

European economic and budgetary governance and climate change: Applying the precautionary principle to climate risks

Summary

The proposed reform of the [European economic governance](#) focuses only marginally and with attentional bias on climate risks, as its main focus remains on risks related to the public debt level. The underlying traditional – not to say outdated - macroeconomic approaches ignore the environmental degradation caused by human activities and, conversely, the risks this degradation pose to the economy and wider society.

The climatic, physical and transitional risks incurred in the short, medium and long term are undeniable but unprecedented and therefore largely unpredictable with statistical methods based on past experience. This element of uncertainty requires the application of the precautionary and preventive principles in line with [Article 191 TFEU](#).

Fiscal reform and investment policies both determine the trajectory of the debt, its "financial sustainability", the resilience of the social, economic and financial system and the environmental sustainability of human activities. A holistic and preventive approach to economic governance has therefore become necessary. The new economic governance should therefore include - along with vulnerabilities related to public debt - a monitoring of the vulnerabilities incurred by the economy as a whole - households, firms and financial institutions - as a result of climate change and transition policies.

Furthermore, the complementarity between economic and fiscal policies on the one hand and prudential regulation of the financial system on the other should be valued. The green transition may pose significant risks to banks and other financial institutions through the devaluation of brown assets. These risks can be reduced both by the quality and consistency of economic and fiscal policies and by banking and financial regulation. This requires early and orderly transition policies on the one hand, and regulation to accelerate the shift of bank financing to carbon neutral activities on the other. A failure of one policy would slow down the implementation of the other and significantly increase the risks of the transition.



Index:

1. The three pillars of the proposed reform: national economic programme, debt sustainability, surveillance of macroeconomic risks and imbalances	2
2. Debt "sustainability": a very political compass	3
3. Climate risks are only in a marginal way considered in the Commission's proposal	4
4. The Commission's proposal does not consider the impact of fiscal policies and reforms on climate risks	5
5. Economic governance must better apprehend and above all contribute to prevent climate risks	5
6. Five basic principles to be put at the heart of European economic governance	7
7. Seven operational proposals for a new European economic governance integrating climate risks	8

1. The three pillars of the proposed reform: national economic programme, debt sustainability, surveillance of macroeconomic risks and imbalances

The new governance would be based on three pillars:

The reform of economic governance proposed by the Commission is intended to be medium-term oriented and risk-based (P. 9). In line with the current logic of the Stability and Growth Pact (SGP)¹, the focus is on the risks that would result from an excessively high ratio of public debt to GDP or from a divergence of these ratios between countries.

- The first pillar is a **national, medium-term budget programme** validated at European level, which should put public debt on a "sustainable" path after 4 years. The adjustment period can be extended from 4 to 7 years at the request of the Member State, provided that it also commits to a programme of reforms and investments that "enhance growth" and target the various European environmental and social objectives, in particular the objectives of the European Climate Law and the European pillar of social rights. The programme must be validated at European level. It may be adapted during the course of implementation if it proves "unfeasible", which should also cover the case of a change of political majority, or in the event of unexpected emergence of macroeconomic imbalances or risks. During the adjustment period, the growth of public expenditure (net of changes in revenue due to a structural change in taxation) will be the variable ensuring consistency with the medium-term objective for the debt and structural deficit. This indicator will be monitored as a priority.

¹ Read more about the Stability and Growth Pact on [The Other Economy platform](#).



GREENTERVENTION

- **The medium-term "sustainability" of public debt** is assessed within the existing analytical framework ("Debt Sustainability Analysis" or DSA). This framework combines a deterministic approach based on scenarios with simulations of random "shocks". These shocks relate to the immediate technical determinants of the evolution of the debt (structural deficit, short and long term interest rates and inflation rates "expected by the market" as well as the projected GDP growth rate in the medium term). In addition, there is an auxiliary analysis of aggravating or mitigating factors, such as the maturity of the debt and the share of debt in third currency or held by non-residents. Factors affecting the likelihood of contingent liabilities, implicit for possible systemic rescues of failing financial institutions or explicit (guarantees) are also subject to an auxiliary analysis.
- **The so-called excessive macroeconomic imbalance procedure (MIP)** introduced by the 2011/2013 governance reform was aimed at identifying risks that could affect the stability of the European economy. It is mainly based on financial indicators either external such as the balance of payments or competitiveness indicators or internal such as credits to the private sector or the liabilities of financial institutions. Employment indicators are also included in the scoreboard but are at this stage only considered as contextual. The Commission proposes that this procedure should become instrumental in identifying possible needs for adjustment of fiscal, investment and reform plans under implementation. Systemic challenges related to transition would be addressed in the so-called "European Semester", an open and non-binding coordination mode. Reference to these challenges would only be made if there is a clear link to macroeconomic imbalances.

