of total venture funding raised in individual European countries to the share of the given country in total European GDP. According to the calculations presented in the report (p. 73), Hungary is among the top 'overweighted' economies (it ranks fourth in the EU) in terms of the share of the country in total venture capital raised in the EU compared to the share of the country in European GDP. In contrast, Romania is listed among the 'underweighted' countries in this respect.

Does the well-funded status of Hungarian start-ups make any difference? As confirmed by studies discussing venture capital funding in Hungary (Kállay and Jáki, 2020; Karsai, 2018), public venture capital funds account for the largest share of total venture capital funding. These studies make it clear in the example of Hungary that overly generous government support is no panacea. As for the surveyed Hungarian companies,

[14] High performance, combined with high future revenue potential, is usually well reflected by data on start-ups' exits. One example is Vandersat, a Dutch farm management software company that was acquired for $28 million in 2021. Prior to its takeover, Vandersat had annual revenues between $500,000 and 1 million. AgFunder (2022) lists many similar examples of exits by start-ups specialised in farm management, software, sensing, and IoT.

more than half of them[15] received public support in the form of non-reimbursable R&D grants and/or through direct equity investments by public venture capital funds. However, the overall performance of the surveyed Hungarian start-ups is by no means better – rather worse – than that of their Romanian peers.

Our research results call for consistent, long-term, systemic policy targeting the qualitative and quantitative improvement of the market for agricultural technology in these countries. There is no fast lane for the digital upgrading of agriculture.

Future research might benefit from analysing whether and how national and EU policy programmes targeting agricultural technology start-ups deliver. There are various relevant EU-level programmes[16], and the analysis of recipients' performance would significantly contribute to our understanding of the explanatory factors of entrepreneurial success in this – highly specific – field.

Another future research avenue that our results suggest is to include more countries and engage in a broader comparative analysis of the evolutionary trajectory of AT start-ups. This latter undertaking could uncover how AT entrepreneurship unfolds in different countries, i.e., whether AT entrepreneurship unfolds in a different way from how it unfolds in core AT regions and innovation hubs.

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[15] During our initial sample selection exercise, we identified four additional Hungarian AT start-ups that developed agricultural e-marketplaces and other smart AT solutions. They were not included in the sample because they were liquidated by 2022, irrespective of the fact that they had received substantial non-reimbursable public support (one of them, for example, has gained in total €500,000+ in four rounds).

[16] One example is the Test Farms programme, under the aegis of EIT Food. It links agricultural start-ups and farmers and thus helps start-ups test their solutions and showcase their services to potential customers and investors. Another notable programme is SmartAgriHub under the Horizon2020 instrument, contributing to the digitalisation of the European agriculture by fostering farmers' adoption of digital solutions through managing a Europe-wide network of digital innovation hubs. Another Horizon Europe project is X2.0, supporting AT start-ups' efforts to scale through mentoring services. Over and beyond these examples, several generic programmes supporting innovation and start-ups are available without any comprehensive investigation of whether these programmes can deliver.

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The Impact of Good Governance on the Quality of Road Infrastructure within the European Union

Cezar Teclean, Gabriela Drăgan[1]

Abstract: *The article assesses the role of good governance in promoting the quality of road networks in the European Union. For this purpose, we consider four dimensions related to good governance: effectiveness of government, quality of legislation, control of corruption, and political stability. Our research aims to test the hypothesis that the different indicators of the governing act have differing impacts on the quality of road infrastructures, the objective of our analysis being to quantify the contribution of each of the above-mentioned indicators. Through a quantitative analysis which used coefficients of correlation and determination, we quantified the explanatory contribution of good governance indicators to the configuration of the quality of road infrastructure in the states of the Union from 2007 to 2019. Our findings show that political stability has the most consistent explanatory contribution, followed by government effectiveness, legislative quality, and corruption control, although the distribution of impact varies significantly across EU member states.*

Keywords: *road infrastructure, government effectiveness, regulatory quality, control of corruption, political stability, European Union, good governance.*

JEL classification: *L91, L92, L98, R42.*

Introduction

Territorial cohesion is a core value of the European Union (EU), and transport networks that enhance spatial accessibility are an essential vector of movement and connection in contemporary European society (Condeço-Melhorado, Reggiani and Gutierrez, 2014). Among land transport systems, the road network is particularly relevant in achieving accessibility and territorial cohesion due to its availability in the territory and infrastructure quality (Teclean, 2021, p. 40). Therefore, modernising and developing road networks is a priority for improving territorial accessibility, explaining why the Mechanism for the Interconnection of Europe allocates around 25% of public investments at the EU level (Dijkstra, Poelman and Ackermans, 2018, p. 20).

In this context, measures taken to ensure accessibility include a requirement to modernise road networks with the goal of ensuring that most EU citizens and businesses will be within a 30-minute isochron margin of the nearest modernized road belonging to the global trans-European network (European Commission, 2013). This objective is

[1] **Cezar Teclean**, PhD, is a postdoctoral researcher and associate researcher within the International Economic Relations Research Center, Bucharest University of Economic Studies, Romania.
E-mail: cezar10tc@yahoo.com.
Gabriela Drăgan, PhD, is a University Professor at the Bucharest University of Economic Studies and Senior Researcher within the International Economic Relations Research Center, Bucharest University of Economic Studies, Romania.
E-mail: gabriela.dragan@rei.ase.ro.

ambitious and contrasts with the poor quality of infrastructure in the Eastern part of the EU (Kollar, Bubbico and Arsalides, 2018) and the weak institutional capacities of some governments (Crescenzi, Di Cataldo and Rodríguez-Pose, 2016, p. 555), as well as the challenges some authorities face in justifying the high costs of certain modernization works, which may be prone to some fraudulent practices (Fazekas and Tóth, 2018, p. 36).

Given these contradictions, our research aims to investigate the relationship between government performance and the quality of transport infrastructure in the EU, which is a current topic of debate amid discussions surrounding accessibility and territorial cohesion (Curtis and Scheurer, 2010). The research is also relevant considering the controversies related to the government's ability to ensure appropriate quality levels for road infrastructures (Bågenholm *et al.*, 2021; Hasselgren, 2013).

Despite the abundance of studies related to transport network development policies, the qualitative assessment procedures of transport infrastructures have still remained insufficiently developed, many of them being a tribute to traffic indicators calculated exclusively on electronic-cartographic bases (indicators proposed by Moszoro and Soto, 2022). More importantly, there is a lack of quantitative assessment of the role that different components of government management play in configuring the quality of these infrastructures. Our study aims to address this gap through a comparative impact analysis that quantifies the contribution of four government components (government effectiveness, quality of legislation, corruption control, and political stability) to the quality of road infrastructure in the EU. To achieve this objective, we use an empirical analysis model through which we test the determinative relationships between the four government variables and the quality of road networks. The results obtained prove that the existence of different types of impact of the indicators used across the EU explains the road infrastructure quality gaps as a consequence of the quality gaps in the government act.

Our analysis is modularly structured, starting with a theoretical review, followed by the exposition of the research methods, the results obtained, and concluding evaluations.

1. Theoretical and conceptual approaches

The development of road infrastructure in the EU is affected by both good governance and good government. The concept of good governance is closely linked to the sustainable development of transport infrastructure, particularly the sustainable quality of transport infrastructure, sustainable regional development, and accessibility. The notion of territorial accessibility is crucial to promoting good regional development and has led to a focus on the relationship between government management and the development of road infrastructure in the EU (Teclean and Dragan, 2020). The concept of good government is also relevant to the development of road infrastructure in the EU. Defining 'good governance' in the context of the EU is a challenging task. In this article, we use the definition provided by the European Commission (2001), which defines 'governance' as "the rules, processes, and behaviour that influence how powers are exercised at the European level, particularly with regard to openness, participation, accountability, effectiveness, and coherence" (p. 8). On the other hand, 'good government' is a more easily understandable concept, referring to "the ability of governments to provide essential public services and infrastructure while ensuring accountability, transparency, and the rule of law" (Bovaird and Löffler, 2015, p. 32).

In recent years, concepts of territorial cohesion and territorial accessibility have gained priority on the EU agenda, with a focus on the sustainable quality of transport infrastructures, government quality, and sustainable regional development. The relevance of territorial accessibility as a condition of good regional development (Teclean and Drăgan, 2020, p. 29) has prompted both research communities and EU bodies to examine the relationship between government management and the development of road infrastructure, seeking solutions for the expansion and modernisation of road networks in the EU (Clements et al., 2023, p. 83).

In the context of road infrastructure, the role played by public administration (at different levels) through good governance and good government is essential in ensuring that investments are made in a transparent and accountable manner, that planning and decision-making processes involve input from stakeholders, and that public funds are used effectively and efficiently (Rietveld and Stough, 2007, p. 94). The administration of road infrastructure by competent institutions is influenced by various factors, including financing, ownership, legislation, and levels of governance (national, regional, and local) which vary across different EU countries depending on the degree of (de)centralization (Hasselgren, 2013, p. 25). These aspects have been evaluated in the literature through three main epistemic theories: the neoclassical, the institutional, and the co-evolutionary paradigm.

According to the neoclassical theory, investment in transport infrastructure can increase productivity and competitiveness as it enables firms to access a larger market and reduces the cost of inputs and distribution (Ramey, 2020; Blaug, 2007). On the other hand, according to institutional theory, the development and management of transport infrastructure are influenced by a range of institutional factors, including regulatory frameworks, property rights, social norms, and political institutions. These factors shape the incentives and behaviours of actors involved in infrastructure development and can influence the effectiveness and efficiency of infrastructure investments (Pennington, 2011).

To better understand the interplay between the market and government in shaping land transport systems (road and railroad), the co-evolutionary theory explains their developments in the socio-economic context, which resulted from the interaction of technological and economic factors and political and socio-cultural structures (Hasselgren, 2013, pp. 42, 44). According to this paradigm, the government has a critical role in shaping the institutional context and regulatory framework that influence infrastructure development, to which are added public participation and stakeholder engagement in road development (Proulx and Blais, 2014).

Some authors (Hasselgren, 2013; Ottosson, 1997) considered that the land transport system management in Europe is based on three main models: the centralized German model, the market-oriented British model, and the Scandinavian model, which has a hybrid organizational pattern between the German and the Anglo-Saxon models. Thus, Ottosson (1997) distinguishes three models of land transport system management on the European transport map based on the form of ownership and the devolution of management responsibilities at different levels, as well as the cooperation between public and private actors. The first model is the centralized German model, which is characterized by a centralised ownership structure and strong public control over the management of transport infrastructure; in this model, the state is the sole owner of transport infrastructure, and management is centralised at the national level (Millward, 2005). The second model is the market-oriented British model, which emphasises private ownership and competition in the management of transport infrastructure (Marsden and May, 2006). In this model, transport infrastructure is owned and managed by private companies, and the government plays a limited role in its operation. The third model is the Scandinavian model, which has a hybrid organisational pattern between the German and the Anglo-Saxon model; in this model, transport infrastructure is owned by the state, but management responsibilities are devolved to lower levels of government and to private actors (Ruiter, 2005). The government acts as a regulator and supervisory authority, while private actors may be involved in the management and operation of transport infrastructure (Millward, 2005). Overall, these models highlight the different approaches to the ownership and management of transport infrastructure across Europe, reflecting varying cultural, political, and economic factors in different countries.

The assessment of the quality of road infrastructure is a crucial indicator for evaluating the effectiveness of government, both at the national and the EU levels. At the EU level, the focus on good governance for road networks is driven by the goal of establishing a single European transport space, a process that has been ongoing since 2001 (European Commission, 2018, p. 19); to this end, targeted measures have been implemented to integrate road systems into the Union's internal market (p. 20). These measures include the deployment of intelligent transport systems to ensure optimal integration of transporters in the European market and the harmonization of technical standards for management equipment and traffic monitoring, as stipulated in Directive 2010/40/EU.

However, the lack of a coherent road strategy at the EU level has resulted in different approaches and priorities among member states, leading to persistent technical-functional incompatibilities among infrastructure or regulatory frameworks. This fragmentation contributes to "maintaining an accentuated fragmentation of European transport systems which still makes them insufficiently efficient and adequate" (Granger and Kosminder, 2016, p. 4081). The effectiveness of national governments in ensuring quality road infrastructures can be evaluated based on the normative, technical, and institutional compatibility of road networks (Barfod et al., 2018), the inclusion of the road network in an integrated territorial management system (Rietveld and Stough, 2007), return on investment in road infrastructure (Kyriacou, Muinelo-Gallo, and Roca-Sagalés, 2019), and planning the integration of roads into the single European transport system (Evers, 2008).

In evaluating the yield of road investments, Cigu *et al.* (2019) consider that the quality of regulations and institutions plays an essential role, while Rye *et al.* (2018) demonstrate that "the relationships between public and private institutions shape different priorities with different impact on the development and maintenance of road infrastructures" (p. 203). At the same time, Öberg, Nilsson, and Johansson (2016) found that the road arteries assigned to the nine main trans-European corridors are the most consistent beneficiaries of favourable regulations. Messick (2011) highlights the importance of corruption control in ensuring honest contracting of construction and maintenance works, reasonable costs, and competitive quality of works. However, according to Hoffmann, Weyer and Longen (2017), the roadmap of road infrastructure works is influenced by the political stability in the EU member states, as well as multilevel dissensions arising from political interests and affiliations (p. 406).

Regarding the measurement of the quality of the road networks in each country, Moszoro and Soto (2022) proposed as an indicator the average driving speed on the national road network. The authors calculated three variants of the mentioned indicator (average speed, geometric average speed, and adjusted average speed) using Google Maps Application Program Interface to estimate the distances and travel time based on which they later calculated the mentioned average speeds. From the outset, the subjectivity of the approach must be noted for two reasons: (a) the electronic application can only correctly evaluate the distances between the various points in the territory, not the time required to travel since the quality of the roads changes over time; (b) the quality of different road segments can be different within the same country, consequently the difference in possible speeds can be large, therefore the calculated average speed does not reflect an average of the quality of a country's road network. The deficiency of the method is illustrated by the questionable results obtained: according to the method of Moszoro and Soto (2022, p. 9), it appears that the quality of the road infrastructure in Namibia would be superior to that of Germany, and the quality of the road network in Bulgaria would surpass that of the United Kingdom United, Netherlands or Denmark! Such remarks are unacceptable.

Considering the ambiguities and controversies shown above, arising against the background of the lack of alternative studies that concretely quantify the impact of different governance indicators on the development of road infrastructures, our investigation continues to find out the contribution of governance effectiveness, the quality of legislation, corruption control and political stability on the quality of road networks in the EU.

2. Research methods

2.1. Variables and data

In investigating the relationship between the quality of the road network and the parameters of government management, our analysis considers a set of indicators established in the specialised literature (Bågenholm et al., 2021; La Porta et al., 1999), which we have attached the appropriate proxy variables. The feasibility of the road network is expressed by the road infrastructure quality index offered by the World Economic Forum (WEF).

This index represents "an assessment of the quality of roads in a given country based on data from the WEF Executive Opinion Survey, a long-running and extensive survey tapping the opinions of over 14,000 business leaders in 144 countries. The respondents are asked to rate the roads in their country of operation on a scale from 1 (underdeveloped) to 7 (extensive and efficient by international standards). The individual responses are aggregated to produce a country score" (Schwab, 2019).

Good governance is evaluated by means of four indicators developed by the

World Bank, respectively the quality of the government act defined by the Government Effectiveness Index (GEI), the quality of legislation expressed by the Regulatory Quality Index (RQI), the degree of Corruption Control (CC) and the Political Stability Index (PSI) (*Table 1*).

The rationale for using these indicators is that they represent different aspects of good governance that can potentially impact the quality of road infrastructure. The GEI measures the quality of public services and the degree of bureaucracy, which can affect the efficiency of road construction and maintenance. The RQI measures the quality of the legal and regulatory framework, which can impact the standards for road construction and the enforcement of regulations. The CC measures the degree of corruption control, which can influence the allocation of resources for road construction and maintenance. The PSI measures the level of political stability, which can affect the continuity of government policies and the allocation of financial resources for road infrastructure. To express the variables in question, we use the data series available for the period 2007-2019, having as a reference sample the 28 EU member states in the specified interval.

Table 1. Correlation variables between the quality of road infrastructure and good governance

Variables used	Unit of measurement	Data source
Quality of Roads (QR)	points (1 - 7)	World Economic Forum
Government Effectiveness Index (GEI)	points (-2,5 - 2,5)	World Bank
Regulatory Quality Index (RQI)	points (-2,5 - 2,5)	World Bank
Control of Corruption (CC)	points (-2,5 - 2,5)	World Bank
Political Stability Index (PSI)	points (-2,5 - 2,5)	World Bank

Source: Authors' own representation.

Over the entire period 2007-2019, the quality of the European road network was relatively high and constant at the EU level: compared to the average of 4.76 points (on a scale between 1-7), the quality of the European road infrastructure varied between 4.59 points (2008) and 4.87 points (2014), but with significant variations between EU states (*Table 2*).

Table 2. Statistical table of the variables used in the correlation between the quality of road infrastructure and good governance (2007-2019)

Variable	Mean	Standard deviation	Minimum	Maximum	Obs. (years)
Quality of Roads (QR)	4.76	0.09	4.59 [1.91]	4.87 [6.72]	13
Government Effectiveness Index (GEI)	1.10	0.03	1.03 [-0.37]	1.14 [2.35]	13
Regulatory Quality Index (RQI)	1.19	0.03	1.13 [0.24]	1.25 [2.05]	13
Control of Corruption (CC)	1.02	0.03	0.98 [-0.38]	1.04 [2.44]	13
Political Stability Index (PSI)	0.73	0.04	0.66 [-0.23]	0.79 [1.52]	13

Note: The minimum and maximum represent the annual average minimum and maximum values for the EU as a whole, and the values in brackets represent the absolute minimum and maximum values recorded by country.

Source: Authors' proceedings based on World Economic Forum and The World Bank, 2007-2019

Thus, by reference to the European average, three groups of states can be distinguished with very different values of the quality of the road infrastructure. Most European states (15 states) have a high-quality road network, with a quality index value exceeding 5 points; 5 other states register a quality of the road infrastructure close to the EU average with values between 4 and 5 points (Estonia, Ireland, Italy, Greece, and Slovenia), while the road infrastructure in 8 states is relatively poor with values of the quality index under 4 points (Bulgaria, Romania, Latvia, Malta, Poland, the Czech Republic, Slovakia, and Hungary). The best quality road network is that of France, with the highest average quality value in the analysed interval (6.28 points) and with a maximum of 6.72 points in 2008, and the most precarious is the road infrastructure in Bulgaria (with an average of 2.82 points), but the absolute minimum quality was recorded by the Romanian road network in 2008 (1.91 points).

Among the variables of good governance, corruption control, and government effectiveness are the most unevenly distributed in the Union. On the EU as a whole, it turns out to have applied a good and constant control of corruption (the average value of 1 point on a scale between -2.5 - 2.5 points), with variations between 0.98 and 1.04 points, but with an average intra-community gap between the most good control of corruption in Denmark (2.31 points) and the weakest control of corruption in Bulgaria (-0.26 points); the absolute difference, however, opposes a maximum of 2.44 points recorded in Denmark in 2009 against the absolute corruption record of -0.38 points recorded in Romania in 2012 (Table 2). And the effectiveness of government implies a similar unfolding. Compared to a satisfactory European average of government quality (1.10 points), the best government performances are recorded by Finland (2.06) and Denmark (2.00), and the worst by Romania (-0.13) and Bulgaria (-0.01), the latter being the only EU countries with negative values of the quality of the government action; the absolute difference, however, makes the difference between the record of the highest government efficiency recorded in Denmark in 2007 (2.35 points) and the weakest government performance recorded in Romania in 2008 and 2009 (-0.37).

2.2. Model of empirical analysis

In our analysis, we test two possible hypotheses: a) the null hypothesis, according to which there is no relationship between the quality of road infrastructures and the quality of government; b) the hypothesis that each of the indicators of good governance has a different impact on the quality of the road network in each EU member country.

To quantify the impact of the governing act on the quality of road networks in the EU, we use an empirical analysis model that includes three consecutive stages of work, namely: identifying the correlations between the variables used, establishing and ranking the explanatory weight of each indicator of good governance in configuring the quality of the road infrastructure and finally, identifying the priorities for improving the governing elements eligible for improving the quality of the road infrastructure in the EU member states.

We investigated the relationship between the variables considered by means of Pearson correlation coefficients and coefficients of determination operated with the help of EViews 10 Standard Edition software. We associate the road infrastructure quality index with each of the four variables of good governance, and for each of the four associated pairs, we calculate the correlation and determination coefficients to find out the intensity of their connection and, respectively, the explanatory contribution of each of the variables. We ran this model at the EU level and then at the level of each member state to identify the contribution differences of each governance indicator in relation to the quality of the road infrastructure.

We interpreted the values of the coefficient r according to the model proposed by Davis, and the interpretation of the coefficient r^2 according to Chin's grid (*Table 3*).

Table 3. Interpretation of correlation (r) and determination coefficient (r^2) values

Interpretation of r coefficient values (after Davis)		**Interpretation of r^2 coefficient values (by Chin)**	
0.70 →	Very strong correlation		
0.50 – 0.69	Substantial correlation	0.67 →	Substantial impact
0.30 – 0.49	Moderate correlation	0.33 – 0.66	Moderate impact
0.10 – 0.29	Low correlation	0.19 – 0.32	Weak impact
0.01 – 0.09	Negligible correlation	0.01 – 0.18	Very weak impact
0	Non-existent correlation	0	Null impact

Sources: James A. Davis, 1971; Wynne W. Chin, 1998.

The correlations calculated between the variables attest to the fact that, in the EU as a whole, the quality of road infrastructures is most closely related to political stability (given by the 0.98 value of the Pearson coefficient), followed by the effectiveness of government (0.95) (*Table 4*). Moreover, political stability and government effectiveness are strongly interdependent and have a similar correlation coefficient (0.95), which proves their character as essential vectors for improving the quality of road infrastructure. The role of political stability as a motor for the development of road infrastructure is materialized through the quality of legislation, a fact highlighted by the very close link identified between political stability and the quality of regulations (0.97).

Table 4. Correlation between the quality of the road infrastructure and the variables of good governance (2007-2019)

	(1)	(2)	(3)	(4)	(5)
Quality of Roads (QR)	1				
Government Effectiveness Index (GEI)	0.951	1			
Regulatory Quality Index (RQI)	0.929	0.907	1		
Control of Corruption (CC)	0.459	0.234	0.359	1	
Political Stability Index (PSI)	0.980	0.950	0.976	0.399	1

Source: Authors' proceedings based on World Economic Forum and The World Bank, 2007-2019

Therefore, the null hypothesis (of the non-existence of any relationship between the quality of road infrastructures and the quality of government) does not validate, in a context in which we go along the lines of identifying the correlations and the impact between variables at the level of each EU member country. The distribution of these correlations calculated by state shows differentiated radiography of the relationships between good governance and the quality of roads, as well as their consequences, which we evaluate and interpret further.

3. Findings and discussion

To quantify and interpret the relationships between the quality of the road infrastructure and the indicators of the governing act, we use the calculated values of the correlation coefficients (R) and the determination coefficients (R^2) listed in Table 5.

Table 5. The relationship between the quality of road infrastructure and the variables of good governance in the EU, expressed by Pearson correlation coefficients (R) and determination coefficients (R^2) (2007-2019)

States	QR & GEI		QR & RQI		QR & CC		QR & PSI	
	R	R^2	R	R^2	R	R^2	R	R^2
Austria	0.522*	0.272*	0.554**	0.306**	0.579**	0.335**	0.442	0.196
Belgium	0.595**	0.354**	0.757***	0.573***	0.742***	0.550***	0.665**	0.442**
Bulgaria	0.500*	0.250*	0.693***	0.481***	0.681**	0.464**	0.609**	0.371**
Croatia	0.735***	0.540***	0.734***	0.539***	0.721***	0.521***	0.803***	0.645***
Cyprus	0.562**	0.316**	0.441*	0.194*	0.638**	0.407**	0.652**	0.426**
Czechia	0.668**	0.446**	0.159	0.025	0.704***	0.496***	0.548*	0.300*
Denmark	0.948***	0.898***	0.691***	0.477***	0.613**	0.376**	0.809***	0.655***
Estonia	0.084	0.007	0.824***	0.679***	0.806***	0.650***	0.782***	0.612***
Finland	0.529*	0.280*	0.766***	0.588***	0.775***	0.601***	0.431**	0.185**
France	0.689***	0.474***	0.761***	0.579***	0.761***	0.580***	0.928***	0.861***
Germany	0.828***	0.686***	0.792***	0.627***	0.750***	0.562***	0.724***	0.524***
Greece	0.491*	0.241*	0.479*	0.230*	0.560**	0.314**	0.427*	0.182*
Hungary	0.484*	0.235*	0.032	0.001	0.496*	0.246*	0.437*	0.191*
Ireland	0.687***	0.472***	0.730***	0.533***	0.749***	0.561***	0.314*	0.098*
Italy	0.712***	0.507***	0.678**	0.459**	0.505*	0.255*	0.700***	0.490***
Latvia	0.074	0.005	0.403*	0.163*	0.493*	0.243*	0.371*	0.137*
Lithuania	0.358*	0.128*	0.350*	0.122*	0.737***	0.543***	0.734***	0.539***
Luxembourg	0.909***	0.827***	0.927***	0.860***	0.500*	0.249*	0.917***	0.842***
Malta	0.212	0.045	0.524*	0.274*	0.678**	0.460**	0.486*	0.236*
Netherlands	0.561**	0.314**	0.621**	0.385**	0.368	0.135	0.557**	0.310**
Poland	0.591**	0.350**	0.540*	0.291*	0.509*	0.259*	0.535*	0.286*
Portugal	0.255	0.065	0.142	0.020	0.171	0.029	0.804***	0.647***
Romania	0.567**	0.322**	0.644**	0.415**	0.524*	0.274*	0.306	0.094
Slovenia	0.399*	0.159*	0.710***	0.504***	0.678**	0.460**	0.717***	0.515***
Slovakia	0.630**	0.398**	0.430**	0.184**	0.412**	0.170**	0.296*	0.087*
Spain	0.253	0.064	0.720***	0.519***	0.577**	0.333**	0.392*	0.153*
Sweden	0.760***	0.578***	0.852***	0.727***	0.913***	0.835***	0.458**	0.209**
UK	0.608**	0.370**	0.592**	0.350**	0.591**	0.350**	0.714***	0.509***
UE-28	0.951***	0.904***	0.929***	0.863***	0.459	0.211	0.980***	0.960***

Note: ***, **, * represent the significance level of 1%, 5% and 10% respectively

Source: Authors' proceedings based on World Economic Forum and The World Bank, 2007-2019.