2. Debt "sustainability": a very political compass

Debt sustainability and the classification as "high", "medium" or "low" debt risk would be the main compass of the new economic governance. **Operationalising the concept of debt sustainability** is however neither an easy task nor a politically neutral one. **It confronts practitioners with "conceptual vagueness and complexity at several levels"**². Beyond the definition of "sustainability" itself, the main issue is the risks to be taken into account.

According to the Commission's definition, the aim is to avoid a debt trajectory that makes a situation of "fiscal stress" likely. The latter is defined as a partial or total default, implicit devaluation through inflation, a significant demand for financing from an international institution (e.g. IMF) or from an European one (European Stability Mechanism), or a loss of confidence in financial markets³. The Commission translates this definition into a principle

² X. Debrun (Banque Nationale de Belgique), J. D. Ostry (IMF), T. Willems (IMF) and C. Wyplosz (CEPR), [Public Debt Sustainability, CEPR, Working Paper, DP 14010](#): "Faced with conceptual fuzziness and multi-layered complexities, practitioners have developed simple sustainability frameworks aimed at informing their judgment...One safe prediction looking forward is that preparing credible debt sustainability analyses will remain highly challenging."

³ [EC, 2020, Debt sustainability monitor 2019](#), "Fiscal stress designates situations ranging from a credit event, a request of large official financing, to an implicit domestic government default (when high inflation) and a loss of market confidence."



GREENTERVENTION

also adopted by the IMF and the ECB: debt can only be considered unsustainable in cases where there is no politically and economically feasible path that can at least stabilise it in the medium term⁴. The operationalisation of this principle requires defining the "politically and economically feasible" fiscal balance, the maximum level at which the debt should be stabilised and the actual time window defining the "medium term ». It also relies on macroeconomic assumptions, including a medium-term growth forecast. However, such a forecast is particularly uncertain in view of the future transformations of the productive system and consumption⁵.

The analysis of debt sustainability can therefore only be considered as an aid to political decision-making in the face of uncertainty and not as a technique to precisely define a limit to be imposed on the growth of net public expenditure. It should be open to expert criticism and the underlying assumptions should be subject to political legitimisation and revised when necessary.

3. Climate risks are only in a marginal way considered in the Commission's proposal

The Commission's current debt sustainability analyses only consider the consequences of climate change in a marginal way and only in an experimental way at this stage. The approach chosen by the Commission is to assess likely impacts of climate change on public expenditure and revenues, and then on the central debt scenario.

The method breaks down the impact of climate change on net expenditure into four categories. The first two categories include incurred expenditure, the last two discretionary expenditure⁶:

- direct consequences of physical changes - extreme events and progressive deterioration of the environment - replacement of damaged infrastructure, aid to affected households, relocation...
- indirect consequences: reduced revenues due to weakened economic activities, increased health expenditure, explicit conditional budgetary commitments (guarantees) or implicit (support to failing financial institutions, income support to vulnerable households affected by rising energy prices...);
- the additional budgetary needs net of 'green' tax revenues for mitigation policies;
- the additional fiscal needs for adaptation policies.

At this stage, only the potential impact of climate change on part of the expenditure in the first category resulting from a greater frequency and intensity of extreme weather events has

⁴ [EC, 2022, Fiscal sustainability report](#) 2021, Vol. 1, "According to this definition, debt can be considered unsustainable only in cases when there is no politically and economically feasible fiscal path that can at least stabilize debt over the medium term."

⁵ On the political nature of debt sustainability analysis, see also: [Jasper Van Dijk, Florian Schuster, Philippa Sigl-Glückner, Vinzenz Ziesemer, Building on the proposal by the EU-Commission for reforming the Stability and Growth Pact](#)

⁶ European Commission, 2020, Debt sustainability monitor 2019, Box 5.3.