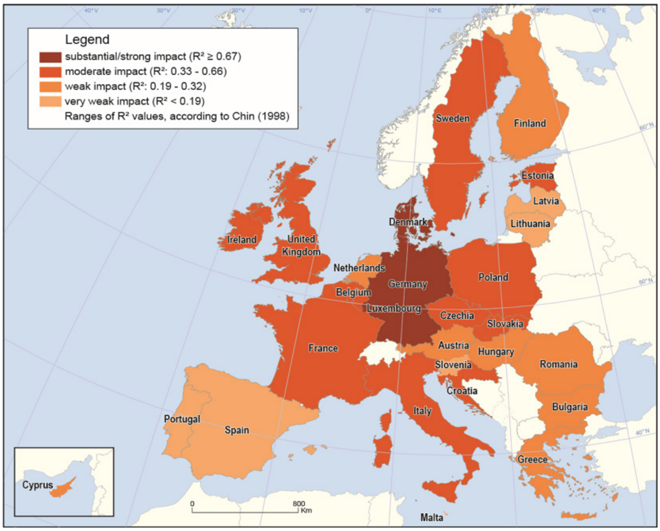
In order to reveal the extent to which the indicators of the governing act explain the quality of road networks, we evaluate the values of the coefficients of determination (R^2) according to the ranges of values defined by Chin (1998).

The results indicate that in the Union as a whole, political stability has the most consistent contribution to the quality of road infrastructure (R^2=0.96), followed by the effectiveness of government (R^2=0.90) and the quality of legislation (R^2=0.86) with an equally substantial impact / strong, while corruption control offers a relatively weak contribution (R^2=0.21) against the background of the solidity of the European legislative and institutional framework. This pattern of impact is replicated in somewhat more nuanced geography throughout the EU when it comes to the analysis by states.

Thus, the effectiveness of governance makes a substantial/strong contribution to the feasibility of the road network in Denmark (R^2=0.89), Luxembourg (R^2=0.82) and Germany (R^2=0.68), in 11 states it has a moderate contribution, and in 14 states the effectiveness of governance has a weak and very weak contribution to the quality of the road infrastructure (Figure 1). The most interesting group of countries is the one in which the effects of government effectiveness are moderate and in which the quality of government is relatively evenly distributed: in five countries (UK, Sweden, Belgium, France and Ireland) the values of the government effectiveness index are above the European average, and the other six countries (Estonia, Poland, the Czech Republic, Slovakia, Croatia and Italy) register values of government effectiveness below the Union average.

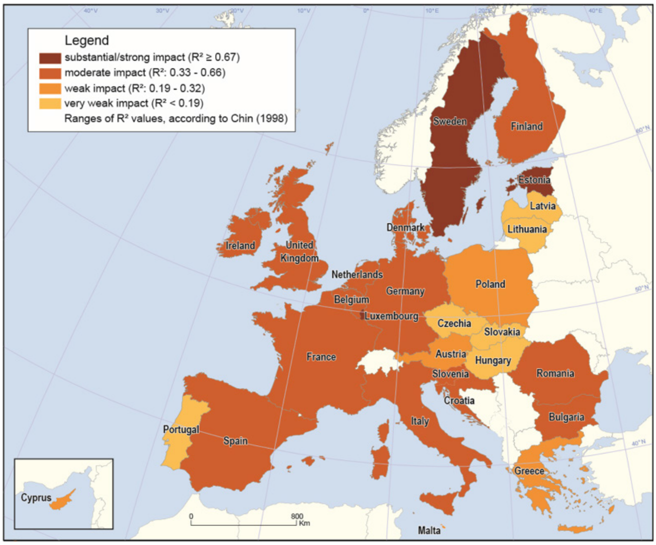
The quality of the legislative framework substantially impacts the improvement of road quality only in Luxembourg (R^2=0.86), Sweden (R^2=0.72) and Estonia (R^2=0.67), but it has a somewhat more extensive moderate impact, respectively in half of the EU (14 states), and in 11 states a weak and very weak contribution prevails (*Figure 2*). And in this case, the convergence towards the quality of road infrastructures is significant, so that of the 11 states where the contribution of the quality of legislation on road quality is low, only Austria registers a value of the quality index for regulations above the community average for the analysed interval.

Figure 1. The impact of government effectiveness on the quality of road infrastructure in the EU



Source: Authors' proceedings based on World Economic Forum and The World Bank, 2007-2019

Figure 2. The impact of regulatory quality on the quality of road infrastructure in the EU



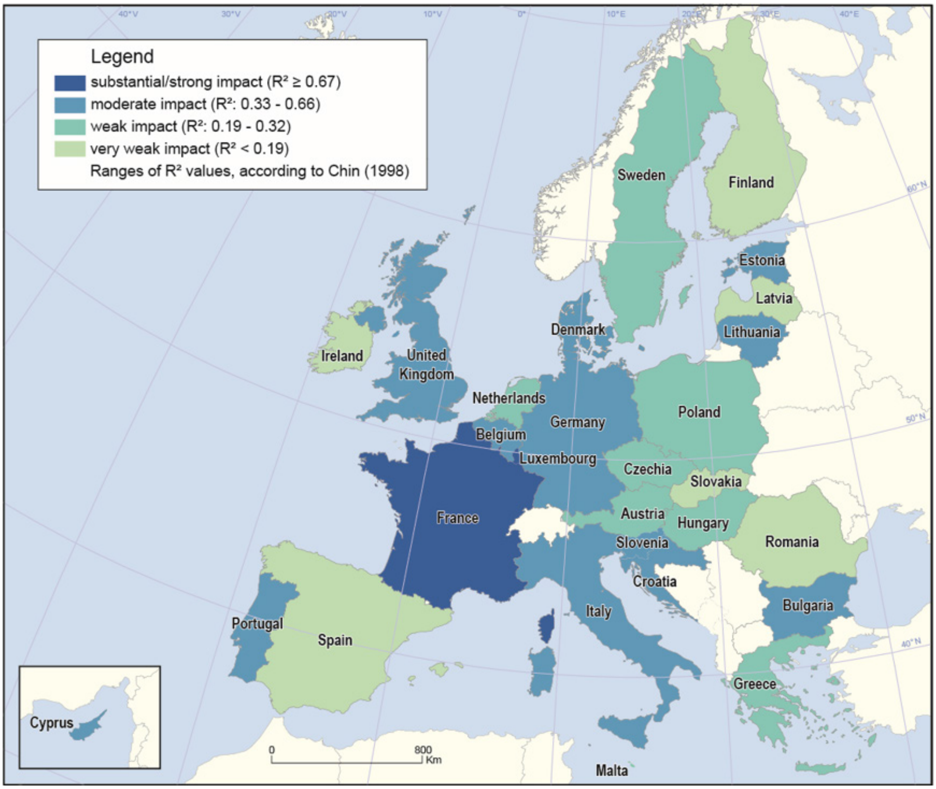
Source: Authors' proceedings based on World Economic Forum and The World Bank, 2007-2019

Similarly, political stability, so abundantly impactful at the community level, delivers a substantial / strong contribution only in France (R^2=0.86) and Luxembourg (R^2=0.84) to the configuration of road infrastructure quality, and for 12 states the impact is moderate (*Figure 3*).

For 14 EU member states, the impact of political stability on the quality of the road networks is weak or very weak, although ten of these states register political stability index values above the European average; only for Latvia, Romania, Greece, and Spain the weak impact of political stability on road quality corresponds to the value of the political stability index below the European average.

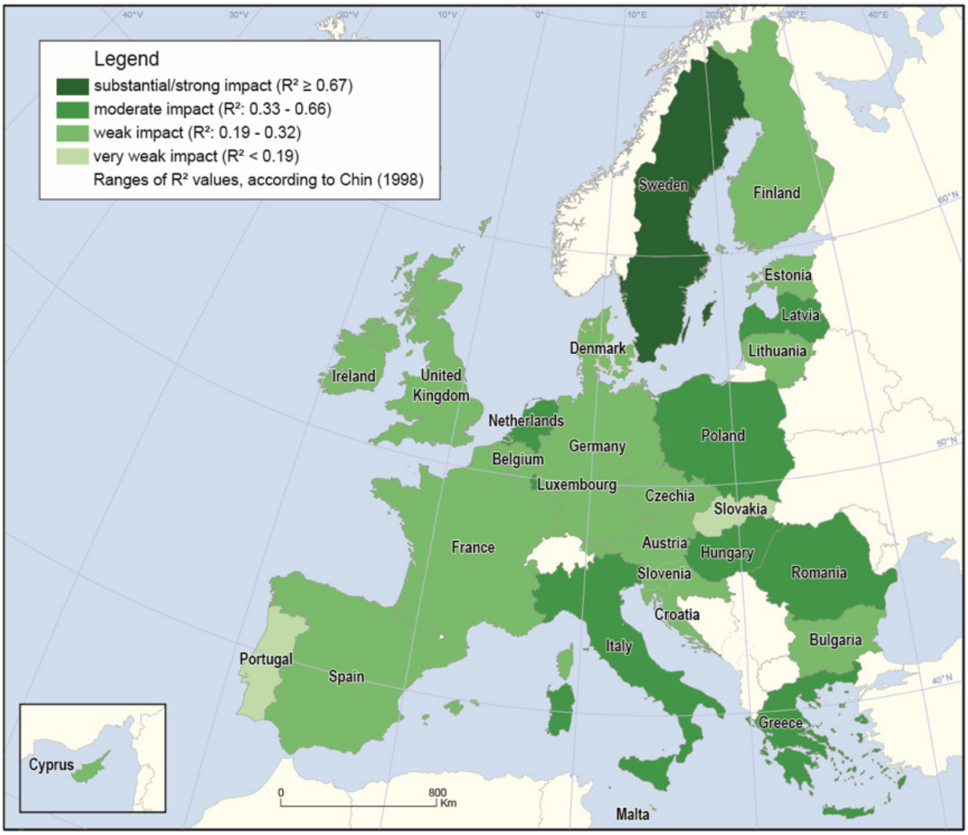
In the case of corruption control, this indicator mirrors the situation at the community level, which reveals the lower impact of this parameter on road quality. Thus, Sweden is the only country in the EU where the impact of corruption control on the quality of the road network is strong (R^2=0.83), in eight states it is moderate, and in most of the EU (19 states) the contribution of corruption control is weak or very weak (*Figure 4*). Thus, corruption control is the only parameter of good governance that has a more atypical behaviour, in the sense that its impact on the quality of the road infrastructure is not directly correlated with its concrete value on the states. Among the eight states with a moderate impact on corruption control, only the Netherlands and Luxembourg have corruption control values above the EU average, while Latvia, Poland, Hungary, Romania, Italy and Greece exercise control over corruption below the average standard of the EU. Among the 19 states with a low impact of corruption control on road quality, a number of nine states nevertheless ensure good control of corruption (above the European average), and ten states are below the average.

Figure 3. The impact of political stability on the quality of road infrastructure in the EU



Source: Authors' proceedings based on World Economic Forum and The World Bank, 2007-2019

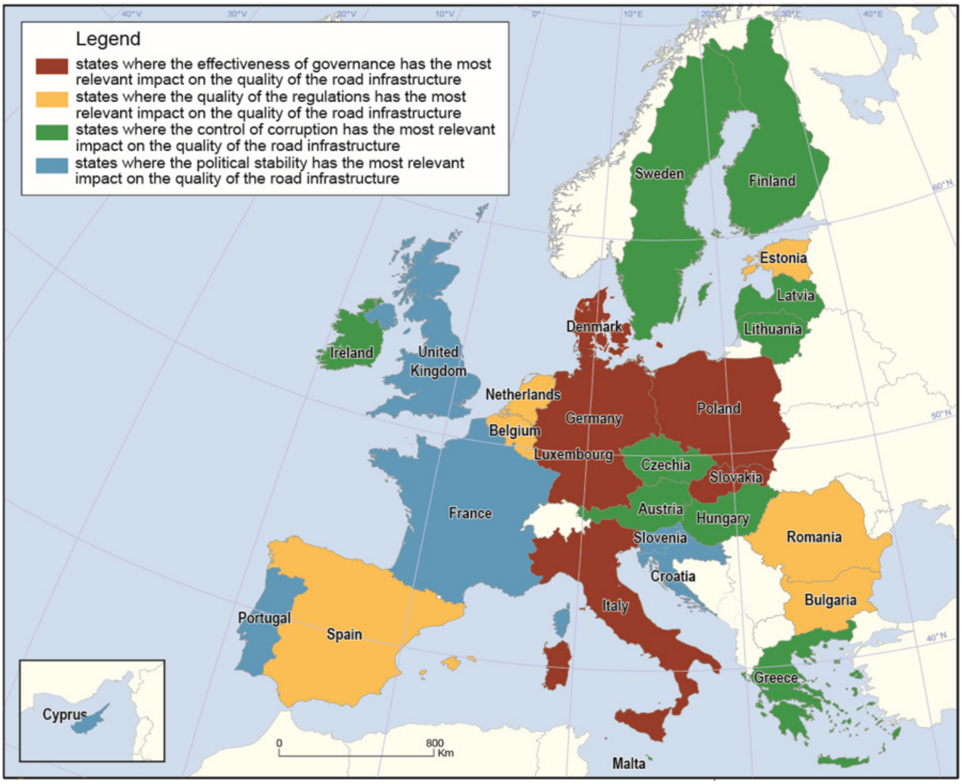
Figure 4. The impact of the control of corruption on the quality of road infrastructure in the EU



Source: Authors' proceedings based on World Economic Forum and The World Bank, 2007-2019

The distribution of the indicators with the highest contribution from each state presents a much more balanced spatial design. Our evidence demonstrates that the contribution of government effectiveness prevails in ensuring road quality in five states (Denmark, Germany, Italy, Poland, and Slovakia), the predominant impact of legislation quality can be found in seven states (Estonia, Belgium, Luxembourg, Spain, the Netherlands, Bulgaria, and Romania), and in six states (France, Croatia, Cyprus, Portugal, Slovenia, and Great Britain), political stability has the highest impact (*Figure 5*). Surprisingly, for 10 states, the most relevant contribution comes from corruption control, even though this indicator registers a weak impact in most of the community space, as we showed previously. The phenomenon is explained by the fact that in a number of countries, such as the Czech Republic, Ireland, Lithuania, Malta, Austria, and Finland, where the impact of corruption control on the quality of the road infrastructure is of little relevance, the contributions of the other government indicators are even lower, indicating a context in which corruption control acquires statistical relevance.

Figure 5. Distribution of good governance indicators with the highest contribution in each state in the EU



Source: Authors' proceedings based on World Economic Forum and The World Bank, 2007-2019

Based on this evaluation, we note that the good governance parameters with the greatest contribution to road quality in each state have the highest development possibilities, regardless of their actual value in the respective state. Practically, the increase in the indicator with the best impact in a certain country contributes the most to the quality of the road network in that country. For this purpose, we interpolated the states with the highest impact values of each good governance indicator with the states where that indicator has the lowest values, i.e., below the first value quartile (*Table 6*).

Following this investigative procedure, our findings emphasise a series of priorities for improving government indicators, which, once achieved, would significantly contribute to improving the quality of road infrastructure in the states of the Union. Thus, from the category of the five states for which government effectiveness has the greatest impact on road quality, Poland and Italy are under the first value quartile of the GEI, therefore improving government management in these countries would be the fastest way to improve the quality of their road networks. According to the same working procedure, we found that an improvement of the regulatory framework in Bulgaria and Romania would have the most relevant impact on the quality of their road networks, respectively a betterment in corruption control in Greece and

Hungary would have a significant impact on the quality of their national road infrastructures.

Table 6. Classification of the EU states according to the quartiles of good governance indicators with the greatest impact on the quality of road infrastructure

Categories of states	Distribution of states according to the quartiles of government indicators			
	Below Quartile 1	Between Quartiles 1 - 2	Between Quartiles 2 - 3	Above Quartile 3
States where the effectiveness of government has the greatest impact on the quality of road infrastructure	Italy, Poland	Slovakia	–	Denmark, Germany
States where the quality of legislation has the greatest impact on the quality of road infrastructure	Bulgaria, Romania	Spain	Belgium, Estonia	Luxembourg, Netherlands
States where corruption control has the greatest impact on the quality of road infrastructure	Greece, Hungary	Czechia, Latvia, Lithuania, Malta	Ireland, Austria	Finland, Sweden
States where political stability has the greatest impact on the quality of road infrastructure	France, UK	Croatia, Cyprus	Portugal, Slovenia	–

Source: Authors' proceedings based on World Economic Forum and The World Bank, 2007-2019.

Our results regarding the impact of government management on the quality of road networks are confirmed by recent studies that identify the quality of infrastructure development policies and the quality of government institutions as conditions for the good development of road systems (Cigu et al., 2019; Kyriacou, Muinelo-Gallo, and Roca-Sagalés, 2019; Crescenzi, Di Cataldo, and Rodríguez-Pose, 2016). The weaker effects of corruption control identified by us at the EU level and for most of the Union states are consistent with the conclusions of research in the field (Fazekas and Tóth, 2018; Messick, 2011) and are due to the well-structured regulations and institutions in the EU highlighted in the current analyses (Volintiru *et al.*, 2021; Cigu *et al.*, 2019; Öberg, Nilsson, and Johansson, 2016). The essential role of political stability in the development of road networks reiterated by our evidence is confirmed by recent assessments that argue that the development of road infrastructure projects is conditioned by political (in) stability and multi-level relations in European countries (Hoffmann, Weyer and Longen, 2017).

With the intention of bringing more clarification regarding the management of European transport networks, the current analysis attempted an introspection of the relations between the governing act and the good development of road infrastructures in the EU, being affected, however, by the following intrinsic limits: (a) not placing the study in an international comparative analysis framework; (b) the non-existence, at the time of the study, of available data regarding the quality of the road infrastructure during the 2020-2022 health crisis and (c) the non-processing of the analysis and functional criteria related to the transport capacity of the road infrastructures.

Concluding remarks and future openings

Our investigation has been intended to represent a comprehensive analysis of the contribution of government effectiveness, legislation quality, corruption control, and political stability to road infrastructure quality. Considering the necessity of ensuring territorial accessibility within the EU, the interplay between effective governance and high-quality road networks assumes a crucial role in promoting sustainable development and territorial cohesion. As such, the relationship between the indicators of good governance and the viability of road infrastructure represents a critical aspect that we investigate using correlation and determination coefficients. Through our analysis, we intended to expand the existing body of knowledge by establishing a hierarchy of the impact that the four government parameters we consider to have on the quality of road networks across EU member states.

Our findings suggest that different levels of good governance deliver an unevenly distributed input on road quality, with large interstate discrepancies between the contributions of different components of governance. Thus, the emulated results highlight that, in the EU, political stability has the most robust impact on the quality of road infrastructure, followed by the effectiveness of government, the quality of legislation, and the control of corruption. However, this model presents significant differences at the level of the Union countries: government effectiveness has the most relevant contribution to the feasibility of the road network in five states, the majority impact of the quality of legislation runs in seven states, political stability has the highest impact in six states, and in ten states the most relevant contribution comes from corruption control.

Basically, the otherness of good governance translates into the heterogeneity of the technical and normative parameters of the infrastructures, which explains the qualitative divergences of the road infrastructure as an effect of the qualitative divergences of government management. This fact is due to the absence of a unified European strategy regarding the road network, an absence essentially caused by a lack of political will and the distinctly different quality of government performance between the member states.

Overall, the investigation of the contribution of government indicators to road infrastructure quality in the EU is a complex and multifaceted task that requires a comprehensive approach that considers various factors as well as the specificities of individual member states. It may be relevant to examine the impact of other factors on road infrastructure development, such as the level of investment in the sector, the use of innovative technologies and materials, and the engagement of stakeholders in the decision-making process. The consideration of these factors can provide a more complete understanding of the complex relationship between government indicators and road infrastructure quality and foreshadow an opening that is both realistic and opportune for future sectoral research.

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The Energy Efficiency Issue in the European Union: Perspectives, Objectives and Challenges

Dalina-Maria Andrei[1]

Abstract: *This paper discusses the energy issue in the European Union and the EU's progress on energy efficiency since the Energy Efficiency related Directive of 2012 (EED): (i) The energy consumption dynamics (primary and final energy consumption), (ii) Directives and other regulations adopted by the EU's institutions between 2012-2022, for energy consumption and efficiency targets established for the entire Union and for its member states, (iii) The National Energy and Climate Plans (NECPs) corresponding to the 2020 accomplishments and the 2030 projections, (iv) The same 2030 forecasts in the long-term context of climate neutrality to be ensured up to 2050. All these will be approached below in our argumentation. Effective energy consumption data are retrieved from Eurostat and the International Energy Agency (IEA). Optimism comes up for the 2030 perspective, since the 2020 specific performances were delivered, partly despite the recent COVID-19 pandemic related circumstances of 2020. A list of possible responses to some questions will conclude this paper: 'How receptive will the member states be in the future for transposing the EU's energy efficiency ambitions into their own strategies?' and 'Will the European policies be rigorous enough, and flexible to achieve the long-term objectives?'.*

Keywords: *energy efficiency, primary energy consumption, final energy consumption, energy targets, Green Deal.*

JEL classification: *Q40, Q43, Q48.*

Introduction

Reducing greenhouse gas emissions, increasing the security of energy supply, energy efficiency, energy consumption (primary and final), but also reducing dependence on fossil fuels, in general, and dependence on energy imports from Russia, in particular (i.e., in the form of sanctions imposed as a response to its military aggression on Ukraine) are EU's current aims. All of these are supposed to shape the long-term ***2050 target of climate neutrality***, its previous 2030 goal reaching in context a comparable strategic significance.

This paper focuses on the energy efficiency issue, as it is viewed in today's EU terms: the energy consumption should be lowered to its minimum through the EU member states' joint effort. The year 2050 has been chosen as deadline for attaining climate neutrality: zero carbon-dioxide and no other greenhouse gas emissions (GES). Since 2005, a similar target has been set for the EU's coordinated strategy to gradually reduce consumption, and measures to curtail energy consumption will also be taken during the 2020-2030 decade. Or, this is the arising point of our research questions asked as follows:

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[1] **Dalina-Maria Andrei** has a PhD in Economics and is a 3rd degree researcher at the Institute of Economic Forecasting from Bucharest, the Romanian Academy.
E-mail: dalinaandrei@yahoo.com.

- Given that the intermediary 2020 target for GES reduction has apparently been attained, which will be the appropriate scenario to achieve the next 2030 target? Plus, are the NECPs (of the member states) adequate and aligned with the EU's corresponding goals?
- Moreover, is the EU, together with its member states, prepared for attaining the final 2050 target, as described above? Will the existing methodology and tools be sufficient to ensure the success of the EU's energy policy? And what happens, if this strategy fails?
- We will provide, for this paper, an analysis and synthesis about these issues, with the purpose of clarifying on the subject in debate.

Literature review

Firstly, in our research, the specialist literature we consulted consists of the EU's rules and norms regarding the topic of energy and, especially, the issue of energy efficiency. It is necessary to enumerate the most significant documents in this domain: the *Energy Efficiency Directive (EED - 2012/27/EU)*, adopted in December 2012 (it included a range of measures to help the EU achieve its energy efficiency goals by 2020); *The Paris Agreement*, the first inter-state agreement regarding the climate changes concluded in Paris (COP21)/2015; *The Energy Union strategy (COM/2015/080)*, a strategic priority of the European Commission (EC) during the 2014-2019 time frame (when an Energy Union was envisaged to ensure a secure, sustainable, competitive energy supply, at an affordable price in the whole region); *Regulation (EU) 2018/1999 on the Governance of the Energy Union and Climate Action* (which has laid the legal foundations for the governance mechanism of the Energy Union in Europe and sustains so far its energy strategy up to 2030, in line with the provisions of 2015 Paris Agreement). The *National energy and climate plans (NECPs)* are included in the *Regulation on the governance of the Energy Union (EU)2018/1999* and they support climate action at national level, each member state of the EU having designed its own 10-year energy and climate plans for 2021-2030. The NECPs aim to mirror the actions taken by the EU member states to achieve the EU's objectives and targets for 2030 in the field of energy and climate. *A Clean Planet for all – (COM/2018/773 final)* describes the long-term strategic vision of the EU for a modern and climate neutral economy, while stressing the importance of energy efficiency in all decarbonization scenarios. *Directive (EU) 2018/2002*, amending *Directive 2012/27/EU* on energy efficiency, establishes guidelines up to 2030. The *Clean energy for all Europeans package*, adopted in 2019, updates the rules for reducing the energy consumption after the year 2020. *The European Green Deal (COM/2019/640 final)* is a set of policy initiatives to help achieve the EU's goal of climate neutrality by 2050. Actually, all greenhouse gas emissions might be curbed towards that historical moment. The *REPowerEU, COM/2022/230 final*, is a new plan for a fast reduction of the EU's dependence on the fossil fuels from the Russian Federation. Within this framework, the EU member states are supposed to show solidarity in creating a real and solid energy union.

Secondly, the EU institutions also conducted studies and other initiatives on the energy efficiency issue, that acquired an increasing importance and represents a key factor in the presumably full decarbonization of Europe's economic sector. *European*

Commission - Eurostat, Energy efficiency statistics (2022) do (i) relate to the EU's 2020 and 2030 energy efficiency objectives, (ii) evaluate the real energy consumption trends to be compared to these objectives, as previously formulated and (iii) describe the statistical methods used for measurements. The European Commission's study titled: *Trends and Policies in the EU based on the ODYSSEE and MURE Databases*, from 2015 is in-depth research which analyses the general trends on energy efficiency based on a package of 200 indicators, harmonized and comparable for EU28 during the 2000–2013-time frame. Trends identified refer to both the whole region (EU28) and individual member countries. About 2500 energy efficiency policies used by the 28 EU member countries in their National Energy Efficiency Action Plans (NEEAP) are analysed. Among other results, this study concludes that the 2008-2009 crisis affected both the energy efficiency trends and the projections for implementing policies on long term, even though, after 2010, trends registered recovering patters.

International Energy Agency (IEA, 2018) plays a key role in the development of energy indicators focused on energy consumption, its relation with human activity and energy efficiency. The studies conducted reveal, among other aspects, that there might be a potential of 40% gas emissions cut even in the absence of new technologies. The IEA also mentions that the world would look significantly different if between now and 2040 all countries were to implement their full energy efficiency potential.

And thirdly, the individual researchers' studies are to be mentioned:

Bertoldi P., Mosconi R (2020). The authors created an econometric model on the EU member countries, plus Norway, which indicates the usefulness of energy efficiency policies through energy consumption reduction at the European aggregate level. The same model prefers to replace some classical variables – e.g., economic growth, production levels, energy prices – by energy policy efficiency measuring indicators. The study concluded that energy policies had an impact on reducing energy consumption, estimating that the EU plus Norway would have consumed 12% more energy in 2013 in the absence of these policies.

Bertoldi, P., López-Lorente, J., Labanca, N., (2016). The authors analyse the trends of energy consumption in four main consumer economic sectors – i.e., residential, tertiary, transport and industries – in the EU, between 2000 and 2014 interval, with the aim of identifying energy efficiency's behaviours. But extending this interval to 1990-2014, the authors notice that 2014 has been the second lowest energy consumption period, after 1994. And, interestingly, in 2014 the EU's Energy Efficiency Directive's (EED - 2012/27/EU) target for 2020 in the energy consumption has actually been achieved, affirm the authors.

Thomas, S., & Rosenow, J. (2019). The authors conducted a study on the factors that could generate an increase in energy consumption instead of a decrease, based on the decomposition analysis, that makes it possible to identify the impact of factors that can be measured (economic growth, population growth and outdoor air temperature). Focused on primary (PEC) and final (FEC) energy consumptions, their study finds both a decrease during the 2005-2014 interval (the former by 12%; the latter by 11%) then an increase for the 2014-2016 interval (PEC with 2.3%; FEC with 4.2%). The year 2014 was identified with the lowest energy consumption year since the eighties and lower than the target for 2020. However, since 2016 both levels of consumption re-started increasing, therefore the authors concluded that to meet the energy efficiency targets for 2020, FEC had to decrease by an average of 0.5% per year and PEC by 1.0% per year between 2016 and 2020.

Knoop, K., & Lechtenböhmer, S. (2017). This study presents an in-depth comparative analysis on the previously existing studies regarding the energy efficiency in the EU member countries, individually examined. On the one hand, they mentioned that studies on national potentials in such a sense are rare and difficult to be compared amongst, but current studies agree on the existence of significant technical and economic potential for final energy efficiency, although these vary substantially at national and sectoral levels.

Pérez-Lombard, L., Ortiz, J., & Velázquez, D. (2012). This study discusses, analyses and revises some basic concepts and indicators related to energy and energy efficiency topics: efficiency, energy efficiency concept, energy efficiency indicators, specific energy consumption.

Methodology

Our paper begins with the collection of data, especially on gross available energy, primary and final energy consumptions, in the EU region (on aggregate) and in individual EU member states, based on official data sources, among which we can mention Eurostat (European Statistics Office), International Energy Agency (IEA) and European Environment Agency (EEA). The large 1990-2021 interval was approached for static, dynamic and comparative analyses. The reference years considered for this paper have been selected in accordance to the framework suggested by the above mentioned institutions: 1990 is a reference year allowing analyses on a significantly long term; 2005 is a reference year (that registered a peak in energy consumption) also helping the dynamic analysis; the average of the pre-pandemic interval 2017-2019 was used for a comparative analysis, unaffected by the effect of the pandemic and finally, a simple predictive analysis related to the future targets for the 2030s to assess the progress made to date and estimate the difference to achieve these targets. National Energy and Climate Plans (NECPs) – as drafts and final - were further reviewed at the individual EU member states' side of engagements in the energy efficiency objectives, against the objectives proposed by the European Commission (EC). The last data made available to our study – i.e., of Eurostat for 2021 – was used to be compared to that of NECPs to assess the effort required by each EU member state to reach its specific target. Last, but not least, alongside with statistical sources, European legislation directives, energy-related plans and communications have been analysed.

Developments and results

The EU Directive 2012/27/EU (Energy Efficiency Directive - EED)[2] identifies the notion of energy applicable to all forms of energy products, like fuels, heating, electricity, renewable energy sources, and all other possible energy types, as well defined by the EC

[2] European Commission 2012. *Directive 2012/27/EU of the European Parliament and of the Council of 25 October 2012 on energy efficiency, amending Directives 2009/125/EC and 2010/30/EU and repealing Directives 2004/8/EC and 2006/32/EC* ('Official Journal of the European Union', L315/1 from 11 November 2012). Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32012L0027.

Regulation 1099/2008[3]. Primary Energy Consumption (PEC) is gross domestic energy consumption[4], of which non-energy uses are excluded. Final Energy Consumption (FEC) equals the energy that goes to transports, households, services, and agriculture, but stays off the energy flows received by the specific energy producing and transforming sectors (Reuter et al., 2017).

The primary energy consumption measures the total of domestic energy demand, while the final energy consumption limits to what the final users, as indicated above, do receive in the same terms. The difference between these two is made by the specific energy sector, together with natural losses caused by the complex process of transformation and distribution of the same energy matter.

Energy efficiency is defined by the same EED as the ratio between the performing services or goods (energy) output and the energy input. For the real energy efficiency, the same energy input is supposed to perform for higher results or the unchanged results are presumed to be given by lower energy inputs. For that, energy efficiency means costs saving/reduced costs, lower climate impacts (of greenhouse and pollution types), reduced demand for energy imports and higher availability of energy resources to the final consumers, eventually also at smaller prices. Moreover, energy wastes decrease, together with their related risk and inefficiency, when costs take off. Raising the energy efficiency is said to be immediate and the cheapest, although indirect, way of reducing the fossil fuels' consumption. The energy efficiency's indicators used in the EU are (Kolosok S. et al., 2021):

- Share of energy from renewable sources in total energy.
- Energy intensity and energy productivity.
- The ratio between final and primary energy consumption (FEC/PEC) – e.g., this is for higher energy efficiency, when final energy consumption rises and primary consumption lowers. The energy itself will appear below to be measured by million tonnes oil equivalent (Mtoe)[5].

Multiple	**Name**	**Symbol**
103	Kilotons of oil equivalent	Ktoe
106	Million tonnes of oil equivalent	Mtoe

Source: Eurostat (n.d.).

Our approach starts by studying trends and dynamics of primary and final energy consumptions in each member country and at EU aggregate level with the purpose of evaluating the progress made in implementing the energy efficiency objectives and targets, and identifying weak or strong tendencies and opportunities for improvement. We have built our argumentation based on reference years and/or periods and methodologies

[3] *The European Union Official Journal*, OJL 304, 14.11.2008, p. 1.

[4] Gross domestic energy consumption, according to Reuter et al., 2017, cumulates the following: primary energy products (including their reception), recycled and recovered products (i.e., other sources), imports, stocks variation, of which exports, bunker and direct use are deducted.

[5] Eurostat, *Energy efficiency statistics*, 2022. Available at: https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Energy_efficiency_statistics.

considered relevant by the EU-connected statistical institutions (Eurostat, EEA) and international ones (IEA). We share the assumption that a wide array of measurements can contribute to a better image on energy consumption evolution: (i) the long period evolution 1990 – 2021 cannot show more than just a slight decrease in energy consumption as it was accompanied by a dynamic view; (ii) a dynamic evolution along the same period 1990 – 2021 emphasizes large fluctuations for each year as compared to the previous one (alternative increasing with lowering energy consumption level; (iii) further on, the year 2005 was considered as a base year for a better dynamic comparison, because it is also used by the EU institutions as a fundamental year for greenhouse gas emissions legislations and for renewable energy targets. It also corresponds to a peak in energy consumption in the EU (EEA, 2019). Also, compared to 2005 the reduction of energy consumption can be more easily observed by paper graphs; (iv) the large drop in primary and final energy consumption in 2020 correlates to the pandemic restrictions. But this drop was favourable for 2020 targets achievement by almost all countries; (v) 2017-2019 average interval was used for a comparative analysis of energy consumption, unaffected by COVID-19 pandemic, (vi) last, the most important analysis was compiled with the purpose to compare (i) each country's level of energy consumption within EU's targets for 2020 and (ii) each member state's assessment from individual NECPs including the 2030 objectives proposed by EU.

International Energy Agency (IEA)[6] and Eurostat: contributions to the energy efficiency calculation

The IEA provides an overview of the calculation methods and of energy efficiency analysis. Its *Energy Efficiency Insight Brief* reports contain analyses and recommendations for policies and programmes related to energy efficiency and address to a wide range of topics as such -- e.g., rules and standards of minimum energy efficiency for buildings (i.e., building codes), transportation and industry –, plus their connections with governments and other authorities' efforts directed to, at least, achieving energy efficiency and reducing greenhouse gas emissions. Moreover, IEA provides data and information on the current state of energy efficiency, on related practices recommended and case studies from all over the world. Last, but not least, a variety of indicators to calculate the energy efficiency come to be defined in context (IEA, 2017):

- *Energy intensity* - measures the energy used on the unit of (final) economic activity, e.g., of GDP, of industry output. This is used especially for detecting the energy efficiency changes through given intervals.
- *Energy productivity* - indicates the opposite, i.e., GDP afferent to the unit of energy used. This is applied for assessing the energy quantity used by each country to produce its own final goods and services.
- *Energy savings potential* - estimates how much energy efficiency could result through specific measures. The concrete advantage of this indicator relies in its direct relationship with individual economic sectors – e.g., private consumption in buildings, industry – and the entire economy.
- *Per capita energy consumption* - shows the total amount of consumed energy

[6] International Energy Agency (IEA) is a global intergovernmental organization that works to promote sustainable energy policies and improve energy security.

divided by country's population. This contributes to the understanding of the individuals' access to the energy produced and can be used for comparisons between different countries.

Part of these above-mentioned indicators can be met in the Eurostat statistics – e.g., energy intensity, the country's and/or individual sector's and/or individual's (i.e., per capita) energy consumption. Eurostat uses the energy-related indicators that are compatible among the EU member states to monitor the situation and trends of the levels of energy used. Plus, the indicators proved to be relevant for the energy policies' evaluation, as used in the EU area. In addition, another pair of indicators are applied in the EU as reduction targets: the ones targeting energy consumption and greenhouse gases.

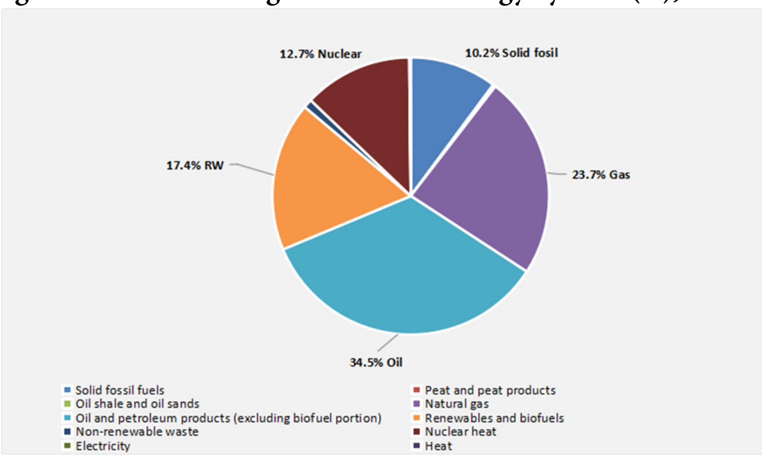
Gross available energy in the EU

The total energy available at the level of each country or in the Union as total, the individual country's or the Union's own production plus net imports (import-export), with energy from recyclable products and stock losses/changes (Eurostat, 2022a) can be calculated by the following formula:

Gross available energy (GAE) = Primary energy production + Recovered and recycled products + Imports - Exports + Change in stock

At the end of 2020, the total of EU's energy was composed by own production amounting to 42% and imports reaching 58%. The last actually dropped by two percentage points (pp.) in 2020, as related to its previous 2019 quantity, due to the COVID-19 crisis – i.e., to import networks' related crisis, to which the drop in demand (caused by temporary stop of some economic activities) are to be added. The items that form the EU's *energy mix* (IEA, 2020) - i.e., *gross available energy* (GAE) – are: oil and its derivatives (the same with petroleum products - 34.5%), natural gas (23.7%), renewable sources (17.4%), solid fossil fuels (10.2%) and other sources 14.2% (*Figure 1*).

Figure 1. EU - Share of gross available energy by fuels (%), in 2020

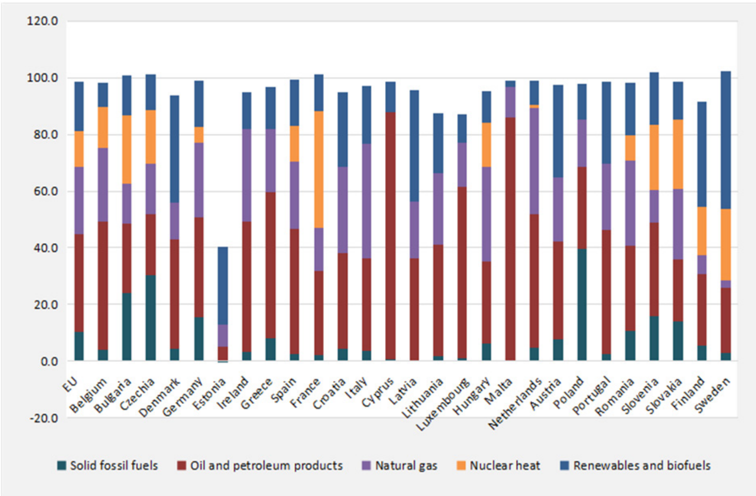


Source: The author, based on Eurostat, Complete energy balances [nrg_bal_c], 2022.

Significant differences regarding this structure are to be found among individual EU member countries – e.g., *solid fossil fuels* are dominant in Poland (39.6%) and the Czech Republic (30.3%); the same for *oil and derivatives* in Cyprus (87.1%), Luxembourg (60.4%) and Malta (86.0%). To be equally remarked that the last three countries, coincidently or not, use the previous solid fuels at the lowest weights of the EU region: Malta 0.0%, Cyprus 0.5%, and Luxembourg 1.0%.

For the case where *natural gas* is dominant in the country energy mix, Italy (40.5%), the Netherlands (37.5%) and Ireland (32.4%) are to be mentioned within the EU area. Actually, only Cyprus is the country case with no gas produced or imported in the whole region. As for *nuclear energy*, this is for 41% in France and for 23-25% in national energy mixes of countries like Sweden, Slovenia, Slovakia, and Bulgaria. *Renewable energy* marks high percentages in the available energy of Sweden (48.6%), Latvia (39.6%), Finland and Denmark (37.1% for each of the last two). Austria is the country whose own production and imports of renewable cumulate 32.6% in the total energy mix (*Figure 2*).

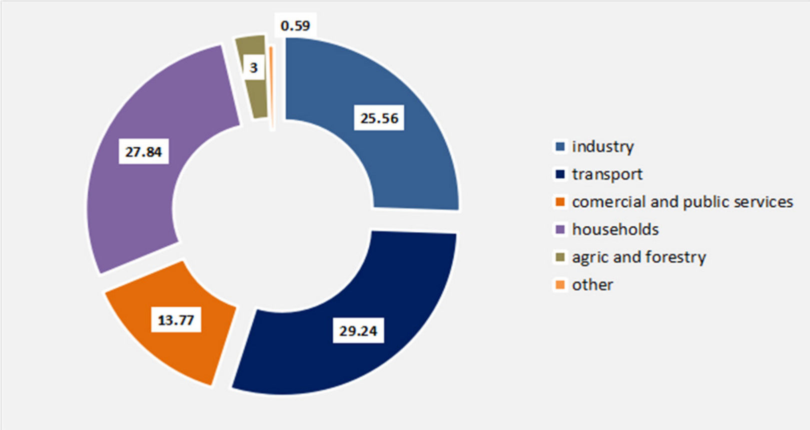
Figure 2. EU countries-Gross available energy, by fuel (%), in 2020



Source: The author, based on Eurostat, complete energy balances [nrg_bal_c], 2022.

On the other hand, about 2/3 of the EU's total available energy goes to final consumers, e.g., industry, transports, trade, agriculture, and households. The rest – i.e., 1/3 that isn't *final consumption* – represents losses of specific production and distribution networks, to which energy specific effects of sustaining both energy or non-energy production procedures are to be added. As for this *final consumption (FEC)*, the Eurostat indicates its breaking down into three main destinations of similar weights in 2021 - transports (29.24%), households (27.24%) and industry (25.56%) – plus public trade and services (14%) and agriculture (3%) (*Figure 3*).

Figure 3. EU – Final energy consumption by sectors in 2021 (% of total)

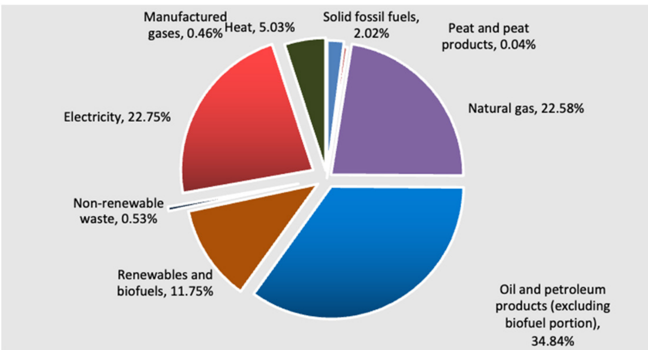


Source: The author, based on Eurostat, final energy consumption by sector [TEN00124__custom_4427721], 2022.

In the EU directive of 2021, *oil and derivatives* – i.e., the same with *petroleum products*, that are oil used for heating, petrol, and diesel – make the top energy source by 34.84% of the total final energy consumption, followed by *electricity*, with 22.75%, and immediately after by *natural* and *processed gas*, with 22.58%, according to Eurostat. Then, there are *renewable sources*, breaking down into: (i) the ones not for electricity, but just for heating spaces and/or water (e.g., wood, thermal solar energy, geothermal or biogas, all cumulating 11.75%), and (ii) the ones turning into electricity, (e.g., hydroelectric, wind or photovoltaic solar energy[7]).

Finally, *solid fossil fuels* – i.e., coal and a few others – mark as low as 2.02% of final energy consumption in the EU (*Figure 4*).

Figure 4. EU - Final energy consumption, by fuels (%), in 2021

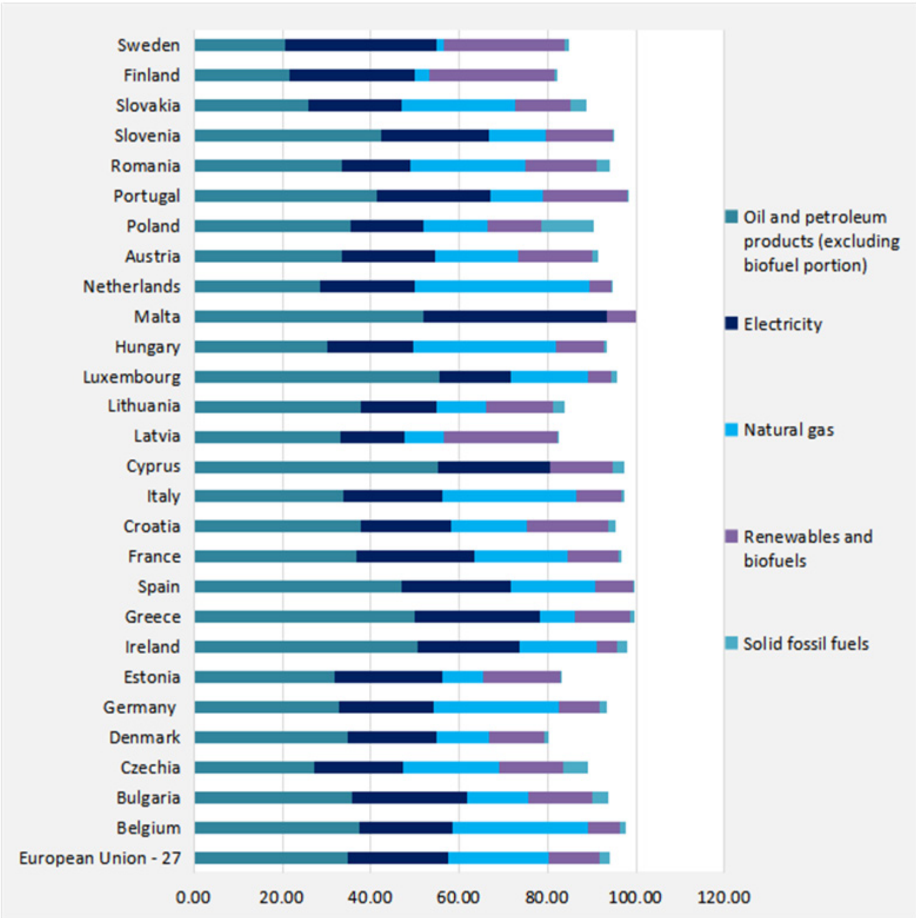


Source: Retrieved from Eurostat - Simplified energy balances [NRG_BAL_S__custom_4831422], 2022.

[7] Solar panels can be divided into two categories: (i) photovoltaic solar panels, which convert the light energy from the sun's rays directly into electricity; (ii) thermal solar panels (solar collector) that capture solar energy and transform it into thermal energy.

The above percentages regarding the energy sources' mix vary between the whole EU region and its individual member countries (*Figure 5*). *Oil and derivatives* represent 50% of final energy of Ireland (50.44%), Malta (51,9%), Cyprus (55.18%) and Luxembourg (55.62%). *Electricity* sums for 30% of the final energy consumption of Malta (41.62%) and Sweden (34.3%), while *gas* also accounts for 30% of the final energy consumption of Netherlands (39.57%), Hungary (32.32%), Belgium (30.59%) and Italy (30.39%). *Renewable energy* sources and *biofuels* make up 25% of the final energy consumption of Sweden (27.47%), Finland (28.52%) and Latvia (25.65%). Fossil fuels represent less than 5% of the final energy consumption of all the EU member countries, except for Poland (11.71%).