GREENTERVENTION

been assessed for the next ten years. The Commission considers that they are likely to be underestimated⁷.

In any case, they are uncertain both from the perspective of the uncertainties surrounding the evolution of physical risks and their impact on the socio-economic system. The impact of the other risk categories has not been analysed at all.

4. The Commission's proposal does not consider the impact of fiscal policies and reforms on climate risks

The proposed method focuses exclusively on the consequences of climate change and climate policies on public expenditure and debt levels as a one way street: it does not capture the reverse impact from policies to the climate. Fiscal policies and reforms, however, have an impact on the nature, intensity, and cost of climate risks for economic and financial stakeholders. The materialisation of these risks will in turn – one could argue already have - have an impact on the budget and more generally on economic and financial stability⁸.

Neglecting the feedback loops, i.e. the impact from policies to climate risks, biases the diagnosis and prescriptions, whereas the *raison d'être* of economic and fiscal policies is to ensure the stability.

This leads to an underestimation of the needs and urgency of public intervention while the costs and risks of additional debt financing the transition are overestimated. In other words, the method does not consider the mitigation of systemic risks and therefore the expected reduction in expenditure incurred through preventive discretionary spending.

5. Economic governance must better apprehend and above all contribute to prevent climate risks

The proposed governance does not include a systematic analysis of the short, medium and long-term risks to the stability of the European economy from climate change and climate policies. It cannot therefore include an appropriate strategy to address and prevent these risks.

Climate risks are inherently uncertain: the precautionary principle should be applied.

The classification of climate risks developed by the Network of Central Banks and Financial Supervisors for the Greening of the Financial System (NGFS) can usefully serve as a starting point for reflection⁹. This classification distinguishes:

- Physical risks that would materialise in the long term, by 2045-2050, if the global temperature were to rise to 3°C above the pre-industrial average. Such a rise would have unsustainable consequences for several ecosystems, in some cases with

⁷ European Commission, 2022, Fiscal Sustainability report 2021, Vol. 1, P. 138

⁸ Paradoxically, expenditures and revenues resulting directly from discretionary fiscal policies are described as endogenous, while those incurred are described as exogenous. European Commission, 2020, Debt sustainability monitor 2019, Box 5.3, Table 1

⁹ See [NGFS Climate scenarios for Central banks and Supervisors \(2022\)](#)



GREENTERVENTION

catastrophic consequences, some of them irreversible¹⁰. By signing up to the 2050 carbon neutrality target, the EU has committed itself to doing its part to avoid this scenario.

- The resurgence and intensification of extreme weather events and the chronic deterioration of the environment and ecosystems. These deteriorations are due to the continued inevitable rise in temperature. At best, this rise would be only slightly above plus 1.5°C.
- The risks of transition due to policies that come too late and lead to sudden and unexpected measures under pressure from catastrophic events and/or public opinion. These measures will be necessary to deliver on the commitments made. These risks will remain in the coming years.
- Risks related to poorly synchronised transition policies between sectors or countries, which would therefore lose effectiveness while having a high economic, fiscal or social cost. For example, the electrification of the car fleet requires the coordination of purchase subsidies, the development of loading infrastructures, an increase in the supply of electricity produced by renewable energies, the development of new industrial sectors and the restructuring of employment in the car industry. The current energy crisis also shows the importance and difficulties of coordinating electricity pricing and investment policies between EU countries that inherit very different systems. These risks may already materialise and will persist throughout the transition.

A common feature of the physical consequences of climate change and of adaptation and mitigation policies is that their impact is radically uncertain because they are often unprecedented phenomena. They are defined as "green swans", i.e. the possibility of events with potentially catastrophic, but fundamentally unpredictable consequences.

"Our framing of the problem is that climate change represents a green swan: it is a new type of systemic risk that involves interacting, nonlinear, fundamentally unpredictable, environmental, social, economic and geopolitical dynamics, which are irreversibly transformed by the growing concentration of greenhouse gases in the atmosphere"¹¹.