Figure 5. EU member countries - Final energy consumption, by fuels (%), in 2021

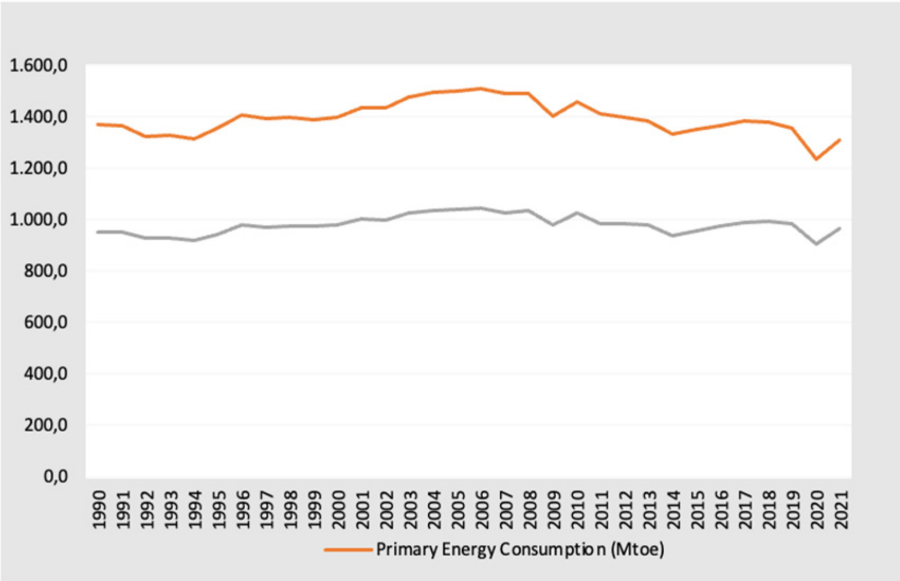


Source: Retrieved from Eurostat - Simplified energy balances [NRG_BAL_S__custom_4831422], 2022.

Ways to analyse the evolution of energy consumption in the EU according to Eurostat

According to the data retrieved from Eurostat, the energy consumption in the EU region registered a slightly decreasing trend during the 1990–2021 time, and especially in the past years. This can be explained by a complex factors' combination, one accounting for the European Commission's energy efficiency targets, and the other for the recent COVID-19 pandemic's effects (*Figure 6*).

Figure 6. Primary and final energy consumption (in Mtoe), between 1991-2021, in the EU

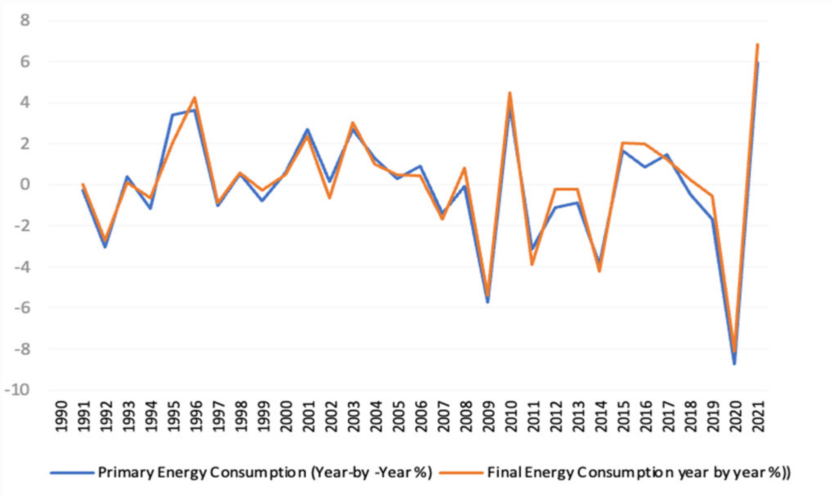


Source: Retrieved from Eurostat - Simplified energy balances [NRG_BAL_S__custom_4831422], 2022.

There are also shorter time intervals during which the same energy consumption increased, as seen in *Figure 6*. The economic and/or the population's growth and energy price changes might compete for, plus the effective climate change might equally be considered (e.g., too hot during summer and severe cold during winter, especially for buildings' adequate equipment). See, below, the approaches used for calculating and understanding this phenomenon:

A) Year-by-year comparison. This approach (*Figure 7*) is for comparing both final and primary energy consumptions to their previous ones (in years). Specific consumption trends might result, together with specific policy measures on the consumption reduction and management of energy resources. This method proves relevant to trends identifying, the same for impacts and fluctuations of the energy consumption and the alternative policy strategies, i.e., on longer terms.

Figure 7. EU 27 - Primary and final energy consumption by year (%)



Source: extracted from Eurostat - Simplified energy balances [NRG_BAL_S__custom_4831422], 2022

Regarding the weaknesses, this method might prove less capable to analyse and discern in terms of trends, when fluctuations registered on the short term are too large, and in terms of influencing factors, when there are too many to account for – e.g., economic changes, climate and weather causes, prices, including those of energy, availability of efficient energy specific technologies.

Despite such shortcomings - and back to *Figure 7* -, the EU area reveals both its general energy consumption reduction trend and the COVID-19 pandemic's even stronger consequences in the same direction - i.e., lower demand for energy caused by the decreasing of the economic activity, especially in industry and transports, and with brutal supply chain disruptions or staffing issues, as specific impacts. Sharing the same assertion, government measures against the pandemic stroke the (same) energy consumption, during the COVID-19 lockdowns.

B) Consumption: current situation and its values in relation to the one of a basic year

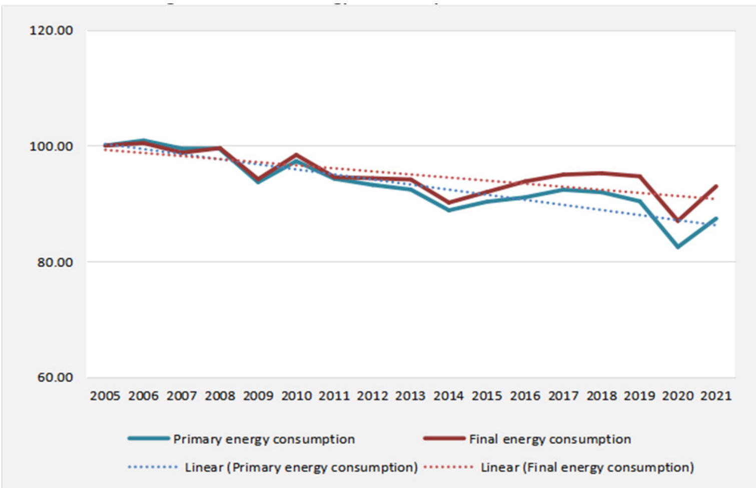
In this other approach, both the final and primary energy consumptions first consider a basic year for some specific reasons, then the following and previous years' consumptions might relate to the basic consumption. This is the practice finding relevant energy consumption (final and primary) modifications, as related to the year 2005 on the EU (EEA, 2019)[8]. Actually, 2005 was chosen by Eurostat as a base year since an energy consumption peak was registered in the EU area, but also as the first step into the analysis of greenhouse effect gas (GHG) in its Emissions Certificate Trading System of

[8] The European Environment Agency (EEA) is an agency of the European Union that delivers knowledge and data to support Europe's environment and climate goals.

the European Union (EU-ETS) – i.e., given the Effort Sharing Decisions (ESD)[9] in such a sense.

Relating to a base year, for evaluation, helps the energy consumption and gas emission reducing progresses measuring during a period or another in the analysis performed. Therefore, as related to 2005 (2005=100), primary energy consumption in the EU area was 12.6% lower in 2021, even 17.5% lower in the previous 2020, as well as continuously reducing along the whole 2005-2020 interval. And not too much different for the final energy consumption: 7.5% lower in 2021, as compared to 2005 (2005=100), while 13% lower in the previous 2020 than in 2005, on the basis of a similarly continuous cost reducing practice during the 2005–2020 time (*Figure 8*).

Figure 8. EU-27 Energy Efficiency - Index (2005=100)



Source: Data extracted from Eurostat, Energy efficiency [NRG_IND_EFF__custom_4407905], 2022.

C) Current consumption related to the average of the pre-pandemic years

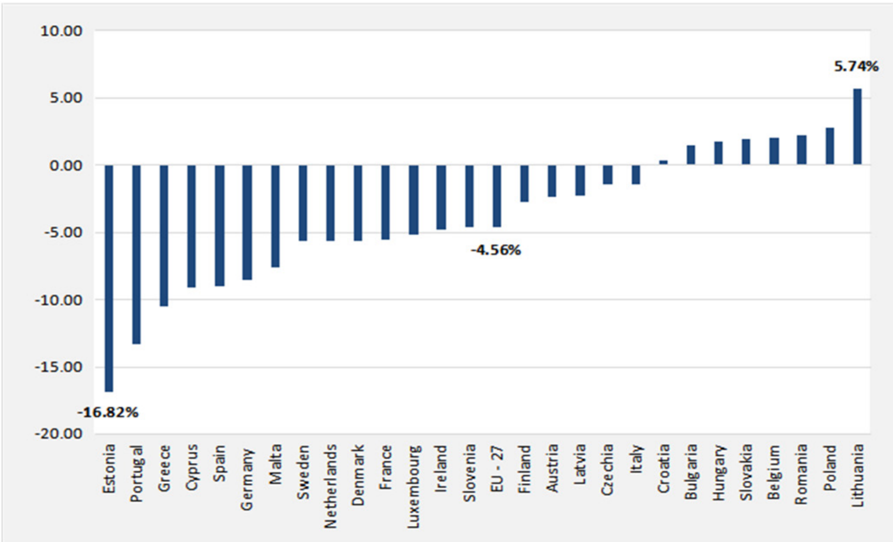
For this case, we can consider the example of comparing data between 2021 and the pre-pandemic time frame of 2017-2019 for the last's energy consumption average numbers. This approach prefers a years' interval reference, instead of just one year reference, in order to detect consumption deviations, accordingly for each distinct year. It is in this context that, since admitting the 2017-2019 interval as pre-pandemic, 2020 is found to be less relevant, for its proper energy consumption numbers (too low), as compared to all the following years, and so this year might rightly be eliminated from all bases of comparison.

Referring to 2021, by directly comparing it against the pre-pandemic 2017-2019 interval, the primary energy consumption in the EU area has been 4.56% lower – i.e., as compared to that years' interval's average, as seen in Figure 9. Nineteen EU member countries registered such decreases between a threshold of (-)1.39% and a ceiling of

[9] ETS and ESD are the EU's instruments for managing GHG emissions.

(-)16.82%. The highest such reductions in the area came up in Estonia (-16.82%), Portugal (-13.25%) and Greece (-10.49%). On the other hand, the EU member countries reducing the same primary energy consumption by lower percentages than this average were Finland (-2.74%), Austria (-2.33%), Latvia (-2.26%), Czech Republic (-1.45%) and Italy (-1.39%). The rest eight EU member states actually rose their energy consumption in a percentages' interval between (+)0.36% (Croatia) and (+)5.74% (Lithuania). Romania here belongs with its (+)2.23% corresponding percentage before the pre-pandemic interval. That is to say, eight EU member countries out of 27 stay off the EU's target of energy efficiency raising towards 2030 through primary energy consumption reducing – i.e., corresponding efforts should be higher towards this goal.

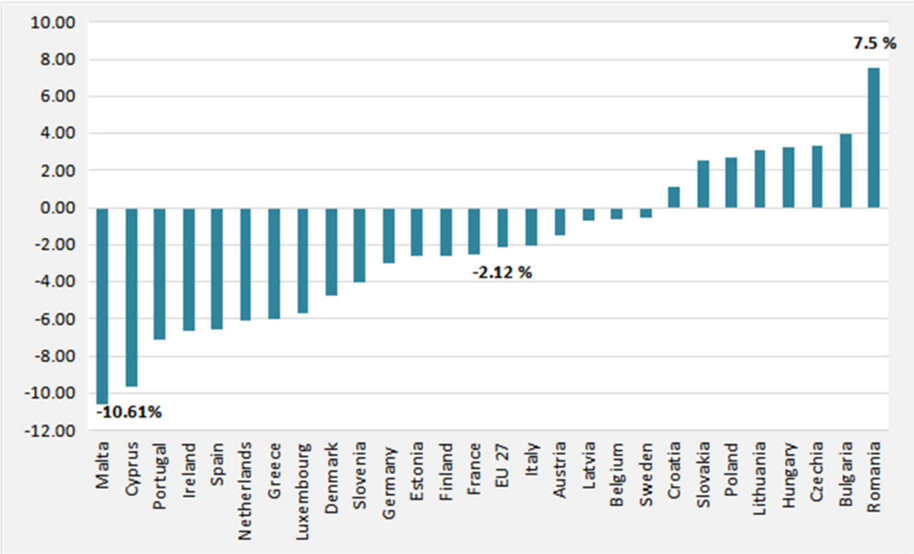
Figure 9. EU Primary energy consumption, 2021 versus 2017-2019 average (%)



Source: Data extracted from Eurostat, Energy efficiency [NRG_IND_EFF__custom_4407905], 2023.

The EU's *final* energy consumption in 2021 was analysed and, in turn, compared to the pre-pandemic 2017-2019 interval consumption average, the result was (-)2.12%, as seen in *Figure 10*. It was observed that nineteen EU member states achieved a final energy consumption reducing, as related to the same pre-pandemic considered interval between (-)10.61% and (-)0.53%. And the highest energy consumption reductions were registered by: Malta (-10.61%), Cyprus (-9.63%) and Portugal (-7.08%), of course, as compared to the pre-pandemic chosen period. These are followed by a group of EU member countries performing energy consumption reductions at the same, but below the region's average of (-)2.12%: Austria (-1.49%), Latvia (-0.73%), Belgium (-0.66%) and Sweden (-0.53%). The other eight EU members, similarly to the above situation of primary energy consumption, met with increases in consumption – i.e., between the minimum of (+)1.11% (Croatia) and the maximum of (+)7.5% (Romania).

Figure 10. EU: Final energy consumption in 2021, as compared to 2017-2019 average (%)



Source: Data extracted from Eurostat, Energy efficiency [NRG_IND_EFF__custom_4407905], 2023.

D) The EU: current primary and final energy consumptions, face to corresponding targets of 2030

The concept considered in this case is the ***distance to the target* of energy consumption reduction** and this expresses in million tonnes (of) oil equivalent (Mtoe) -- i.e., the same as the energy consumption itself. The EU specific targets, in their turn, are defined by the European Environment Agency (EEA 2019). This distance is the difference between the energy consumption – i.e., final or primary, and this in *absolute* numbers – in/of the current year and the corresponding one of 2030, as targeted. But the same *distance* might also be expressed as relative, i.e., in percentages of the respective target. The *distance to the target* is presumed to be able to evaluate progresses related to the targets previously drawn for energy consumption reduction in the EU area. In such a context, either opportunities specific to accomplished targets might be identified, or current performing is assessed, together with identifying possible additional measures.

The EU energy consumption *targets*, in their turn, originate in a combination of top-down and bottom-up approaches and then transformed into plans of action for individual member states (i.e., 'top-down' - type strategy). Some flexibility is allowed to member countries in their action as such, but they are supposed to report on progresses performed to the Union, as regularly.

Targets are indicative - they aim to guide the EU member states' efforts towards a sustainable energy system built and to the greenhouse effect from gas emissions reduced down to its elimination. While so, since indicative, the primary energy consumption targets make no commitment for the EU members, the final ones becoming mandatory, as the 2030 specific targets (EURACTIV, 2022).

The primary consumption targets for 2020 and 2030 were 1483 Mtoe and 1273 Mtoe, respectively (EED). With the United Kingdom leaving the EU, these targets have been revised to 1312 Mtoe and 1128 Mtoe for 2020 and 2030, therefore we have opted to consider these data for the paper. Furthermore, the COVID-19 crisis affected the EU economy – i.e., the Eurostat data show the primary consumption in the EU dropped to 1,236 Mtoe, which is 5.8% lower than the 2020 specific EU target. As for what happened in 2020 in the EU member countries, with their *primary* energy consumption, targets were accomplished, sometimes even surpassed, by 24 of these and the other three (Belgium, Bulgaria and Poland) performed similarly, as seen in *Table 1*. The European Commission's report COM (2022/641 final) named '*2022 report on the achievement of the 2020 energy efficiency target*'[10]. We found out that the *final* energy consumption is nearly the same: there were 21 EU member states accomplishing and/or exceeding their specific targets of consumption reduction for 2020. And, finally, the European Environment Agency (EEA, 2021) released its '*Trends and Projections in Europe 2021*' paper, in which most EU member states appear to have filled their energy efficiency targets in 2020.

However, one should recall the same above-mentioned EC's COM (2022/641 final), in which six EU member countries are shown to have failed on their individual targets, despite high efforts being employed – i.e., Austria, Belgium, Bulgaria, Germany, Lithuania and Sweden[11]. Other countries remained far from corresponding targets, possibly due to serious problems of their energy efficiency policies – e.g. by 90.6% for Bulgaria; by 81% for Lithuania.

Table 1 indicates the results on energy efficiency degree performed by the EU member countries, as computed on data offered by the EC in COM (2022) 641 final through two formulae as such:

$\boldsymbol{PEC_{2020}\,(\%) = PEC_{target\_2020}/PEC_{2020}*100}$ (1),

In which PEC_{2020} (%) is the specific primary energy consumption degree performed in 2020, PEC_{target_2020} the corresponding consumption targeted in absolute numbers, i.e., million tonnes oil equivalent (Mtoe) and PEC_{2000} represents the corresponding effective consumption (in the same system, Mtoe).

And then:

$\boldsymbol{FEC_{2020}\,(\%) = FEC_{target\_2020}/FEC_{2020}*100}$ (2),

In which, FEC2020 (%) is the specific primary energy consumption degree performed in 2020, FECtarget_2020 the corresponding consumption targeted in absolute numbers, i.e., million tonnes oil equivalent (Mtoe) and FEC2000 represents the corresponding effective consumption (expressed in Mtoe).

[10] European Commission, COM (2022) 641 final, *2022 report on the achievement of the 2020 energy efficiency targets*, available here: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52022DC0641.

[11] Sweden has opted for an energy intensity target in which the assumed levels of growth in both gross domestic product (GDP) and energy consumption impact the target level. This energy intensity target has not been included in this assessment, to allow for comparison with other member states.

Table 1. The degree of fulfilment of specific energy consumption targets proposed for 2020 by the EU to each member state

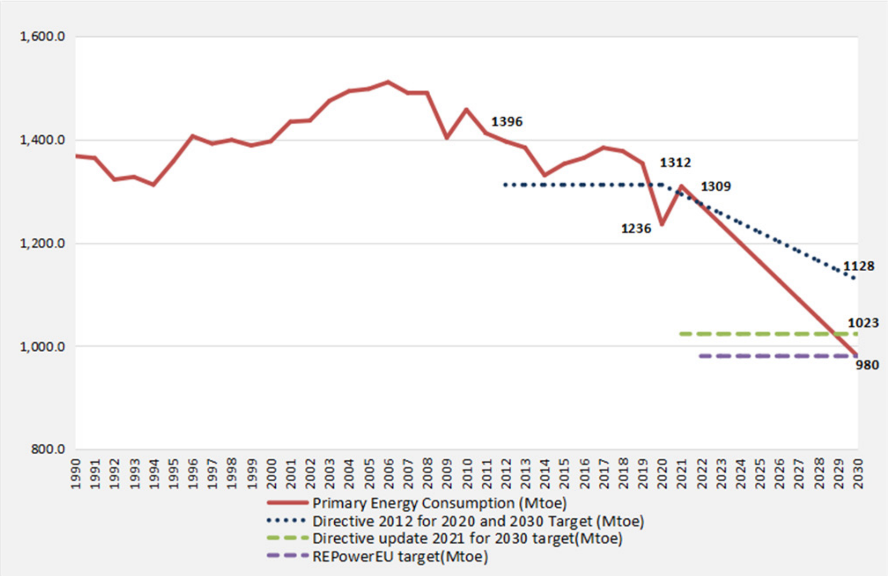
EU member	PEC2020 (%)	FEC2020 (%)
Belgium	99.6	97.6
Bulgaria	98.1	90.6
Czech Republic	118.2	103.4
Denmark	114.3	115.4
Germany	105.4	96.4
Estonia	127.5	105.4
Ireland	103.5	104.7
Greece	128.4	127.3
Spain	117.5	117
France	108.6	106
Croatia	137.9	107.6
Italy	119.4	120.7
Cyprus	101.6	121.8
Latvia	126	115.9
Lithuania	104.4	81.0
Luxembourg	113.9	111.2
Hungary	111.4	101.1
Malta	111.1	116.4
Netherlands	103.9	114.7
Austria	106.1	96.2
Poland	99.5	100.6
Portugal	115.1	115.8
Romania	139.1	128.9
Slovenia	115.8	116.6
Slovakia	108	100.2
Finland	120	114.5
Sweden	104.1	97.8

Source: European Commission, COM (2022) 641 final, 2022.

The EU objectives for 2030

The European Commission (EC) presented in 2022 a plan for reducing the EU's dependence on imports of fossil fuels from Russia to sanction the current military aggression against Ukraine – i.e., REPowerEU[12] (COM/2022/230 final). This initiative came to be considered a renewed basis for remaking the old reference scenario of EU's energy efficiency, i.e., this proposal targeting the energy efficiency with the aim of increasing it at 13%, instead of 9%, in the old planning version. Or, this would equal 980 Mtoe as *primary* energy consumption in the EU in 2030. See also our calculations, resulting in 13% less for primary consumption energy up to 2030 – i.e., from 1,128 Mtoe in 2012, as proposed by EED at that time, down to 980 Mtoe in the new *REpowerEU Plan* (*Figure 11*).

Figure 11. EU27 - Primary energy consumption (PEC) and updated targets for 2030 (Mtoe)



Source: The author, calculation based on Eurostat data; targets for primary energy consumption in years 2012, 2021, 2022.

A reduction of 329 Mtoe *primary energy* consumption in the EU for nine years onwards, which is the 2022-2030 interval, needs a series of policies and measures taken by each EU member state. A simple and indicative way to calculate the reduction in primary energy consumption for each year is dividing the figure corresponding to the total reduction objective at the EU level (329 Mtoe), by the number of years in the respective period (nine years). This leads to an annual reduction of 36.5 Mtoe on this

[12] European Commission, COM/2022/230 final - *Communication from the Commission to the European Parliament*, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions, REPowerEU Plan, available at: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM:2022:230:FIN.

time frame. The subsequent calculation is:

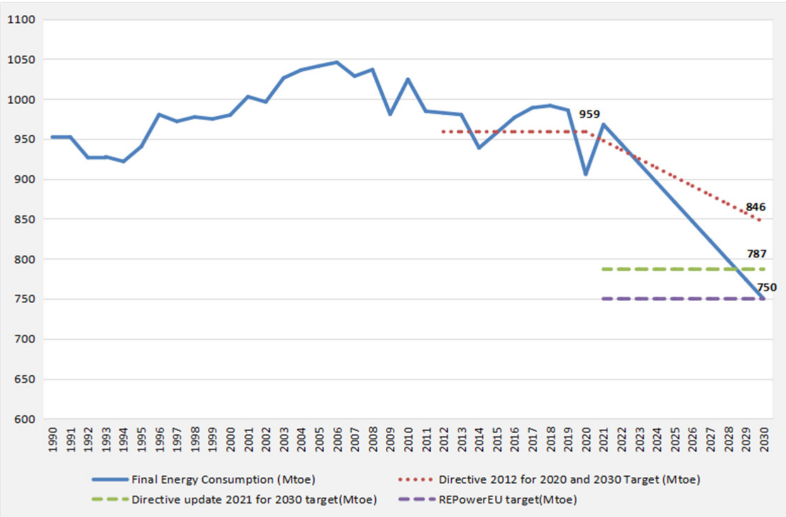
$$PEC_n = PEC_{n-1} - (329\ Mtoe / 9\ years),$$

In which *n* is each of the years in the 2022-2030 interval, PECn is the *primary* energy consumption in the year *n* and PEC_{n-1} is the same in the year previous to the year *n*. An equality that makes the image of a linear reducing of the energy consumption year by year at constant annual rate, which results, as previously explained, into 36,5 Mtoe – i.e., on the EU region aggregate.

In addition, one should recall the previous EED related EC directive's data on the *final* energy consumption at 959 Mtoe for 2020 and 846 Mtoe for 2030, respectively. This specific 2020 target has been accomplished, due to the COVID-19 pandemic. To this end, 905 Mtoe final energy consumption has been registered, as compared to the 959 Mtoe targeted consumption for that year. In 2021, the final energy consumption rose back above the previous 2020 targeted level. The Commission proposed in 2021 to review the Energy Efficiency Directive (COM/2021/558), then corrected the previously established 846 Mtoe level targets for the 2030 final energy consumption to 787 Mtoe level (EED). Following this, another energy consumption reduction was proposed in 2022, amounting to 750 Mtoe for 2030, through the REPowerEU plan. Firstly, it has been noticed a deliberate and continuous energy efficiency target's adjustment, followed by an increasingly brutal change that may lack realistic and feasible perspectives – i.e., see *Figure 12*.

Our findings assess the recent REPowerEU proposal on 2030's final energy consumption level at (-) 11.3 % reduction - i.e., from 846 Mtoe in 2012, as proposed by EED at that time, down to 750 Mtoe in the new REPowerEU Plan.

Figure 12. EU 27 - FEC (Final energy consumption) and updated targets for 2030 (Mtoe)



Source: The author, calculation based on Eurostat data: targets for primary energy consumption in the years 2012, 2021, 2022.

Building on the above basic calculations on the primary energy consumption targeted in 2022 for 2030 – i.e., on a nine years' time frame for both the absolute number and the forecasted reduction it ought to be the same for the *final* energy consumption (about 217 Mtoe), as targeted for 2030, if we divide the number by the nine years and imagining policies implemented by the EU individual member states the result is 24.21 Mtoe per year for an aggregate number per EU region. See also the following calculation formula:

$\boldsymbol{FEC_n = FEC_{n-1}\text{-}(217.91\ Mtoe\ /\ 9\ years)}$,

In which – i.e., the same as above, for the primary energy consumption -- *n* is each of the years in the 2022-2030 interval, FEC_n is the *final* energy consumption in the year *n* and FEC_{n-1} is the same in the year previous to the year *n*. An equality that makes the image of a linear reducing of the final energy consumption year by year at an also constant annual rate – i.e., of course, on the EU region aggregate.

Recalling the individual EU member countries' involvement, this means both alignment to the Union's policies and adapting their National Integrated Plans for Energy and Climate (NECPs) on 10 years – i.e. 2021-2030 – a document which leaves room for the individual EU member states local realities (EU)2018/1999)[13]. In 2018, the European Commission (EC) received the NECPs /drafts from the EU member states, the following step being that of releasing the updated versions (COM/2019/285)[14] in 2019 with EC's specific recommendations. Member states received, analysed and revised the documents with the purpose of reaching the new NECPs versions by the end of 2019. In September 2020, a final evaluation of NECPs, published by the EC (COM/2020/564 final)[15], was followed by individual evaluations for each member state. Since then, the member states are supposed to report on their progress to the EC every two years.

According to the revised and final NECPs versions, nineteen EU member states aimed to reduce their *final* energy consumptions by 2030, between (-)24.3% (Luxembourg) and (-)0.42% (Slovenia), as seen in *Table 2*. The rest of eight EU member countries have already accomplished their 2030 targets of energy consumption in 2021 – i.e., Bulgaria, Denmark, Estonia, Greece, Cyprus, Malta, Romania and Finland.

Similarly, observing the other part of the energy consumptions, the *primary* one, according to the same EC document (COM/2020/564 final) for the 2030 targeting and then comparing these data to the factual ones of Eurostat for 2021 (i.e., their last issued data was at the time of this paper), the results were that eighteen EU member states aimed to reduce consumption by percentages varying between (-)23.3% (Netherlands) and (-)0.48% (Croatia). The rest of the nine EU member states were in the position of having

[13] European Parliament Regulation (EU) 2018/1999 of the European Parliament and of the Council of 11 December 2018 on the Governance of the Energy Union and Climate Action, amending Regulations (EC) No 663/2009 and (EC) No 715/2009 of the European Parliament and of the Council, Directives 94/22/EC, 98/70/EC, 2009/31/EC, 2009/73/EC, 2010/31/EU, 2012/27/EU and 2013/30/EU of the European Parliament and of the Council, Council Directives 2009/119/EC and (EU) 2015/652 and repealing Regulation (EU) No 525/2013 of the European Parliament and of the Council (Text with EEA relevance), available at: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2018.328.01.0001.01.ENG.

[14] European Commission, COM/2019/285 - Draft NECPs together with specific recommendations in June 2019, available at: https://energy.ec.europa.eu/topics/energy-strategy/national-energy-and-climate-plans-necps_en#draft-necps.

[15] European Commission, COM/2020/564 final. EU-wide assessment of National Energy and Climate Plans Driving forward the green transition and promoting economic recovery through integrated energy and climate planning.

already fulfilled the 2030 specific target, as similarly to the above description on the final energy consumption concomitant story, -i.e., Czech Republic, Denmark, Estonia, Greece, Cyprus, Malta, Portugal, Slovenia, and Finland.

Table 2. EU member countries individual assessments Plans (NECPs) for 2030

Primary energy consumption (Mtoe)				Final energy consumption (Mtoe)		
Country	Latest available data (2021) *	Target of 2030 **	Diff.*** 2030-2021(%)	Latest available data (2021) *	Target 2030**	Diff.*** 2030 - 2021 (%)
Belgium	48.76	42.7	-12.43	35.86	35.2	-1.84
Bulgaria	18.58	17.5	-5.81	10.28	10.3	0.19
Czech Rep.	39.61	41.43	4.59	26.21	23.65	-9.77
Denmark	16.23	18.3	12.75	13.80	15.8	14.49
Germany	266.98	216	-19.10	209.74	185	-11.80
Estonia	4.45	5.4	21.35	2.83	2.9	2.47
Ireland	13.86	13.7	-1.15	11.40	11.2	-1.75
Greece	20.33	20.55	1.08	15.21	16.51	8.55
Spain	112.14	98.5	-12.16	80.33	73.6	-8.38
France	224.38	202.2	-9.89	143.19	120.9	-15.57
Croatia	8.27	8.23	-0.48	6.97	6.85	-1.72
Italy	145.31	125.1	-13.91	113.27	103.8	-8.36
Cyprus	2.31	2.4	3.90	1.69	2	18.34
Latvia	4.47	4.1	-8.28	4.06	3.6	-11.33
Lithuania	6.63	5.5	-17.04	5.66	4.5	-20.49
Luxembourg	4.19	not provided	-	4.06	3.06	-24.63
Hungary	24.93	30.7	5.77	19.15	18.7	-2.35
Malta	0.77	1.1	42.86	0.59	0.8	35.59
Netherland	60.76	46.6	-23.30	46.90	43.9	-6.40
Austria	31.55	28.7	-9.03	27.82	24	-13.73
Poland	103.95	91.3	-12.17	75.15	67.1	-10.71
Portugal	19.53	21.5	10.09	15.66	14.9	-4.85
Romania	33.09	32.3	-2.39	25.37	25.7	1.30
Slovenia	6.33	6.4	1.11	4.72	4.7	-0.42
Slovakia	16.29	15.7	-3.62	11.42	10.3	-9.81
Finland	31.47	34.8	10.58	24.86	24.9	0.16
Sweden	43.83	40.2	-8.28	31.70	29.7	-6.31

Source: The author, calculation based on data retrieved from Eurostat and NECPs Plans.

**Data from this column show the values for 2021 (Eurostat) and are expressed in million tonnes oil equivalent (Mtoe) / Energy efficiency [NRG_IND_EFF__custom_4407905].*

*** Data from this column belong to the 2030 energy consumptions targeted, as extracted from the EU member states' NECPs, and is figured in Mtoe: https://energy.ec.europa.eu/individual-assessments_en*

**** Numbers in this column result from our calculations.*

Table 2 indicates results corresponding to the EU member states' NECPs that cumulate a total *primary* energy consumption of 1,171 Mtoe and a total *final* energy consumption of 883 Mtoe, as proposed for 2030 in the whole EU multi-country region – i.e., more precisely, in columns 2 and 5 of *Table 2*. Or, the very problem of these results is that they appear lower than the corresponding ones of the EC's REPowerEU Plan – i.e., 980 Mtoe (PEC) and 750 Mtoe (FEC) – for which the EC could qualify the member states' ambitions in such a respect as: 'low' and 'very low', 'modest' and, finally, 'sufficient' in just few country cases.

The solutions to achieve the 2030 targets as shown in several EC documents

In order to talk about a distinct *set of EC's specific documents* pointing out to the same 2030 energy consumption targets REPowerEU is one of these plans and has been already mentioned above. This was published on 18 May 2022, at the same time with the *Energy Savings* initiative. Corresponding, a document series that might be called *Orientations* (of the EC) on the updates of the same 2021-2030 NECPs' content include:

- *Communication of the European Commission to the European Parliament*, European Council, European Social and Economic Committee and Committee of Region of 18 May 2022 of the *REPowerEU Plan* – i.e., COM (2022) 230 final.
- *Communication of the European Commission to the European Parliament, European Council*, European Social and Economic Committee and Committee of Region of 18 May 2022 of the *Energy Savings* – i.e., COM (2022) 240 final[16].
- *Communication of the European Commission regarding the orientations addressed to EU member states to adapt their NECPs for 2021-2030* (from 29.12.2022).

The EC sees this list as being necessary for achieving the 2030 above targets of energy consumptions.

Two years after the first NECPs' (final and revised) report, the EC proceeds to its Communication (2022/C495/02)[17] for re-updating their provisions according to the latest geopolitical changes. This is also for approaching REPowerEU objectives by referring to NECPs. This Communication was issued in December 2022; in June 2023 new proposals from the member states are expected to be attached for a final *NECPs' updating* in June 2024. New orientations belonging to this Communication (2022/C495/02), for renewed and clarified targets, are included for sectors able to implement the energy consumption reduction initiatives. The updated NECPs are supposed to have (re)viewed all sectors of the energy demand – e.g., buildings, industry and transports – from the viewpoint of energy consumption.

The example of public buildings might be self-explanatory – e.g., total surface to

[16] European Commission, COM/2022/240 final, Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the regions EU 'Save Energy', 2022, available at: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM:2022:240:FIN.

[17] European Commission, 2022/C495/02, Commission Notice on the Guidance to Member States for the update of the 2021-2030 national energy and climate plans, 2022, available at: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52022XC1229(02).

be renovated and annual energy savings will be, according to the *renovation wave* (COM (2020)662 final)[18], expected for higher buildings' energetic performances, doubling the renovation rates and the gradual decarbonization of the real estate stocks, this latest in connection with long term national strategies, as well. Important for the *NECPs updated* is also the *REPowerEU - Plan for energy savings* tandem – i.e., both launched in May 2022, the previous with its cut of the dependence from Russian fossil fuels and gas, as imported energy sources, the latter including also changes aimed at the *individual behaviour on energy consumption*, previously to all decisions coming from the authorities to be implemented – e.g., measures taken, directives, orientations, communications.

Insisting on this last point, the *energy consumers' behaviour* accounts for being affected by the energy prices already higher – i.e., market driven behaviour. But this is not enough, in the Commission's view – i.e., consumers that feel wealthy might prefer keeping their consumption preferences untouched, while the others who are vulnerable might be really affected by the same circumstances. In this given situation, the Commission (EC), together with the IEA, just launched a common campaign called *Playing my part* (IEA and EC, 2022) for individuals' and companies', whose responsibilities are increased face to the energy consumption – i.e., a campaign of information and encouragement.

Finally, COM (2022) 240 provides, about *financing the measures plan for energy savings, energy efficiency and buildings' renovation* included, their special chapter to be filled in the National Recovery and Resilience Plans (NRRP) of the EU member states and their address to diverse funds – e.g., European Regional Development Fund (ERDF), Cohesion Fund and the Just Transition Fund, specific programmes – e.g., 'Europe-Horizon', LIFE – and private investors.

Conclusions and perspectives

The EC has issued and taken *numerous measures that are well harmonized* and benefit from sufficient funding at least on short and medium term for energy efficiency and climate specific objectives. However, it is up to the member states, within their NECPs, to navigate the changing circumstances and achieving their targets.

Firstly, we can observe a slightly decreasing trend of energy consumption in the EU area on aggregate, during the long 1990-2021 interval, out of which the 2005-2021 shorter interval sees a continuous decreasing. Then, in 2021 – i.e., following the global pandemic – the energy consumption suggested the same decreasing pattern on the EU as an aggregate, while there recorded some different behaviours among member countries, as compared to the pre-pandemic 2017-2019 interval (see in *Figures 9* and *10*).

Secondly, recalling our research questions the analyses conducted point out to the following conclusions:

(i) An obvious progress of each member country, at least in terms of reaching the targets for 2020;

(ii) Judging by the degree of low ambition within which the countries were assessed according to the proposals for 2030, a change in this will be analysed only after

[18] European Commission, COM (2020) 662 final, *Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, A renovation wave for Europe - greening our buildings, creating jobs, improving lives*, 2022, available at: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52020DC0662.

a new review of NECPs (in the proposal stage by 30 June 2023 and in the final stage by 30 June 2024). At this moment, we can affirm that only some of the countries are in the satisfactory situation of having reached the targets for 2030 (*Table 2*), but the question arises whether they will manage to maintain this downward trend and whether the rest of countries will align. This can be considered a limit of this research and also a point for future directions.

(iii) The targets for 2030 (and 2050 climate neutrality) seem to be very ambitious and brutal. A few countries already made some progress, some did not. This effort can only be a joint one: with guidance and financial help from the EU and with the member states' cooperation.

(iv) Falling to reach the EU's 2050 targets could lead to a prolonged negative climatic effect which could be caused by:

- Different and divergent EU member states' interests and priorities related to fossil fuels, scarce natural resources and available technological capabilities.
- New technologies missing – e.g., for capturing and stocking: carbon, nuclear energy, green hydrogen, off shore wind power, advanced solar energy – and complex and costly procurements.
- Unemployment that occurs in traditional industries as a consequence of the sudden transition to the new energy sources (together with social and economic effects).
- Giving up traditional energy sources might bring in risks of national security and/or imports dependency.
- Last, but not least, political changes inside the EU might create instability, delay and impede the long-term strategy.

Finally, a few future directions for research could be considered: (i) the main obstacles and challenges (economic, social, political etc.) in implementing energy policies both at the EU level and in the member states; (ii) implications and recommendations for energy policy and the necessary rules to be followed in the EU and member states with the aim of achieving energy efficiency, especially on its long-term goals; (iii) the energy efficiency financial and investment impacts' evaluation.

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Regional Dynamics of Two European Clusters: Cooperative Financial Tools and Collective Support as Part of V4 Presidencies' Foreign Approach Towards WB6 Partners

Mihai Christopher Marian Radovici[1], **Lukáš Danko**[2]

Abstract: *Based on current paradigmatic, programmatic and operational changes, which oversee how global systems were transformed through inter-actor dynamics and systemic rifts, we can underline the necessity for an in-depth comprehension of the political and economic interactions between regional actors, especially within CEE and the EU's Neighbouring areas. Thus, as the present paper seeks to address this knowledge hiatus found in the field, there is an extrapolation and interpretation of the Visegrád Group's (V4) collaborative and cooperative patterns during the last full presidential cycle (Slovak Republic – 2018 to Slovak Republic – 2023). As such, this analysis is aimed at deciphering some of the ways used by the V4 to employ economic measures, as part of collective or individual foreign policy approaches, to further enhance Western Balkan partners' European trajectories and regional integratory processes, alongside their respective geostrategic and geoeconomic interests. When it comes to the methods utilised in this study, the primary and secondary questions are answered through an extensive collection, selection, and inspection of data produced throughout the V4 presidencies, including: official statements and papers (V4 memorandums, meeting minutes, declarations during the Balkan Forum, official statistics, etc.), specialist literature (academic articles and books, policy analysis, etc.) or related sources (expert groups, op-eds, think-tank reports, etc.). Based on these procedures and forthcoming findings, we can highlight a noticeable increase in the constant economic flows both between the V4 - WB6 (Western Balkans 6) corridor* per se *and amongst their members, although collective efforts remain highly volatile due to variations in chairmanship. Moreover, the presidencies' core priorities towards the WB6 seem to follow the general continental pivot regarding the area, with several larger initiatives being spearheaded to optimise interconnectedness between both regions, especially in complementarity with other EU and pan-European projects (e.g., EUSDR, EaP, 3SI, B9). Assuming that the socio-cultural and economic contexts amongst V4 countries are historically close, it is possible to underline that their political environment allows for shared foreign policies to be created, particularly when it comes to enhancing well-founded neighbourhood relations, expanding towards other*

[1] **Mihai Christopher Marian Radovici** is a PhD candidate at the Doctoral School of Economics and International Business, Bucharest University of Economic Studies.
E-mail: radovici.christopher@yahoo.com.
[2] **Lukáš Danko**, PhD, is an Assistant Professor at the "Tomas Bata University" in Zlín, Faculty of Management and Economics, Department of Regional Development, Public Sector Administration and Law.
E-mail: danko@utb.cz
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spheres of interest or assisting non-EU partners in their transition period (driven by their own development processes and good practices).

Keywords: *Regional cooperation, Visegrád Group, Western Balkans, economic cooperation, foreign aid.*

JEL classification: *F530; F550; F590; F350; N100; O190.*

Introduction

Since 2008, the *International Visegrád Fund* has been responsible for conceptualising, developing or implementing projects that facilitate civil society organisations' transfer of know-how, both within the Visegrád Group and, lately, in the Western Balkans. Furthermore, as of 2014, the *International Visegrád Fund* launched the *Civil Servants Mobility Program* which offers support for the official visits of Western Balkans' civil servants to the V4 countries, with a focus on sharing experiences and best practices concerning the implementation of sectorial reforms and the harmonisation of national legislations with the European norms. The financing for these amounts to more than 3 million EUR, as the *International Visegrád Fund* aims to contribute to the democratisation and transformation of the region (Andor, 2020).

Furthermore, the group was created as a comprehensive and complementary project to the EU integration efforts, trying, initially, to fill in the regional gaps through alternative or related initiatives across a range of strategic areas, rather than endeavouring to compete with existing structures (*Brdo Declaration*, 2021; *Western Balkan Summit*, 2022). In this regard, one of the key areas that remained unchanged and still maintains its status as a primordial agenda-setting element is the group's involvement in the construction of a stronger European security architecture, based on the consolidation of continental and transatlantic formats. The last decade has witnessed a growth that revolved around the exchange of knowledge, good practices and values in the fields of information transfers, climate change, defence and security, transportation, energy, justice, innovation, tourism, education, cultural heritage and arts (*International Visegrád Fund*, 2022).

As such, it is clear that the Visegrád Group is considered to be a key factor in gradually supporting the initiatives launched under the aegis of the Western Balkans Fund, including through high-level meetings, like the 2018 reunion hosted by the Embassy of the Czech Republic in Pristina. On that occasion, the heads of the Visegrád missions encountered the Regional Affairs Director and the Director of the Europe and European Affairs Department of the Kosovo Ministry of Foreign Affairs, as they sought to "further integrate the Republic of Kosovo into the activities of the Western Balkans Fund" (Embassy of the Czech Republic in Pristina, 2018).

In the Western Balkans, if we look at the evolutionary trajectory of the civil society organisations and grassroot movements, in general, we can observe that they are still in their incipient stages, especially if compared with those of the Visegrád Group or of other European countries (*Think for Europe*, 2018). The area of economic and social aid has not been exhaustively explored by the Visegrád Group. The joint statement that marked Visegrád's 30th anniversary emphasized the need to support the growth of the civil sector, as part of a larger plan to revitalize the Eastern Partnership (EaP) and the Western Balkans area, pledging even higher budget allocations to the *International Visegrád Fund* (Janebová et al., 2021).

Few studies have explored the role that the Visegrád Group plays in encouraging democratisation, good governance, the rule of law, or overall societal building in the Western Balkan countries. This is one of the issues on which the V4 structure reached a consensus, with the agenda being pushed forth by synchronised bilateral efforts, in joint or multilateral formats, and carried out through cross-institutional entities like the *International Visegrád Fund* and its peninsular counterpart. Furthermore, the cooperation between the Visegrád Group and Western Balkan countries could be of interest for both governance and civil society actors in these areas, particularly due to the reiteration of the idea of the integration of the Western Balkans into the EU presented by the German Chancellor Olaf Scholz in his statements on Europe Day (EU, 2023).

1. The background for cooperation

Several actions have been taken under the auspices of the United Nations' *Sustainable Development Goals* (SDGs), as the Visegrád Ministries of Foreign Affairs were tasked with planning and supervising the general agenda, while the task of project implementation was assigned to other ministries, diplomatic missions, non-governmental structures, or even private contractors. In this context, the Slovak Republic established the *Sharing Slovak Expertise* (SlovakAid, n.d.) programme, managed by *the Slovak Agency for International Development Cooperation* (SlovakAid, n.d.). Moreover, the Czech Republic created the *Human Rights and Transition Promotion Policy* within the Ministry of Foreign Affairs (Ministry of Foreign Affairs of the Czech Republic, 2015). The Republic of Poland set up the *Solidarity Fund PL* (Solidarity Fund, 2022a), with coordination headquarters established in the Republic of Georgia, the Republic of Moldova, and Ukraine. Thus, the programme sought to conduct and support actions "aimed at strengthening democracy in (mainly post-Soviet) countries covered by the Polish Development Cooperation" and which "are founded on the basic principles and values of a democratic system: equality before the law; freedom of speech, conscience, assembly, association, and electoral rights; and other civil rights and liberties". Additionally, the aforementioned initiative resonates "with the Polish tradition of fighting for freedom and democratic values, which Poland wishes to promote and support in the neighbouring countries, both in the name of international solidarity and for its own security" (Solidarity Fund, 2022b). "By contrast, Hungary's 2020-2025 *International Development Cooperation Strategy* focuses on addressing the root causes of migration and fostering economic development more generally" in countries across the region (Brudzinska, 2021).

Therefore, we can emphasize that the cooperation between the Visegrád Group and the Western Balkans is not limited to the political, institutional or procedural levels, but also includes a robust sectorial and economic collaboration, which constitutes a standalone feature of both clusters and yet, at the same time, a complementary measure that bridges all the other processes (Brdo Declaration, 2021; Western Balkan Summit, 2022). Furthermore, this nexus is balanced, on one hand, by the synchronised individual endeavours (as it can be inferred from their development programs, which form a rather unitary mosaic of initiatives) and, on the other hand, by the juxtaposed synergy at the level of the entire bloc. The synergistic actions generally take the form of joint projects financed by the *International Visegrád Fund* and the *Western Balkans Fund*.

Additionally, the paper explores the aid provided by the Visegrád Group to activities of the macro-region that might overlap with other continental endeavours on policies regarding cohesion, energy security, European development, migration or, more recently, relations with the Western Balkans and the Eastern Partnership actors. This overarching approach was conceptualised and presented during the Czech Presidency of 2011-2012, under the aegis of which special interest was given to the consolidation of Central and Eastern European think-tanks, in order to broaden the spectrum of exchanges between various schools of thought (*Think Visegrád*, 2022).

Therefore, the paper tackles the issue of the economic support offered by the Visegrád Group to the Western Balkans. It classifies the clusters of cooperative financing and collective support provided throughout the last presidential cycle. In parallel, it aims to offer an overview of the interests expressed in the strategic documents, academic inquiries and public reports, within the scope of some of the EU's cooperation frameworks, so as to further explain the rationale behind the V4's focus on the wider European neighbourhood.

2. Methods

Using a mixed methodological approach, this research sought to answer several questions, the main one being: *How did the V4 countries cooperate with the Western Balkans from an economic standpoint, during the period 2018-2023?* Consequently, the paper is centred on a comparative, synthetic, non-exhaustive analysis of primary and secondary data sources with respect to both focus groups. Hence, the interpretations were initially formulated after studying a variety of documents issued by both the rotating Presidencies of the Visegrád Group (by the V4 members and adjacent structures, respectively) and by the Western Balkan partners and their collective agencies, enabling thus a juxtaposed understanding of the exchanges and programmes that connected these two regions during the given timeframe. Furthermore, we linked these data with a review of the specialist literature, in order to present a wide range of initiatives as a way to provide a comprehensive overview of the above-mentioned processes, and a model that can be utilized both in academic and non-academic prospective endeavours.

3. The patterns of economic interaction between Visegrád and the Western Balkans: from aid to inter-regional programmes

After joining the *Organization for Economic Cooperation and Development* (Ministry of Finance of the Slovak Republic, 2017a: 5), the Slovak Republic was urged to establish its own official development assistance (ODA) programme. Through the creation of the *Bratislava-Belgrade Fund*, the Slovak Republic sought to manage projects targeting the Republic of Serbia and Montenegro (Ministry of Foreign Affairs, 2003). Subsequently, in 2007, the *Bratislava-Belgrade Fund* was included into the *Official Development Assistance* provided by the Slovak Republic, and although the Republic of Serbia was the main beneficiary of the Slovak development aid, other Western Balkan countries also became important recipients of it (Marjanović Rudan et al., 2016).

Within these formats, the Ministry of Finance of the Slovak Republic plays an important role in the development of the external cooperation of the Slovak Republic. In addition, it is tasked with the management of mandatory or voluntary Slovak contributions to international organizations. Its programmatic document reveals that the Ministry of Finance of the Slovak Republic pursues its priorities of development, by considering the current needs of potential partners, the purpose and effectiveness of the assistance provided, the degree of access to expertise, the development of its personnel's capacities, the added value of the innovative elements, etc. It is noteworthy that almost all of its projects are implemented in the Western Balkans and the Eastern Partnership countries (Ministry of Finance of the Slovak Republic, 2021).

At the beginning of the 21st century, the Slovak Republic established a partnership with the UN Development Programme/UNDP. It is one of the oldest of its type in the region and it aims at sharing advice on the development policies. In the same spirit, it offers assistance in the management of development projects, including for cross-border initiatives. We have also identified specific topics that this partnership has been addressing for a long time, i.e. the support provided for public finance management, the involvement of the private sector, innovation, or the security policies in the Western Balkans.

In this context, the UNDP and the Slovak Finance Ministry have implemented since 2009 the *Public Finance for Development* programme, which sought to contribute to "sound public finance management and good governance in partner countries", as it focused on "providing technical assistance to and institutional capacity building in the Eastern Europe and the Western Balkan countries that were implementing public finance reforms". This programme brought together Bosnia and Herzegovina, the Republic of Moldova, Montenegro, the Republic of Serbia and the Republic of North Macedonia, alongside Ukraine (*United Nations Development Programme*, 2022a).

An ongoing project, launched in 2018 and entitled "Effective Development Cooperation Solutions for the SDGs", focuses primarily on generating "a proper environment for enabling the Slovak private companies to contribute to Slovakia's international development cooperation and its piloting of the new ODA programme, in order to strengthen the position of Slovakia as a development cooperation provider in the security sector reforms". Some of the components of this project are:

1. The Slovak Challenge Fund (SCF), which facilitates the transfer of Slovak know-how and innovative solutions (addressing development challenges), was accessed by two partner countries, North Macedonia and the Republic of Moldova, and it contributes to the achievement of several jointly assumed SDGs. Slovak expertise from the private sector is needed to tackle specific development themes:

- Sustainable use of natural resources through improved water management, waste management, or increased energy efficiency and clean energy utilisation in residential, agricultural, and other sectors;
- Increased productivity, partnerships, access to markets, and competitiveness of the organic agriculture actors (the farmers and the producers);
- Introducing and improving e-governance and open data use in the public sector management and delivery.

2. The South-Eastern and Eastern Europe Clearinghouse for the Control of Small Arms and Light Weapons (SEESAC) initiative, which is related to *Strengthening of Regional Cooperation on Gender Mainstreaming in Security Sector Reform in the Western Balkans*.

Until 2020, this project provided support to the Ukraine Energy Efficiency

Secretariat and Expert Hub, implemented and managed by the UN Development Programme in Ukraine. The overall purpose of the Hub was to consolidate the capacity of the Government of Ukraine to develop and implement its energy efficiency policy during the critical time of transition of the national energy markets, in particular the gas and electricity markets (United Nations Development Programme, 2022b).

Therefore, the Ministry of Finance of the Slovak Republic, together with the UNDP Bratislava Regional Centre, designed and implemented the programme *Public Finance for Development: Strengthening Public Finance Capacities in the Western Balkans and Commonwealth of Independent States*. This five-year initiative, which started in June 2009, was funded by the ministry (under the development cooperation programme of the Slovak Republic) and had a budget amounting to almost 2 million EUR, its aim being to actively contribute to public finance reforms and to increase their long-term efficiency and sustainability in the Western Balkans and the Eastern European countries. The project objectives included, among others: the joint development of analytical capabilities, skill building in public finance, creating the right starting point for successful reforms. On the one hand, the above-mentioned programme focused on raising awareness about the interrelation between sound public financial management and poverty reduction, human development and social inclusion, and, on the other hand, it enabled their understanding of this topic (OECD, 2018).

Since the support for the Euro-Atlantic integration of the Western Balkans and the Eastern European partner states and, respectively, the aid provided for the sustainable development of these areas represent a long-term interest of the Slovak Republic, the country continues to consolidate and extend its relations and experience sharing with its development partners. However, this interest might slightly decrease, as the beneficiaries of the Slovak development aid make real progress and, consequently, the Slovak Republic will favour other formats of cooperation more complex in nature. Therefore, it was necessary to initiate a revision of the approaches adopted by the Slovak Republic in order to transcend current trends and aim for an increase in the processes related to the rationalization of the public administration, finances and state services, so as to generate prosperity and civic participation, or to strengthen the society's resilience to global challenges (Slovak MFA, 2019: 4).

During the period 2019-2023, the development cooperation of the Slovak Republic was to be implemented across the Western Balkans, the Eastern Partnership, the Sub-Saharan East Africa and the Middle East, with *SlovakAid*'s activities being reshaped to further capitalize on already existing results and to enhance relations. In this context, the development activities are also integrated into some of the long-term activities of the Slovak NGOs and of other actors from the *SlovakAid* partner countries. *SlovakAid*'s presence in Africa, as well as in the Middle East, highlights, though indirectly, the current global challenges and, especially, the need to address the causes of migration and refugee crisis in the countries of origin and transit, in an attempt to bridge cross-continental actors (Slovak MFA, 2019: 17).

If we take a look at the *Medium-Term Development Cooperation Strategy of the Slovak Republic 2019 – 2023*, one of the fundamental documents of its development cooperation, we can observe that the territorial and sectoral focus of the *SlovakAid*'s activities is established in accordance with Bratislava's foreign policy approach and the broader Visegrád Group's projections or in line with the United Nations' directions (Slovak MFA, 2022).

Since 2019, the Slovak Republic has started to apply a more regional approach to its economic, monetary, fiscal and financial policies, allowing for the implementation of a large array of development interventions, thematically linked with those of the partner regions and shaped with respect to their specificities and particularities. Despite these renewed efforts, the global challenges have recently demonstrated the need for flexibility in terms of delivering development cooperation and humanitarian aid. Many agencies of the Slovak Republic are currently evaluating the achievements and setbacks of past external programmes, to further consolidate cooperation through a rather holistic perspective on solidarity.

The Czech Republic, in its development cooperation, focuses on contributing to the reduction of global poverty and inequality, while promoting its national interests. Prague is advancing its interests by strengthening the security and economic diplomacy in order to build up stronger political, trade and investment relations. Prague's total *Official Development Assistance* ($361.7 million) increased in 2021, accounting for 0.13% of the *Gross National Income*, a percentage which exceeds even its vaccine donation levels, that were among the highest in the V4 countries. The *Principles for Providing Foreign Aid* and the objectives contained in the *Concept of the International Development of the Czech Republic 2002-2007* illustrate the extent to which the Czech Republic considers the development cooperation as an independent policy area.

In this spirit, "the *2010 Act on Development Cooperation and Humanitarian Aid* provided the framework for the Czech Republic's development cooperation. The *2018-2030 Development Cooperation Strategy* has set five thematic priorities: "building stable and democratic institutions, sustainable management of natural resources, agriculture and rural development, inclusive social development and sustainable economic growth". The beneficiaries of this development cooperation are actors such as Bosnia and Herzegovina, Georgia, or the Republic of Moldova. Prague places special emphasis "on the coherence and unitary degree of the actions taken". In addition, the Czech Republic seeks to "advance its national priorities particularly within the framework of the European Union, through which the bulk of its ODA is channelled". Numerous documents reveal Prague's intentions to establish "stronger linkages and coherence between development cooperation and security-building measures, the development of international trade and the prevention of forced migration." (OECD-iLibrary, 2022).

In accordance with the *Development Cooperation Strategy 2018-2030* (Ministry of Foreign Affairs of the Czech Republic, 2017a), the Czech Republic has prioritised its development cooperation in six partner countries (with which it has negotiated six-year development cooperation programmes). In those countries whose priority status ended in 2017 (namely, in Mongolia, the Republic of Kosovo and the Republic of Serbia), a transition period (2018-2020) was required to complete any ongoing projects and phase out the development cooperation with the Czech Republic.

Moreover, we can observe that in 2016, the Czech Republic's bilateral *Official Development Assistance* focused mainly on Eastern Europe (27%), the Middle East (16%), North Africa (16%) and Sub-Saharan Africa (8%). Roughly 39.4% of the bilateral *Official Development Assistance* was allocated to the first ten beneficiaries of the Czech Republic, as follows: the Republic of Moldova, the Hashemite Kingdom of Jordan, the Federal Democratic Republic of Ethiopia, Bosnia and Herzegovina, the Republic of Georgia, Ukraine, the Islamic Emirate of Afghanistan, the Republic of Serbia, Mongolia and the Republic of Iraq (Jones et al., 2019: 3).

In this sense, it is worth mentioning that "a low allocation of ODA flows to LDCs [Least Developed Countries] is again related to the strategic territorial priorities of the Czech Republic and of the other V4 countries", since Prague tends to focus "especially on the cooperation with Eastern European countries and the Western Balkans". The Czech Republic would like to "share its own experience of the political and economic transformation [it underwent on its European path] by transforming actors in both regions", while "Hungary, Poland, Slovakia and Slovenia have got the same aspirations" (Kovářová, 2021: 92). Thus, when it comes to Prague, we can deduce that the priority partner countries, from Eastern Europe or the Western Balkans, are chosen not only according to their transformative and external financing needs (criteria which explain the urgency of providing aid), but also in terms of politics and pragmatic purposes. In this spirit, the official statements of the Czech Republic, unlike those of its Visegrád Group peers, are straightforward (Kovářová, 2021: 97).

Furthermore, the *Development Cooperation Strategy 2018–2030* sets the following thematic priorities, which are closely linked to the United Nations SDGs: good democratic governance, sustainable management of natural resources, economic transformation and growth, agriculture and rural development, inclusive social development, etc. More specific thematic areas are listed in the bilateral *Official Development Assistance* (ODA) programmes (Jones et al., 2019: 3). Consequently, just like in the neighbouring Slovak Republic, in the Czech Republic the Ministry of Finance is tasked with establishing Prague's participation in international financial organisations. As far as the multilateral ODA is concerned, the Ministry of Finance of the Czech Republic is responsible for the payments to the European Union, the *European Development Fund* and the *International Financial Institutions* (the *European Bank for Reconstruction and Development*, the *European Investment Bank*, the *Western Balkans 6*, etc.). It is noteworthy that other institutions of the country also play a key role in the approval process of the *Annual Official Development Assistance Plan* (Jones et al., 2019: 10).

Moreover, the Czech Republic already has a great track record of joint implementation of specific projects, especially in Bosnia and Herzegovina, where it cooperated with the *Swedish International Development Authority* and the *United States Agency for International Development* (Ministry of Foreign Affairs of the Czech Republic, 2017b), but also in the Republic of Moldova and the Republic of Georgia, where it cooperated with the *Austrian Development Agency* and the *German Agency for International Cooperation*. Prague is interested in building up on its previous successes (Jones et al., 2019: 4).

If before the pandemic the prospects of the Czech Republic's economy were quite promising, due to stable *Gross Domestic Product* growth and relatively low public debts, unemployment and inflation rates, which attracted favourable international ratings and foreign investments, the COVID-19 pandemic influenced deeply Prague's capacity to act, both internally and externally. That is why it was necessary to revise the *Innovation strategy 2019-2030*, which aims at an increased adoption of and adaptation to technological advancements and implies a strong international presence. As a result, the effects of this strategy are more closely associated with the regional cascading effects and represent less a *sui generis* endeavour (BTI Transformation Index, 2022).

Nonetheless, some ideas prevailed and one can easily notice that the structure of the 15th edition of the *Agenda for Czech Foreign Policy 2021* (published by the *Association for International Affairs of the Czech Republic*), differs substantially from that of the previous years. We can observe that some chapters were dedicated to analysing Prague's interactions with the Federal Republic of Germany, the United Kingdom of Great Britain and Northern Ireland, or even the People's Republic of China, the Republic of Belarus, or the Russian Federation (Janebová et al., 2021: 7), while other chapters remained focused on the policy of the Czech Republic towards already acknowledged partner regions, such as Central Europe, the Western Balkans, the Eastern Partnership, or the Middle East and Northern Africa. Opinions derived from the Czech Republic's approaches, or mirroring them, and even reflections on some of the Visegrád Group's more informal positions, suggest that the support offered to the Western Balkans or Eastern Partnership areas should be adapted and the formats remodelled in a more flexible way, to further include a wider range of actors.

Furthermore, we can note that Warsaw supports the EU enlargement policy in the Western Balkans because it regards them, through strategic and pragmatic lenses, as a vector of security and stability for the entire European continent. Probably, the Polish approach to this region is also influenced by the fact that the Republic of Poland has been a member of the *Organization for Economic Cooperation and Development* (OECD) since 1996, and, as a member of the OECD, it took positions on this topic over the years (Statistics Poland, 2022). Nevertheless, current fluctuations within the Eastern and Southern vicinities require member states and unionist structures to work together to address common challenges, aspects that drive the Republic of Poland's commitment to development programmes.

Hence, Warsaw's involvement in the region is constantly growing, as demonstrated by its powerful stances and, especially, by its increased budgeting in the framework of the *Berlin Process* and within the Visegrád Group, or the 2019 Western Balkans Summit in Poznań. Thereby, "over 100 initiatives have been taken in Poland and in the region", since Warsaw "also donated over 1.5 million euros for regional infrastructure development projects" and pledged to allocate over "2.7 million euros to help rebuild Albania following a tragic earthquake which struck the country [in 2019]" (Website of the Republic of Poland, 2020a). It is in this context that the Republic of Poland supports local communities in the Western Balkans by offering foreign aid through development assistance projects, that help the beneficiaries expand in several strategic areas (Ministry of Foreign Affairs Republic of Poland, 2022b).

In several documents, the Polish state delineates its priority partners as being, primarily, actors within the Eastern Partnership. Meanwhile, Warsaw stresses the importance of interacting with the southern part of the continent too, mainly through "joint financial pools", with a focus on "civil society building, good governance, as well as agricultural development". (Drążkiewicz-Grodzicka, 2011:2).

This continuity in offering support is evident in the case of the Polish Republic's democracy aid. Both the *Solidarity Fund PL* (Solidarity Fund PL, 2020: 5) and the *Polish Aid* (Kim, 2022) constantly provide democracy assistance, with slight changes in terms of priorities. Thus, in Ukraine, the *Solidarity Fund PL* continued to support the local administration reform, the local media and the *European Union-Ukraine Association Agreement*, while in the Republic of Belarus, it continued to assist the independent media, the human rights organizations, free and fair elections, civil society, and youth. Also, we can observe that the budgetary allocations for democracy support (allocations made through the *Solidarity Fund PL* and the *Polish Aid*, for all the funded projects) remain relatively unchanged, though they are gradually increasing (Petrova & Aydın-Düzgit, 2021).

Moreover, the projects included in the Republic of Poland's *Solidarity for Development programme* are a proof of its active involvement in the development of European trajectories and of its contribution to the achievement of the objectives specified in the *United Nations 2030 Agenda*. A very significant part of the *Polish Aid* programme encompasses development assistance projects, managed entirely by the Ministry of Finance of the Republic of Poland and implemented through various governmental organizations. In this case, the main focus is on its regional neighbours, and Warsaw has already pledged that its assistance, starting from 2022, will be increased, in particular for the Western Balkan states, as an expression of its endorsement of domestic institutional reforms and continental aspirations. (Ministry of Foreign Affairs of the Republic of Poland, 2021: 5).

In December 2019, the Ministry of Foreign Affairs of the Republic of Poland and the *United Nations Development Programme* launched the *Polish Challenge Fund* to further engage the interest of Polish private enterprises in addressing complex development challenges in partnership with regional actors. This initiative facilitates the transfer of knowledge, technological advancements and innovative solutions. Thus, in 2020, the *Polish Challenge Fund* (PCF) focused on providing support to ten joint innovation projects, in the fields of green technologies, information and communication technologies, in the Republic of Belarus and in Ukraine. Subsequently, in response to the COVID-19 pandemic, the Republic of Poland joined the *United Nations Development Programme regional multi-partner response BOOST* to further enhance its transnational support (Website of the Republic of Poland, 2020b), alongside the *United Nations Development Programme Partnership: Innovative Solutions for the Sustainable Development Goals*, launched with a similar aim and as a build-up on the experiences accumulated through the 2020 PCF.

Furthermore, in addition to the modalities of assistance offered by the Challenge Fund, the new project has a "Knowledge Management component and focuses on Georgia, the Republic of Moldova, and Ukraine, and four development challenges: green technologies and smart solutions, information and communication technologies (ICT), anti-COVID-19 solutions and smart cities." (*United Nations Development Programme*, 2022b).

To sum up, the Republic of Poland has been a stable supporter of the Western Balkans' accession to the European Union. Due to its particularized perspective on external affairs, it places great emphasis on the geostrategic, geopolitical and macroeconomic benefits of the process, putting forth, on numerous occasions, its successful transition and integrative experiences as a model for the region. While Warsaw proved to be a "tiger" (by analogy with the *Four Asian Tigers*) in terms of economic growth in the wider Eastern Europe area, the Western Balkans' progression is hampered by different challenges, sometimes difficult to overcome, though all their development programmes entail the adoption of various democratic and European values. In spite of this mixed dynamics, the new initiatives of the Republic of Poland and its overall leadership position confirm its attachment to the idea of international solidarity and its sense of shared responsibility, including in areas that are not geographically connected to Warsaw, but rather linked with it by the shared pan-European ideals.

As far as Hungary is concerned, when the first negative reverberations of the pandemic were felt throughout the country and affected the Hungarian economy, the government stated that internal matters would be at the heart of its economic policies and, consequently, rather effective measures have been taken at national level, much to the detriment of Hungary's international pursuits (Moldicz, 2021: 1).

It is worth mentioning that the *Global Green Growth Institute* in Hungary has the responsibility to assist Budapest in achieving its national and international climate goals, including by the implementation of a version of the *National Clean Development Strategy* (modified in order to achieve the 2050 climate neutrality standards) and of other policies designed under the *European Green Deal*. In this context, the *Global Green Growth Institute* supports bilateral environmental initiatives, including in the Western Balkans. More specifically, it focuses on urban sustainable planning, energy efficiency, the implementation of private-led bankable projects, or transportation renewal. Therefore, in 2019 the *Global Green Growth Institute* assisted Hungary's executive branches in the creation of the *Western Balkans Green Centre*, an international development agency established to further support dedicated climate action, bilateral financing and green transition in the area ("Global Green Growth" Institute).

Additionally, Eximbank, the Hungarian Export-Import Bank Plc, opened several lines of credit, destined to encourage or facilitate investments into business operations across the Western Balkans. Thus, the Republic of Serbia, the Republic of Kosovo, Bosnia and Herzegovina individually received 61.5 million euros, and Montenegro approximately 150.000 euros (Domaradzki et al., 2018: 18). Several major Hungarian enterprises also invest in the banking and energy sectors of this region that equally benefits from EU funding. The *Instrument for Pre-accession Assistance* (IPA) of the EU regularly allocates funds for the implementation of cross-border cooperation projects. Budapest is urging for the completion or restoration of infrastructure connections, such as railways and highways, throughout the region and, much like the Republic of Poland or the *Three Seas Initiative*, often emphasizes the importance of developing the North-South infrastructure (Domaradzki et al., 2018: 33).

Moreover, *Hungary's International Development Cooperation Strategy for the period 2020-2025* (IDC2025) is based on five goal-oriented pillars and is constructed in a way that would ensure Budapest "plays a more prominent role in addressing some of the foremost challenges faced by the international community." Also, "in line with the vision of IDC2025, Hungary seeks to "contribute to the sustainable development of our partner countries and their local communities in a manner consistent with their needs and demands, as well as the Sustainable Development Goals (SDGs) and socio-environmental concerns". The Hungarian government endeavours to "provide assistance where it is most needed, thereby addressing the root causes of migration; concurrently, Hungary recognizes that international development cooperation is an important enabler of, and tool for promoting, economic partnerships and economic development more generally.". Therefore, the IDC2025 seeks to directly "stimulate the enhanced involvement of the private and civil sectors in development", especially across several strategic dimensions within the Western Balkans (Ministry of Foreign Affairs and Trade of Hungary, 2020). In accordance with the principle of "leaving no one behind", *Hungary's International Development Cooperation Strategy for the period 2020-2025* closely complies with the objectives of the *UN 2030 Agenda* and the general guidelines of the *OECD Development Assistance Committee*, particularly in terms of eradicating poverty and addressing inequality at the continental level. It lays a greater emphasis on Budapest's role in international negotiations and strives to create mutually beneficial long-term economic partnerships.

On the other hand, the Ministry of Foreign Affairs and Trade of Hungary announced that the *Western Balkans Investment Scheme*, which seeks to enhance the economic development of the region, is to be achieved through a network of public-private partnerships, alongside a trade stimulus worth over 17 million euros. In this framework, almost ten beneficiaries receive support in implementing joint projects (Government of Hungary, 2022: 9). Due to this "renewed interest in strengthening economic ties with the Western Balkans and in increasing trade flows" (Hettyey, 2013: 1-19), the *Hungarian Export Promotion Agency*, which is in charge of the operational management of the *Western Balkan Investment Scheme*, introduced, in 2020, this investment tool with a total available budget of 7 million euros, dedicated to Bosnia and Herzegovina, Montenegro, and the Republic of Serbia, "in the pursuit of creating new economic instruments in the area" (Hungarian Export Promotion Agency, 2020). It also aims at promoting greater continental integration, an aspect which is a part of Budapest's independent and distinctive foreign policy approach (Huszka, 2017: 596).

In conclusion, Hungary regards the Western Balkans' transformative and integrative processes as a crucial part of its own external and economic affairs, seeking to stabilise the region and reconstruct a financially strong vicinity, as its projects allow for increased market participation and capitalise on the achievements of the companies that are already present on the market. These endeavours, connected with increased socio-cultural relations and the strengthening of institutional ties (which became more concrete in recent years, especially between Hungary and the Republic of Serbia), seem to be a stepping stone for an ever-growing regional influence, an aspect that might also turn Hungary into a pole of attraction for its Visegrád peers or for third actors.

4. Economic ties and foreign policy perspectives in the V4-WB6 corridor

From its inception in 1991, the Visegrád Group (V4) has not been considered as an alternative to the European efforts, but rather as an attempt to fill a void in the functional structures of Central and Eastern Europe. Its primary purpose was to integrate its four member states into the networks of the European Union and of NATO. Once this purpose achieved, its interest has shifted to increasing cooperation, including with actors on the V4's frontier or periphery (Statistics Poland, 2020). Thus, this entity became a rather unique hybrid network that fostered subcontinental collaboration patterns, initially among its members and, subsequently, with common strategic areas, likes the Eastern Partnership or the Western Balkans.

The Visegrád Group can be regarded as a transnational enabler of dialogue and a platform that safeguards collective interests and increases representation in a multilevel and omnidirectional manner within the wider region, while also leaving an ever-increasing mark on the international arena (Törő et al., 2013: 364-393). There were fluctuations and rearrangements, sometimes overlapping, in the V4's dealing with different matters, like migration, pandemic challenges, socio-cultural development. At times, the members of the V4 disagreed about the interaction with other global actors, whereas their support for the EU integration of the partner countries from the Western Balkans and the Eastern Partnership, within the formats set by Brussels, remained constant, seemingly (Bogzeanu, 2011: 26, 29-30; Ivanova, 2016: 35-39; Zucconi, 2020).

While analysts argue that the setbacks of the Western Balkans, on their European path, lead to questioning the process of Europeanisation or jeopardize altogether Brussels' normative power, the presidencies of the Visegrád Group appeared to be more than willing to assume a pragmatic role and implement a series of complementary initiatives, which help the Western Balkan states advance on their continental and transatlantic trajectories. The V4 viewed this as a window of opportunity to assert its capacity as a regional player (Manners, 2002: 235-258; Petrescu, 2020: 81-90).

From all the other documents we consulted, a joint statement made by the Visegrád prime ministers in 2021 stands out and is worth mentioning, with some aspects that can also be found in the messages sent during the 2021 *European Union-Western Balkans Summit* hosted by Slovenia. They reaffirmed their unequivocal support for the peninsula's accession and they pledged to continue their efforts towards increasing development and inter-regional collaboration (Website of the Council of the European Union and the European Council, 2021; Loy, 2021; Bagoly, 2021).

In addition, if we look at the latest developments of the 2022-2023 Slovak presidency of the V4, we can conclude that, following the EU's Council decision to grant candidature status to Ukraine and to the Republic of Moldova, Bratislava highlighted the group's support for their European pathway, reiterating once more the commitment of the CEE to provide aid to Europe's neighbouring areas. Furthermore, several documents put forth under the Slovak chairmanship reveal that the Western Balkans' integration remains one of the V4's core priorities. Several programmes allow for tangible progress in the Europeanization of these states, both from a socio-cultural and an economic perspective.

Bratislava increased the International Visegrád Fund budget to 10 million euros in 2022, as a way of providing more resources, which will be redirected towards strengthening regional cooperation efforts, especially amongst youth, as the organization seeks to expand its horizontal and vertical approaches within and beyond the area (Slovak Presidency, 2022). Therefore, several documents place emphasis on the attention required by the EaP and WB6 partners, especially in order to mitigate the Russian-Ukrainian war's effects and its unprecedented humanitarian crisis. In this sense, the Slovak presidency sought to build up and augment a special line of credit (which reached 1 million euros in the spring of 2022), destined to support projects that are directly linked to Ukrainian refugees and migrants, both across the V4 and WB6 regions (Slovak Presidency, 2022).

To further optimise the IVF operationality, Bratislava proposed that all V4 governments endorse a large campaign to secure funds from third donors, as a way of creating a public-private partnerships network, that would be focused on developing inter-regional research in some of the EU's strategic areas (e.g., healthcare and the green transition). Similar to other presidential cycles, the last Slovak Presidency reiterated and consolidated the group's position towards enhanced cross-border cooperation, especially in the EaP and Western Balkans' areas. Such synergies can be directed at optimising the latter's European trajectories. A new range of highly visible activities is unveiled, allowing for the V4 to strengthen its position in the collective imagery, both at home and abroad.

Conclusions

To sum up, under the V4 presidencies, the successful completion of the EU integration process of the Western Balkans or the Eastern Partnership countries is viewed as an opportunity to strengthen the region in a triangular manner (Baltic Sea – Adriatic Sea – Black Sea), to shape its prospective pathways on the basis of shared values, principle-anchored cooperation and increased predictability. This aspect confirms the validity of the inherent assumptions of this research paper. While collectively beneficial, the endeavour is expected to stimulate, on a greater scale, the consolidation of regional power amongst the members of the Visegrád Group and, simultaneously, the emergence of new perspectives on conducting studies and making political, economic and social projections, especially with the aim of eliminating the interference of non-Western competitors in Brussels' neighbourhood (Domaradzki et al., 2018: 30).

The mechanism of the Visegrád Group presidency plays an important role in these endeavours, since it ensures a rotating leadership that often reinvigorates the bloc and fulfils the requirements of negotiations, mediation and conciliation processes of all the parties involved. (*Visegrád Group*, 2022). Usually, when it comes to external affairs, the presidency formulates its programme on a collective aspiration to "capitalize on their unique experiences" (Végh, 2014: 7), mainly with regard to democratic transformation and transition processes within the Western Balkans. This approach clarifies the manner in which this collaboration is carried out.

The V4 as a concrete foundation for regional projects seems to have worked so far and this is why we have decided to take a closer look at its objectives and actions, in general, and its interactions with the Western Balkan partners, in particular. The V4 presidencies and funding patterns offered us useful insights into its priorities and areas of interest. This research can provide a transcontinental radiography on the current and future dynamics of the relations between these two clusters and, in extenso, on the dynamics at the heart of Europe, especially if one further studies the issues addressed in this paper and elaborates on some of the new insights it offers. Though numerous socio-economic ties with the WB6 partners have been spearheaded by the V4, particularly during the latest presidential cycles (aspect that could become a topic for further analysis), this research could not have encompassed all the direct and indirect measures taken by the above-mentioned countries, or the positive and negative ramifications and cascade effects entailed by those initiatives, because such a detailed account would have required longer timeframes and correlative data.

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Road to Europe: Between the Berlin Process and the Open Balkan Initiative

Gelanda Shkurtaj[1]

Abstract: *The Open Balkan initiative has been partially supported by the leadership of the Western Balkans. If years ago it seemed a political whim, currently it constitutes a highly conditional factor from a two-level perspective: firstly, in the bilateral relations between the Balkan countries and, secondly, in relation to the Euro-Atlantic orientation of these countries for which the EU foreign policy had implemented the Berlin Process since 2014. In fact, the two processes have key differences, since for the Open Balkan initiative the priority interest resides in economic cooperation, while the Berlin process seeks to resolve, before their accession to the EU, many divergences of the Western Balkan countries, issues of a more complex nature than that of economic and cross-border cooperation. The Balkans are a region of turmoil where two world wars started, which left us with indelible memories of human suffering. The initiative has remained a Balkans' troika due to its lack of support at the national level and beyond. The analysis based on a mixed-methods' approach, seeks to highlight which of these two processes, that of the Balkans leadership or that of the European politics, is the most suitable for a comprehensive integration, without inter-ethnic conflicts and the mutual influence of the economic expansion.*

Keywords: *EU integration policy, ethnic conflicts, Open Balkan initiative, Berlin Process, economic development.*

Introduction

In 2019, the leaders Edi Rama, Aleksander Vučić and Zoran Zaev introduced the idea of signing an agreement between the Western Balkan countries, which they labelled a "mini-Schengen" (B92, 2019). It is an international act which, at this stage, represents a mere declaration of intent and ideas and needs to be ratified by the respective parliaments of these countries. Regardless of the delay in the ratification process, the interest of the three Balkan leaders in finalizing this agreement is undeniable. Nowadays, taking into account the point of view of the sceptics, who want to allay once and for all the distrust and resentments that prevailed in the Balkans from time immemorial, it would be natural to consider the above-mentioned agreement as a pact that would help the economies of these countries to further develop and, eventually, to build bridges of a long-lasting peace in a war-ridden region.

Therefore, several questions need to be clarified: firstly, why was it called mini-Schengen initially, if the mention of Schengen is far from being accidental (in fact, this denomination expresses the ambition to mirror the most powerful economic link that keeps Europe united (Tirana Observatory, 2020). At this moment, the common feature

[1] **Gelanda Shkurtaj** is an academic lawyer and a full-time professor of Roman and Civil Law at "Epoka University" in Tirana, Department of Law.
E-mail: gshkurtaj@epoka.edu.al.

that the mini-Schengen shares with the large Schengen is the perspective of ensuring the freedom of movement in the economic sphere. Secondly, every citizen of these countries is entitled to ask: why are we entering into this agreement and which are its benefits in terms of economic development? Thirdly, why was the mini-Schengen conceived as a crippled structure (and by that we mean that it does not include all the states from the Balkan region)? (B92, 2019). And, finally, if none of these questions is answered under the logic of Schengen, can it be hinted that we are dealing with a biased and unfruitful political initiative in terms of cooperation?

This agreement triggered many official and formal positions in favour of or against it and a multitude of opinions were expressed on this issue. In the first place, all the political stakeholders, at regional and international levels, are not against the development of economic relations that entail a customs union, a free trade area, and a free labour market established between the aforementioned Western Balkan countries. According to the same thesis, a cooperation of this type would set a precedent in this area, which might bring about the accession of all the Western Balkan states to a common organisation like the European Union. The issue already raises many questions about the timeliness of its proposal or the manner in which it relates to a previous initiative, that has been approved since 2014, when the EU launched the Berlin Process. Additionally, there are questions concerning the implementation procedures of such an agreement, especially between former belligerent countries, still stuck in an open inter-ethnic conflict, which cost thousands of deaths and led to court proceedings over the years.

In 2014, the Berlin Process was launched at the initiative of Germany and with EU support for a preliminary integration of these countries, first in relation to each other and then to Europe. The judgment was neither casual, nor superficial. It is generally acknowledged that the Balkans convey the impression of an unquenchable fire of inter-ethnic conflicts that burns behind the political scenes (Tirana Observatory, 2020). The idea of establishing an economic cooperation according to the Berlin Process was further escalated by the introduction of other coordinating pillars, such as the rule of law and a mechanism for the resolution of bilateral disputes, in an attempt to reduce litigations and leave the past behind.

Even if the Open Balkan initiative could be perceived as a *mea culpa* of Belgrade for the crimes committed in the Balkans, the Serbian domestic and foreign policy is clearly incompatible with the good neighbourliness principles that should be respected by the actors in the region. Given the circumstances, there is a dire need for composure in judgment and for an analysis based exclusively on irrefutable facts and persuasive arguments. It is required to compare the two above-mentioned processes and to conclude which of them could better address and resolve the differences in terms of politics, ideology, economic and cultural development in order to ensure the accession process is in full harmony with the multilateral interests specified or entailed by the agreement.

The Berlin Process versus the Open Balkan initiative

Although these two processes share a common goal (facilitating economic interactions and the freedoms of movement for goods, services and people), the political intentions behind the scenes differ on sensitive issues. Both initiatives have a positive outlook on the economic development and interactions, even though the Berlin Process is more meticulous and builds on a concrete basis of ongoing investments. The European integration is a long process because it requires the adoption of certain economic standards by the candidate countries. Subsequently, some analysts remain sceptical concerning the capacity of the Western Balkans to rise to the challenge: firstly, in terms of conflict resolution and, secondly, in terms of development and pro-European cultural approach (Kalemaj, 2023).

The method we used to differentiate between these two processes and conclude which of them is more likely to be accepted, both regionally and internationally, is mainly the comparison. We compared, on the one hand, the objectives set in the framework of the respective processes and, on the other hand, the degree of their acceptance at national level in the states that either have joined these initiatives or will join them in the near future. If we analyse these two aspects, we should also take into account the time frame of their development and the rhetoric that accompanies it. The Berlin Process started in 2014 and, during the annual summits it has occasioned, we were offered a detailed account of what has been done (Tota, 2020), what requires more work and what needs to be changed or improved.

The Berlin Process seeks to build bridges of cooperation on many aspects and objectives, starting from the premise that the economy of the Western Balkan states is rather weak and couldn't do without the support of the EU, if it stays that way. These countries have great difficulty taking economic initiatives and implementing them. Therefore, in the Berlin Process, priority is given to economic initiatives, but tactfully, as this process also aims at conflict resolution between the member states of the Balkan region. The problem is that this is actually a very hard target to attain.

The European leaders are well aware that this process needs years of cooperation and, above all, it demands a deeper integration that will hardly be supported by the member states. Therefore, it is not only a matter of dismissing the memories of thousands war crimes that took place in the recent past, due to inter-ethnic conflicts in the Western Balkans. As long as the actors of yesterday's wars embrace only apparently the European initiatives and continue to incite the crowds to ethnic hatred and division, behind the scenes, the issue of regional integration remains open to debate. If there is no way of sanctioning them for these tendencies, one should at least reject them ideologically (Tare, I., Da Silva, C., & Crowcroft, O., 2021).

The European Union is clear in its vision of reconciled Western Balkan states and, naturally, it attaches a great importance to it, fact which is quite problematic in the researcher's opinion. In the case that the Western Balkan states reach the economic standards required by the EU integration, without solving their conflicts, it is very unlikely that the EU will accept their membership. The European Union is aware that if it grants membership status to countries with unresolved bilateral issues in this turbulent region, which has not been peaceful for centuries, this act might bring divisions and war on a wider scale. Bosnia is one of the states of the former Yugoslavia that paid the highest price (EU-WB, 2017) for their independence, followed by Kosovo. It is perfectly understandable that these two countries are reluctant to join the Open Balkan initiative. They have accomplished their dream of independence after centuries of struggle and they do not wish to see it jeopardised by a regional initiative, like the Open Balkan, which has no straightforward and transparent political goal.

Being in a critical and complex situation, the EU is attempting to rebalance its policies at the regional level, because there the EU integration process continues to be perceived as an unrealistic project (Kamberi, 2021). The EU acknowledges that Serbia maintains a superficial peace and has an apparent interest therein, while it continues to benefit from the support of Russia for its geopolitical interests. An essential issue that should be clarified is whether Serbia is genuinely adhering to this initiative and willing to abide by the rules that the Berlin Process imposes on the countries in the region. Meanwhile, the EU shares its fear that Serbia could become Russia's "Trojan Horse" within the EU (Bashkurti, 2022).

These insights, expressed through diplomatic channels, are not overt, and yet, in view of the above, the EU regarded with scepticism the Open Balkan initiative. Personalities within the EU took controversial stances on this initiative, considering it redundant, since all the aspects of inter-Balkan cooperation have been covered by the Berlin Process. And yet the opinions of the EU officials do not converge on this issue. When Chancellor Olaf Scholz declared he opposed any initiative which is not launched by the EU, the European Union seemingly embraced the position of Berlin, but subsequently, the EU slightly changed its outlook on the Open Balkan initiative, as Ursula von der Leyen's position on this issue suggests (Western Balkans, 2021).

The president of the European Commission does not openly disapprove of this initiative. She includes it in the framework of the Berlin Process and, using the diplomatic language, expresses the EU support for any economic initiative in the Balkans that might be compatible with the Berlin Process. It is worth mentioning that the EU does not provide economic and financial support to both initiatives. To date, the Open Balkan initiative is not backed by any open fund or investment from the EU, whereas the EU projects for the Western Balkans (the Berlin Process included) receive financing that amounts to nearly 30 billion euros. By being a "soft power", the EU is promoting a Euro-diplomacy (Bashkurti, 2022).

From the "Mini Schengen" to the Open Balkan initiative

Geographically, Schengen is a small municipality of Luxembourg which gave its name to an agreement signed in the distant year 1985 by five member states of the European Economic Community (EEC), with a view to ensure the freedom of movement. The Schengen Area comprises today 27 countries. Although their accession became effective at different times and moments, their incentive was unique and clear: free movement of goods and people, as a prelude to a union, which started from the economy and was followed by a United Europe. Behind every international agreement there are legitimate interests of political and geopolitical nature, implicitly or explicitly accepted by the countries which are parties to that agreement. The reason for which the Schengen Agreement was established and developed was based on the interest (shared by all the participating countries) to create a more efficient and barrier-free trade, laying the foundations of a flexible and profitable economy (Oxford Analytica, 2022).

By analogy with the Schengen Agreement, we searched for the reason of economic interaction in the mini-Schengen. Rama - Vučić - Zaev state that the reason for establishing a mini-Schengen lies in the hindrance to trade represented by the waiting times for trucks at the border crossing points. They mentioned that 28 million hours are lost while waiting for the customs control (Dhimolea, A. 2022). Since mathematics is not an argument, we can infer that such a precise figure is actually the result of in-depth and joint studies accomplished by all the member states that will benefit from the removal of customs barriers. With a firm belief that Albanian experts also contributed to those joint studies, the common sense of the Albanian citizens is puzzled by the question: which are the Albanian exports and how many hours did the Albanian trucks wait at the Serbian customs? In 2019, according to the World Bank data, the only growing "economic index" in Albania was corruption (Freedom House, 2018-2023). Moreover, according to this Bank's report on the Western Balkans, there is a decrease in economic growth in all these countries, that share a lack of efficiency in public spending and in the application of fiscal policies (World Bank, 2019).

In the framework of the reunion for the Open Balkan initiative, the Albanian Prime Minister, Edi Rama, the President of Serbia, Aleksander Vučić, and the Prime Minister of North Macedonia, Zoran Zaev, have signed 5 cooperation agreements, as follows: Agreement on the Conditions for Free Access to the Labor Market in the Western Balkans; Agreement on the Interconnection of Schemes for Electronic Identification of the Citizens of the Western Balkans; Agreement between the Council of Ministers of the Republic of Albania and the Government of the Republic of Serbia and the Government of the Republic of North Macedonia for cooperation in the Field of Veterinary Medicine, Food safety and animal feed and phytosanitary services in the Western Balkans; Agreement between the Government of the Republic of Serbia and the Council of Ministers of the Republic of Albania on the Mutual Recognition of Authorizations of the Authorized Economic Operator; Agreement between the Government of the Republic of North Macedonia and the Council of Ministers of the Republic of Albania on the Mutual Recognition of Authorizations of the Authorized Economic Operator - safety and security (AEOS) (Tirana Observatory, 2020).

Hence, if we examine the statistics collected from international and politically unbiased institutions (BTI Transformation Index, 2018-2022), it results that Albania's interest in the mini-Schengen, in terms of trade and economic movement, is of little worth or of no value. It can be argued that, from a legal and political perspective, an international pact of this kind would offer the Serbian economy the possibility to expand itself, since the only country with export potential is Serbia and because the mutual interest and the level of economic development of the countries that are parties to the mini-Schengen agreement are not well-balanced. In support of the above, data analytics from different sources, such as the World Bank, Freedom House or the BTI Transformation Index, show that Serbia's economic index and growth are the highest, followed by North Macedonia's, whereas Albania holds the lowest position, according to the official data for the year 2018.

And if this is not the main reason, one may wonder why it is called a mini-Schengen, a denomination meant to counterweight the large Schengen, made up of the giants of the European economy. In response to this paradox, the three leaders eventually made amends, by changing the denomination into "Open Balkan". Thus, they subdued the implications of the initial name, which risked to be considered as a strong message to Europe for not accepting them in the phase of membership negotiations. In fact, the regional initiative of the Open Balkan (or the mini-Schengen) started as a result of the impasse that the European Union enlargement process is facing. "Until the EU decides, we have to find a way to continue the Europeanisation process", Zaev said in the same year.

In the meantime, things have changed. Serbia has already opened 22 of the 35 chapters of the accession negotiations, while Albania and North Macedonia are in the screening process.

Broken fingers of the same hand. Why is Kosovo not a part?

Is it acceptable to use the same name of the Schengen treaty, even as a metaphor, for those countries which neither are part thereof, nor are geographically connected to the Schengen Area? The Schengen Agreement was signed in a village of the same name in Luxembourg. The village of Schengen is situated in the middle of the border triangle of France, Germany and Luxembourg. Therefore, following the same line of reasoning, the mini-Schengen should have taken the name of the convergence point of the triangle formed by Skopje-Belgrade-Tirana. The convergence point in this case would be Pristina.

And what explanations could be provided for the fact that other Balkan countries, like Bosnia-Herzegovina, Montenegro and Kosovo, were left aside? Initially, these countries were invited to join the initiative, but they were not given sufficient time to reflect on it, to weigh on its importance, the pros and cons, and its impact in the Balkans, as the initiators had already followed these assessment steps. As a result, Kosovo, Bosnia and Herzegovina, and Montenegro refused to join the initiative (Joint statement. O.B, 2021). They could not enter into an agreement without mature reflection on its scope. No matter how much we allude to the mini-Schengen as to an economic treaty, its geopolitical goal is crystal-clear. It is noteworthy that the benefits of this agreement and the economic exchanges between the parties are neither grounded, nor balanced (Bashkurti, 2022).

Subsequently, one is entitled to ask why should Albania participate in the mini-Schengen and which are the prospective advantages for the Albanian economy, faced with the worst collapse of exports in decades? Which are the benefits of the freedom of movement for the Albanian citizens in the mini-Schengen area, given the fact that, as history shows, the Albanians tend to migrate westwards, not eastwards. Furthermore, due to the Stabilisation and Association Agreement, they are allowed to move freely to the large Schengen. If we accept the lack of economic development perspectives and the Albanians' lack of interest in the freedom of movement towards the east, we can conclude that the interest in the mini-Schengen agreement is strictly political.

The state of Kosovo was clear in its Customs policy regarding Serbia. It levied taxes on every product. No one but the state of Kosovo is entitled to judge whether this choice of the leadership of the Kosovo government was right or wrong, as Kosovo is an independent state now. Bearing that in mind, the reasoning circle is narrowed down to a single question: Why did the Albanian government support an initiative it cannot benefit from? An initiative that favours Serbia (EU-WB, 2017). Why did it not emphasize that in these negotiations Kosovo was also an indisputable geographical, economic and geopolitical factor? In this author's opinion, Albania should not foster an unjust policy. Our aim is, primarily, to stress the importance of the good neighbourliness principle and, secondly, to express our opinion as members of a nation which nowadays represents an important demographic factor among the countries that would constitute the mini-Schengen.

However, the leadership of the countries left out by the Open Balkan initiative may still entertain the idea of a potential membership. In this sense, the former deputy

Prime Minister of Montenegro at that time, Dritan Abazovic, invited by Vučić to a Summit, clearly indicated in his speech a flexibility in the foreign policy of Montenegro towards the initiative: "Personally, I believe that any regional initiative which can accelerate the European integration, not only of Montenegro, but of the whole region, is something we should accept. On the other hand, if someone wants to replace the European integration, we are not interested. But, I have yet to hear a valid argument that Open Balkan is not good for Montenegro". (Tare, I., Da Silva, C., & Crowcroft, O., 2021).

In the Balkans, Kosovo remains the only country who rejects the initiative for the clear reason that Serbia is part of it and would thereby increase its influence in the region. A reflection on this issue is worthwhile. Does the reluctance of Kosovo rest exclusively upon Serbia's economic influence? In that case, we should admit that Serbia's influence persists in this field. If Kosovo considers that the higher development of the Serbian economy would grant Serbia a domineering status in the Western Balkans, then the reluctance of Kosovo is also based upon the potential political influence that Serbia would thus obtain.

Lack of transparency in the approval process

At the national level, at least as far as Albania is concerned, this initiative did not go through with all the legal steps it should have followed, like all the regional and international agreements proposed in the Albanian Parliament. Neither was it presented to the parliamentary committee for foreign policy, nor to the Parliament, in order to be recognized, debated, subjected to the voting procedure and approved, under the provisions of the Constitution. This initiative was not even the subject of an open public debate that would have enabled the Albanians to better understand and discuss the strategic interests which have inspired it, and the manner in which an agreement of this type would benefit the citizens of Albania, in particular, and those of the Western Balkans, in general.

This non-compliance with the ordinary procedures and, especially, the fact that the aforementioned initiative was not subjected to public debate (in order to allow the different stakeholders to express their opinions on the topic) fuelled the speculation that the initiative was prompted by Belgrade (Dhimolea, A. 2022) in informal meetings and secretly supported by the leadership of Albania and that of North Macedonia. These conjectures are grounded in the short history of the democratic transition in Albania and the experiences the Albanians acquired during this period as well as the precedents set by the processes of recognition, approval and ratification of international agreements. Notwithstanding that the Albanian foreign policy has been less influential in the international arena, every international agreement ratified by Albania has been previously accepted by the foreign policy committee through a consensual procedure. The principles on which the Albanian foreign policy is based have been oriented towards the Euro-Atlantic structures, towards integration in the European Union, good neighbourliness, and regional cooperation.

There is clear evidence that Albania took part in all the initiatives at regional and international levels. Albania is party to a series of agreements, such as the Stabilisation and Association Agreement, the Black Sea Economic Cooperation, the Central European Initiative, the South-East European Cooperation Process, the Adriatic Charter, the Adriatic and Ionian Initiative. These facts do not only reveal the high interest in those agreements, but also show they were not kept confidential or far from the public eye. Indeed, those agreements were brought to the knowledge of the stakeholders at national and regional levels. Given that, basically, all these agreements channelled the regional and wider cooperation to ensure economic stability, promote liberal democracy and finalize the European and Euro-Atlantic integration at common stages, it is peculiar that an agreement like the Open Balkan initiative was launched and adopted in a non-democratic manner, without taking into account the interests of all the parties involved.

A nationwide discussion would be necessary to identify the solutions that such an agreement could provide to current issues concerning the economy, the fight against corruption, the labour market and the quality of employment. The Albanian foreign policy and its strategic partnerships should also become a topic of public debate. Meanwhile, it is advisable for Albania to consult its strategic partners on the significant changes entailed by its accession to the EU, so that it can benefit from their input.

Another controversial aspect is the lack of transparency in the adoption of the Open Balkan initiative by the Albanian government. If the government had secured political approval at national level, this would have guaranteed a stable support for this initiative in the long-term. As mentioned above, the Open Balkan initiative was labelled by its initiators as an economic initiative for free trade between these countries. Yet, given the huge and indisputable disparities between Serbia, North Macedonia and Albania in terms of economic development and domestic production, it can be firmly stated that these economic exchanges will not be made in conditions of equality, as the levels of transportation and economic strength of the three countries are not well matched (Kalemaj, 2023).

Therefore, the fact that this initiative has not yet been accepted at national level in Albania is the direct outcome of a growing consciousness about two key aspects: firstly, the low level of economic development in Albania and, secondly, the scarcity of exports (their contribution to the state budget and to the Albanian monetary policy is negligible). The Open Balkan initiative was labelled, by the leaders of the countries that joined it, a win-win innovation which brings new opportunities to the consumers, to the labour force and to businesses from Serbia, Albania and North Macedonia, respectively. Opportunities in terms of exports, business growth and expansion of the labour markets in each of these countries. However, though we do not have precise economic indicators of future trends, it is likely that, within this framework, the benefits from exports will increase the state budget of one of the three countries that are parties to the agreement (in this case, Serbia), whereas the imports will create trade deficits in the other two (Albania and North Macedonia).

Geopolitics of the Open Balkan initiative: towards an economic expansion

As Pristina could be considered the convergence point of the mini-Schengen conceived by the Rama-Vučić-Zaev trio, Kosovo should become a member of this agreement in order to benefit from the reduction of waiting time at the border. Secondly, if the Government of Pristina does not accept the removal of customs duties with Serbia, neither should other Western Balkan states make such concession, as political balances can be hindered and this might lead to blockages in alliances.

An agreement implies mutual cooperation and not the circumvention of sensitive issues to obtain unilateral benefits, as this might entail a future conflict in the region. If we analyse the economic sectors that can be included in the Open Balkan initiative, specifically the agricultural sector from Albania, we can observe that they are unlikely to generate profit, as long as the costs of customs, transport and trade are still high and not at all competitive in comparison to the Serbian and North Macedonian agricultural production.

The Albanian local producers fail to compete with the goods imported on the national market, thus facing difficulties in accessing the Serbian and North Macedonian markets. Removing tariff barriers would be detrimental to local producers. There is no short-term or medium-term feasibility study supporting the regulatory framework, and no provisions concerning the impact of the initiative in agriculture, energy and transport. Special attention should be paid to the long-term effects of the trade imbalances on the national income and the labour market. This initiative would offer a competitive edge to businesses in highly industrialised countries (that benefit from exports) over countries with a less competitive industrial sector, like Albania.

Although it is called the Open Balkan initiative, not all the countries in the region have shown willingness to join it. Montenegro, Bosnia and Herzegovina, and Kosovo have refused to be parties to this agreement. As the Western Balkans comprise six countries, an initiative launched by one country and accepted by two others cannot be considered representative for the entire region. One could consider this situation as a paradox between the principle of inclusion, that should underpin the agreement, and the reality of conflicting national interests. Although in its inception, this initiative aimed at reuniting all the Western Balkan states, it is not clear whether this derived from a rather utopian vision, or it was based on geopolitical reasons.

In the absence of a homogeneous political approach of the Balkans, the complete and correct understanding of this initiative is yet to be addressed, given that one of its initiators which has a strong background in regional conflicts (namely, Serbia) is actively seeking to build a regional relationship based on economic exchange. In these circumstances, the reasons behind the launch of the Open Balkan initiative, in tandem with the initiative for "a Serb World" in a broad sense, should be further explored (Dragas, 2023).

Serbia, like any other country, cannot enter into an agreement which implies the implementation of two sets of foreign policies. In doing this, the Serbs are setting out an alternative that aims at restoring Serbia's lost position in the Balkans. Serbia's foreign and domestic policy, outside of the Open Balkan initiative, has several aspects that strongly question the good and peaceful goal of having an inter-regional cooperation based on reciprocity and good neighbourliness policies. Among these aspects, we can mention the Kosovo issue, the status of the Serbian minority in the North and in the municipalities with a Serbian majority. Other aspects we should consider are the separatist policy of the Republika Srpska in Bosnia and Herzegovina and the promotion of pro-Serbian nationalism in Montenegro (Kraske, 2023).

If nowadays a sceptical position of the neighbouring states can be observed in relation to this initiative, it can be traced back to their past interactions when these countries have suffered from the co-existence with Serbs under former Yugoslavia. The entire political structure of the two processes that aim at the integration of the Western

Balkans into the EU, the policy of the Berlin Process and the policy of the troika Vučić-Rama-Zaev, expressed via the Open Balkan initiative, should be closely connected. It is a contradiction in terms, if a country whose Constitution includes clear provisions concerning the Pan-Serbian doctrine, in the Balkans, publicly endorses the good neighbourliness principle in its foreign policy. In the wake of the bloody wars that shuddered the region for so many decades due to the Serbian assertiveness and willingness to prevail, the Serbian government persists in promoting, in full cohesion with all the local stakeholders, a set of policies aimed at expanding its presence and influence in the Balkans (Domenech, 2023).

A concrete proof of this line of action is the marginalization by the Serbs of the national minorities in the Serbian domestic politics and important decision-making processes, i.e. their attitude towards the Albanian community in the Presheva Valley. In contrast, the Serbian minorities in the Balkans are encouraged by Belgrade to political disobedience and to the advocacy of a separatist policy. As one can notice, there is a huge gap between the proclaimed good neighbourliness policy and the real goals that Serbia pursues in the Balkan states. In countries like Kosovo and Bosnia-Herzegovina, where the war crimes had a large impact on the population, the distrust in the Open Balkan initiative would undoubtedly lead to imbalances in the political and economic spheres (Kamberi, 2021).

By offering support to the Serbian minorities in many Balkan states, the initiative seeks to build a network of economic and commercial infrastructures with a view to empower the Serbian communities and turn them into decisive political factors in the near future. The events that we are witnessing in Kosovo and Bosnia-Herzegovina and Montenegro nowadays, are bound to take place in other countries of the Open Balkan initiative, countries that have effectively adopted it (Bushati, 2023).

Therefore, it is natural that the Open Balkan initiative brought divisions, instead of unity, among the Balkan states: half of the states in the region do not support it, being sceptical about Serbia and suspicious of this apparently friendly "gambit", because Serbia still has irredentist tendencies, expressed in its doctrine of a Greater Serbia. In order to assess one country's foreign policy, we should primarily pay attention to the way it acts towards its neighbours and towards the wider region, and secondly to its political rhetoric and official statements. The attitude of Serbia towards the Balkans, in general, and towards its neighbours, in particular, is not consistent with its public declarations (Simic, J. 2019).

The Berlin Process and the integration of the Western Balkans as a comprehensive policy

The Berlin Process is an initiative of the German government supported by the EU to enable regional cooperation between six Western Balkan countries: Albania, Bosnia and Herzegovina, Kosovo, North Macedonia, Montenegro, and Serbia. The principle on which the EU seeks to connect these countries is a simple one, insofar as it has placed the "connectivity agenda" at the centre of this cooperation. Since 2014, several summits have been successively held in Berlin (2014), Vienna (2015), Paris (2016), Trieste (2017), London (2018), Poznań (2019) and virtual summits were organised by Bulgaria and North Macedonia in 2020 and by Germany in 2021. The 2022 summit was held in Berlin again, and over the years different priorities have been given to the different pillars of cooperation between these countries. (Jovanovic, B. & Holzner, M., 2023)

The main difference between the intergovernmental cooperation initiative and the Open Balkan initiative is, precisely, the establishment of a clear and detailed agenda on various directions of cooperation, an agenda that gives priority to the economic cooperation, without neglecting other essential aspects (Tota, 2020). The connectivity agenda is, undoubtedly, the most important one and all the stakeholders have allocated funds and other resources to implement it. This process is a follow-up to the policy that the Council of the European Union presented in 2000, policy according to which the Western Balkan states are included in the Stabilisation and Association Process (SAP) and offered the prospect of obtaining EU membership.

By the year 2000, the inter-ethnic conflicts had ceased, but the economic development of the Western Balkan states was far from the average income of the EU member states. The SAP initiative of the European Union had an implicit political background, with the promise of a close or distant EU membership, that requires a genuine reconciliation of all the stakeholders from the Balkans. In the same spirit, the EU policy is also clear about the growing influence of other external factors, such as the Russian Federation or China or even the countries of the Persian Gulf, actors that might play a major role in the economy and, someday, in the politics of the Western Balkan states (Domenech, 2023). The Berlin Process basically aimed at strengthening the cooperation between these states at regional level, by promoting change especially on three pillars: youth, the legislative power, and the power of the civil society.

During the various meetings, that spanned from Paris to Poland and followed closely the agenda of the Berlin Process, one can notice an interest in bringing some changes to the aforementioned pillars of cooperation. Without modifying the main structure, new topics of interaction between Western Balkan states were added, concerning i.e., the rule of law and the inter-ethnic conflicts. If all these aspects are analysed as a whole, we can infer that what has started as an economic interaction at macro level will lead to a future interaction at political level that might, actually, ensure a decrease in the inter-ethnic conflicts. As far as the youth cooperation is concerned, the creation and functioning of the Regional Youth Cooperation Office (RYCO) is now considered, by all the actors and stakeholders involved, to be a successful initiative. RYCO is self-managed and financed at the regional level and aims to promote youth cooperation in the Western Balkans, since it is recommended to address the issue of the longed-for reconciliation among the new generations and to cut at the roots the inter-ethnic distrust (GIZ, 2018). Through this initiative (which is part of the strategy of the Berlin Process exclusively), mobility and exchange programmes are implemented with a view to involve the youth from different WB countries in the political decision-making process. Its implementation brought together the leadership of various NGOs (Stojanovski, 2014). It is a success story which shows that the political will of the Balkan states can materialize in collaborations which build credibility for the agenda of cooperation in other areas as well.

Given the approach that the EU itself has envisaged for these areas of cooperation, it is not a coincidence that we are dealing with a three-pillar structure: youth, policy-making process, and civil society, the focus being on educating the young people (less influenced by the painful past of the 1990s Balkan wars), as they represent the future of these countries. Focusing on the young people and their endowments for a political dialogue of the future, RYCO (BRPG, 2021) could be a strong experiment on the acceleration of the reconciliation process in the war-torn and resentful Western Balkans. This organization, directed and supported at the regional level, seeks to work with young people by developing their reasoning, offering them employment opportunities, instilling in them the cultural values of Europe, so that they can acquire a solid base for integrity, reconciliation and good friendship (Bashkurti, 2022). Thanks to the connectivity agenda, the EU has set aside a fund amounting to 1 billion euros to enable investment projects and technical assistance.

Therefore, several key structures have emerged, such as the South-East Europe Transport Observatory (SEETO), the Central European Free Trade Agreement (CEFTA), and the Energy Community Secretariat (ECS), in order to include these processes of economic interaction at regional level. Leaving aside other equally important factors, the novelty and uniqueness of the Berlin Process lies in the fact that it tackles the interaction of the Balkan states in all its dimensions, ranging from the economic to the political aspects of present and future policies.

The inclusion and progression of all these objectives, from economy to conflict-reduction, make it a comprehensive approach that encompasses and analyses all the aspects of interaction, by simply dividing them into objectives, without setting priorities as the "Open Balkan" process does (Simic, 2019). The implementation agenda is ongoing and dynamic, even though some steps are incomplete and need political intervention and influence at the state level. The political dimension is an indispensable factor for the attainment of some objectives of this process, such as the resolution of bilateral disputes which is a work in progress.

The international arena between the Berlin Process and the Open Balkan initiative

We can analyse these issues from a double perspective, taking into account, on the one hand, the official position of Albania as founding member of the Open Balkan initiative and, on the other hand, the position of other stakeholders at the regional and international levels. If we focus only on Albania, we notice that there are two conflicting positions on the political scene: the official position of Tirana that we have already elaborated on, when we mentioned the troika that initiated and endorsed this initiative, and a more realistic, down-to-earth position, expressed by the political opposition and shared, in general, by the population. From this latter perspective, the initiative was met with distrust by the Albanian analysts and politicians. There are three main arguments they dwell on, when they voice their doubts and objections (Kalemaj, 2023).

Firstly, the economic and diplomatic cooperation between Albania and Serbia would have a negative impact on the still unresolved issues that cause disagreements between Serbia and Kosovo; secondly, the removal of customs duties would create a competitive edge of the Serbian market over that of the other countries, somehow enabling its economic expansion in the entire region, and, thirdly, the unconfirmed alliance of Serbia with the Russian Federation constitutes a risk, which might lead to the unequivocal influence of the latter in the Western Balkans.

Evidence of Russia's interest, however little formalized, in supporting the Open Balkan initiative, can be found in the statement of the Russian Foreign Minister, Sergey

Lavrov, at the Ohrid Summit (B92, 2019). In his statement, Lavrov overtly criticised NATO and the European Union for not allowing his aircraft to use the airspace of some Balkan countries, on his way to the summit. It is noteworthy that it was the first time a Russian official mentioned the Open Balkan initiative. During the past decades, under the leadership of Bill Clinton and George W. Bush, the US diplomacy towards the Western Balkans favoured, initially, a pro-Bosnia-Herzegovina and Kosovo approach, for reasons grounded in the aftermath of the 1990s Balkan wars, and then switched to a more balanced approach of the Balkans, according to the policies of Presidents Barack Obama and Joe Biden.

However, the agreement signed in Washington required the government of Kosovo to accept joining the "mini-Schengen", which was later on renamed the Open Balkan initiative. To date, the government of Kosovo has not yet joined this initiative, for reasons that depend either on the internal changes of its politics or on the lack of enthusiasm towards it. One may allude that the US would be interested in the withdrawal from the Open Balkan of the member states, so that the Western Balkans gear towards the Euro-Atlantic integration rather than towards the Russian Federation. Nevertheless, the US has supported the initiative and the idea of the free movement of goods, services, capital and persons on the markets of these countries. According to Kurt Bassuener, the United States is in favour of the initiative, insofar as: "a regional economic integration that precedes membership in the European Union can have multiple advantages for the citizens of the initiative" (NED, 2019).

He also argues that the American foreign policy has always promoted the principles of a free market economy, that implies the removal of economic barriers and is based on the theory of economic cooperation, which, in the case of the Western Balkans, may indirectly reduce the political divergences and lead to a conflict-free EU accession. However, the USA considers that the willingness of the six Western Balkan states to join this initiative and to embrace the idea of the common markets is a prerequisite for its success. The US foreign policy is based on the same principles and directions set by the Berlin Process (BRSP, 2021). It remains to be seen how the narrow interests of Kosovo and Serbia can be accommodated, these two being the most important stakeholders in the region in terms of current conflicts.

If the Open Balkan initiative does not extend, so that all the countries in the region become members with full rights, in spite of their differences, it will probably die out like any other pioneering initiative undertaken in the Western Balkans. Many critics and international affairs analysts agree that a merely economic initiative would not suffice to reduce the divisions in the Balkans. And even if the states in the region agree to join the Open Balkan initiative, what are the chances that they put aside all their conflicts and implement all the agreements, beginning with the recognition of Kosovo by Serbia and Bosnia-Herzegovina, at least (Kamaberi, 2021)?

Conclusions

The methodology used in this research paper consists of case studies and discourse analysis, which determine us to conclude that the peace processes and the unresolved bilateral disputes in the Western Balkans have encountered many difficulties. The characteristics of the historical background and the geopolitics of this region point to the fact that the Western Balkan countries need to be guided by an organisation with political and economic power, such as the European Union. The short and long-term history of the Balkans, torn by wars and inter-ethnic conflicts, reveals that international support has seldom been unconditional, due to biased political interests.

At the end of the last century, the history of the Balkan states was duly recognized for the first time. Thanks to the intervention of NATO, the joint support of the USA and the European Union, the rights of the citizens were restored in the war-ridden countries of the region. There are two aspects we should bear in mind. Firstly, the unjust wars that Serbia waged against the other Western Balkan states opened wounds, which are not healed to this day. Secondly, the Euro-Atlantic factor was decisive in the 1990s Balkan wars.

That is why any process that requires the cooperation of these former belligerent countries, in a bilateral or regional format, would need the support of the international actors that stood by them through the most difficult times. In contrast to the Open Balkan initiative, the Berlin Process is guided by the values of humanity and democracy in all its dimensions (economic, geopolitical, cultural and ideological). The Berlin Process is very specific when dealing with sensitive issues and conflicts: it includes them in a more forward-looking ideological vision, preparing the ground for the natural integration of the Western Balkans, an integration that will be accepted by all the stakeholders in the long run.

Thus, providing opportunities for economic development, as well as for the education and full employment of the young people, in the Balkans and beyond, and fostering strategic development targets, the Berlin Process constitutes a necessary stage prior to the accession of the Western Balkan states to the EU. In comparison with this process, the Open Balkan initiative not only lacks transparency, ideological orientation and clear objectives, but it is also ambiguous concerning the predominant role of Serbia. Serbia might claim such a status, either on the basis of its potential for economic expansion or on the basis of its strategic and geopolitical plans backed by Russia.

However, new issues should be included on the political agenda of the Berlin Process, besides the technicalities and concrete measures (triggered by the political and economic priorities of the Berlin Process) which might influence overall the initiative. The main work in terms of political stability should be done at national level. Thus, the actions taken will be considered legitimate and representative of national interests. These procedures require a twofold analysis of the internal policy and of the diplomacy of the Western Balkan states. In domestic political matters, as shown by the data collected, there is a common index for the Balkans which provides basic statistical data and indicates that the corruption of the leadership is responsible for the lack of support towards the executive power. Due to the way they are perceived, the leaders of the Western Balkans cannot secure the approval of their citizens and their support for different policies. Citizens of North Macedonia, of Albania or of Serbia are equally sceptical about the efficiency of an intergovernmental initiative, such as the "Open Balkan", because they nourish doubts about the capacity of their leadership to defend their national interests.

Finally, it is for the Balkan stakeholders to decide whether they want to endorse the European values and cooperation, or to remain captive of resentments and chauvinistic tendencies. Following a sincere reflection, one should acknowledge that the Open Balkan initiative is bound to fail, if it is promoted solely on an economic base, while avoiding the resolution of the sensitive issues that divide the countries in the region.

Indeed, in the international arena, the Berlin Process should pay more attention to the inter-ethnic reconciliation, as a *sine qua non* for the stability and the development of the policies of the Western Balkans. If some countries in the region do not attach much importance to the reconciliation process in the near future, others are still haunted by indelible memories of war crimes and human suffering. Such is the case of Kosovo, whose independence has not been recognized by Serbia. The process of reconciliation in the Western Balkans, though included on the Berlin Process agenda, is not given sufficient importance. In the author's opinion, it should constitute one of the priorities of the agenda to facilitate the full implementation of this process by all the stakeholders. To sum up, the philosophy behind the endeavours of RYCO[2] to reconciliate the youth of rival communities should not diminish the importance of reconciling the elders, otherwise the prospects of genuine cooperation in the Western Balkans remain bleak.

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[2] RYCO (Regional Youth Cooperation Office) is an independently functioning institutional mechanism, founded by the Western Balkans, namely by: Albania, Bosnia and Herzegovina, Kosovo, Montenegro, North Macedonia and Serbia, aiming to promote the spirit of reconciliation and cooperation between the youth in the region through youth exchange programs.

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Single Market at 30, coordinated by Eugen Dijmărescu, Bucharest, 2023, Institute for World Economy, ISBN: 978-973-159-290-9

Book Review by **Iulian Oneașcă**[1]

Abstract: *The volume pays tribute to the 30-year functioning of the European single market. The authors critically analyse the single market considering the megatrends and changes within the global economy. Accordingly, the advancements in circular economy, digitalization, and artificial intelligence are investigated. Subsequently, the realignment of competitive relations is carefully considered, against the background of the spectacular growth of other economies. The entire research is the result of a complex endeavour, based on a wide variety of references and a series of in-depth analyses.*

Keywords: *single market, European integration, institutional development, European unification.*

“Single Market at 30” is a study coordinated by Eugen Dijmărescu, senior associate researcher at the Institute for World Economy - Bucharest, study published by the Romanian Academy, Institute for World Economy, in February 2023. The research praises the 30-year functioning of the single market.

The single market covers 450 million people and 5 million sq. km, connecting the EU member states, the countries that are parties to the Agreement on the European Economic Area (Iceland, Liechtenstein and Norway), and Switzerland. After 30 years, the single market is a global achievement, as the volume of its GDP amounts to 18 trillion US dollars and, thus, Europe is listed in top three of the world economic powers. The European single market, associated with the EU’s four fundamental freedoms of movement (of goods, capital, services and people), represents the “pillar of the European Union’s strength, its origin and the guarantor of its viability”, according to the authors.

The book’s contributors critically analyse the functioning of the single market in the context of megatrends and changes in the global economy. The advancements in green economy, circular economy, digitalisation, and artificial intelligence are duly and thoroughly explored. Subsequently, the realignment of competitive relations is carefully considered, against the background of the spectacular growth of other economies.

The study includes 14 chapters covering 469 pages. It is written both in Romanian and English, with an extensive summary in Romanian. The authors - distinguished members of the academic community - have capitalized upon their research experience, examining a wide range of issues. The style of writing leaves room for value judgments, the study displaying fluidity, which in turn easily captures the readers’ attention.

The research reserves a special place for the comparison of the economic performances of Bulgaria and Romania—countries that joined the European Union

[1] **Iulian Oneașcă,** PhD, is an expert within the European Studies Unit, European Institute of Romania.
E-mail: iulian.oneasca@ier.gov.ro

simultaneously. Thus, the plurality of ideas and ways of interpreting phenomena is promoted and the free expression of opinions is ensured.

The narrative covers a diversity of issues, following a traditional economic approach. The context is carefully emphasised and priority is given to facts, processes and exchanges, that are financially-related. Besides the economic approach, there is also an excellent analysis and diagnosis of political imperfections. The authors refrained from searching for market solutions to problems derived from the unstable political environment. However, the single market is, first and foremost, a market of people: its accomplishments improved peoples' lives and brought them closer, in line with the EU objectives. The backsliding of democracy - present in different degrees in some EU member states - represents a long-term process that can lead to mob rule[2], which is mirrored by the current populism.

The book is structured in three parts. The first one - *Three decades of the single market* - presents the chronicle and status of the single market, and addresses the performances of Bulgaria and Romania, with a particular focus on the Romanian economy. It continues with the foundation of the European integration project and the restoration of trust, and it ends with the completion of the European unification, as an economic necessity and a political aim.

This section introduces the European single market as basis for the proper functioning of the EU. According to the authors, the "EU single market arose as a higher stage of evolution of the European integration". The cooperation between member states increased due to the single market, as shown by the surge in intra-EU exchanges. Thus, we can infer that the accession of Romania and Bulgaria to the European Union was beneficial both to these countries and to the Union. The levels of economic growth, development, and convergence are a proof in this sense. Both countries present imbalances in their respective economies that need to be redressed; the process is facilitated by foreign direct investment incentive policies that aim at bringing the industrial sector to an appropriate level of technological development.

Being one of the main actors in the global economy, the EU is undergoing extensive transformations. It has ambitious objectives that aim at reaching climate neutrality and the leading position in the digital arena. At the same time, the EU has shown remarkable adaptability. Its economic and political systems have overcome the successive crises of the last two decades. Nonetheless, the single market has to cope with policy gaps and vulnerabilities, despite the ongoing progress and the benefits it triggers. All the major disturbances and various crises - the global financial crisis, the Eurozone debt crisis, the rise of energy prices, and the ongoing war in Ukraine - exposed its inconsistencies. One of the worries expressed by the authors is that the fragmentation of the single market "is likely to expand as a phenomenon", while the confidence in its role might be diminishing. The member states do not equally respect the compulsory rules. Meanwhile, Euroscepticism and populism are on the rise. One can notice a decreasing trend of the enthusiasm regarding integration, fact which dilutes the interest in the single market. The stability and functionality of the monetary and fiscal framework of the euro area are conditions for the prosperity of the European citizens. They act as anchors for future reforms and institutional developments at the level of the EU and that of the

[2] Polybius, The Histories, published in *Vol. III of the Loeb Classical Library edition*, 1923, http://penelope.uchicago.edu/Thayer/E/Roman/Texts/Polybius/6*.html (Accessed: May 5, 2023).

member states. The creation of new EU institutions can contribute to the completion of the European unification.

The second part of the study examines the *Global megatrends and the functioning of the Single Market*. The Europeanisation of Eastern Europe, under the current centrifugal tendencies that point to the benefits of nationalism, is an important aspect which requires particular attention. Possible power reconfiguration trends within the EU are considered. The section addresses the functioning capacity of the EU single market under the stress of the green economy objective. Different megatrends - the classic macroeconomic and the microeconomic (digital) one - are analysed in relation to the European independence and to the soundness of the EU payment system. The economic sovereignty, in the globalisation age, confronts the Euro area's cohesion with non-euro economies. The section ends with an analysis of the new imbalance in the global configuration of power that Europe is faced with.

The authors' message is that we can build a stronger Europe, with fewer rigors of uniformity in matters of national state governance. From an economic perspective, the relations of the states belonging to a single market, capable of exerting global influence, should be strengthened. With respect to security, it is necessary to take steps towards creating more coherence on matters related to defensive strategies and armament compliance. The social policies tend to remain predominantly a source of disagreement between national governments and citizens.

The third part of the study considers the *Innovation – key to the long-term competitiveness of European companies*. The analyses deal with four themes. They start with digitalization, as an asset that ensures the cohesion of the single market, they continue with the presentation of key European corporations, specialised in research and development, and end with the European blockchain for securing services' infrastructure.

Digital technologies and processes have left their mark on society as a whole. The digitization of goods and services has significant implications for the lives of the European citizens. The business models and environments, the trade, the mature industries and the public administration sector are undergoing dramatic transformations. The lack of a harmonized legislative framework for e-commerce prevents the EU from taking full advantage of the benefits entailed by the size of the internal market. European companies grow more slowly than their main competitors in the world economy (namely, the United States of America and China), have lower returns, and invest less in research and development. As a result, they are less competitive. The IT sector, which conditions the advance of digitalization, is lagging behind, especially as far as the value and development of information technology and of disruptive innovations are concerned. Germany is home to five of the top 10 highest-ranking European companies, fact which indicates an ominous polarization in the future. The functioning of the EU is compatible with the blockchain technology: due to its supranational nature, it operates beyond the borders or jurisdictions of the member states, but it also acts proportionately, between nodes, at the level of the member states. Accordingly, the European Blockchain Services Infrastructure - a unique project - intends to add value to the blockchain technology, through its use in the public administration sector, and thus paves the way towards deeper European integration.

The entire work is a very complex endeavour. The wealth of information and abundance of value judgments are overwhelming. Researchers, specialists, and the wider target audience are kindly invited to read and assimilate the information provided by the authors of this study. The reader's inherent tendency to redo reasoning and critically analyse the interpretations and conclusions will be challenged by the substantial information and arguments. The effort is worthwhile, since the reading of this book will be a rewarding experience and will enable the reader to connect to the marketplace of ideas. Thus, new arguments might be devised and the value judgments might be strengthened or refined.

In light of my preferences, I would say that a shortcoming of this study consists in the self-imposed limits of single market analysis. Market mechanisms deserve more attention, so as to see how their benefits could be extended to society as a whole. For this reason, we should take into account the specifics of the social market economy, in line with the European treaties, as well as the influences of the market on transaction costs, or the benefits of the Schengen Area. In fact, however, each of the 31 jurisdictions of the single market and all of them together constitute a challenge difficult to tackle even without other considerations.

I highly recommend reading the volume[3] as it is both informative and inspiring.

[3] The volume is available at: https://edijmarescu.com/pia-a-unic-a-30-ani.

Rien ne se crée sans les hommes. Rien ne dure sans les institutions.

Jean Monnet

European Institute of Romania

7-9 Regina Elisabeta Blvd., Bucharest 030016, Romania
ier@ier.gov.ro, ier.gov.ro

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