In this context, probabilistic macroeconomic models based on assumptions of regularity lose their value as a guide to policy. The precautionary and preventive principle, as provided for in Article 191 of the Treaty on the Functioning of the European Union, seems to be more appropriate.

Four examples of prevention loops to be put in place

Applying Article 191 requires the development of prevention loops, i.e. the identification of climate risks and the implementation of policies that strengthen the resilience of the economic and financial system as a whole and of its stakeholders.

The most obvious prevention loop is the one that links adaptation policies to building resilience and reducing physical risks to socio-economic systems and infrastructure. This is

¹⁰ See [IPCC report, 2022, Climate change 2022: Impacts, Adaptation and Vulnerability](#)

¹¹ [Bank for International Settlements \(BIS\) et Bank of France, 2020, The green swan, Central banking and financial stability in the age of climate change](#), P. 6



GREENTERVENTION

particularly important for the countries of the southern and eastern periphery of the EU, where the impact of climate change is already becoming severe this decade. Prevention is also of the utmost importance against irreversible aspects of climate change, in particular when it comes to the deterioration of the environment and ecosystems.

A second prevention loop links support to households and businesses to higher carbon energy prices or stricter regulation. This preventive and adaptive support can, for example, take the form of investment grants, subsidies for the purchase of carbon-free durable goods or easier access to public heating or mobility networks. The measures that currently need to be taken to help vulnerable households and businesses absorb rising energy prices show the cost of insufficient preventive and adaptation policies in the past.

A third loop links transition policies to the stability of financial institutions, especially banks. A failure of the latter - and their rescue - could have a very significant budgetary cost beyond the economic and social cost. The first and still experimental climate risk stress test of major European banks by the ECB¹² showed that banks are highly exposed to the main GHG emitting sectors¹³. This implies a high and concentrated risk of devaluation of bank assets, yet banks are not sufficiently incorporating this risk into their decisions. This risk would increase significantly if transition policies were hesitant and/or delayed.

Finally, the most important loop is the one that links mitigation policies to greenhouse gas (GHG) emission reductions in line with the set targets. While the EU's compliance with its targets is not a sufficient condition to prevent the world from a catastrophic rise in global temperature, it is not only materially but also politically and economically necessary. Insufficient EU policies would lose credibility and hamper efforts in the private sector and in other regions of the world.

6. Five basic principles to be put at the heart of European economic governance

Firstly, a holistic and preventive approach to governance focusing on different vulnerabilities has become necessary. There is a need to move beyond traditional macroeconomic approaches that ignore the environmental degradation caused by human activities and, conversely, the risks that this degradation poses to the economy and society more generally. Furthermore, transition policies are defined firstly at the level of sectors and the restructuring of flows between them, and secondly only in terms of aggregate supply or demand or total investment.

Secondly, the risks involved in the short, medium and long term require the application of the precautionary and preventive principles in line with Article 191 TFEU.

Thirdly, neither for the choice of method nor for the choice of procedures is it possible to dissociate resilience to climate change from what falls directly within the budgetary and financial sphere.

¹² [ECB, 2022, Climate risk stress test](#)

¹³ 65% of the revenues of the banks tested come from the 22 most GHG-emitting sectors, which account for only 54% of the value added of EU companies.



GREENTERVENTION

Each country has only one fiscal, "reform" and "investment" policy, and this policy determines the trajectory of the debt, its "financial sustainability", the resilience of the social, economic and financial system and the environmental sustainability of human activities.

At the same time, it is necessary to recognise the degree of uncertainty in the outcome of the often-unprecedented policies to be implemented. This outcome is difficult to predict. It may turn out to be insufficient or even contrary to the objectives set, for example in the event of a "rebound" effect¹⁴. It may also have unforeseen effects on employment and income in certain sectors. Adaptive policy making is therefore required. Furthermore, the precautionary principle requires to consider that systemic challenges related to the climate, the environment and the energy transition are always a source of risk for macroeconomic balances and must therefore be systematically treated as such in the framework of the ad hoc procedure in the same way as financial imbalances¹⁵.

Fourth, the EU's compliance with its GHG reduction targets for 2030 and 2050 must be integrated as an absolute inter-temporal constraint in economic governance. What is not done today must be done tomorrow. The trade-offs are not between costly short-term actions and a major long-term risk. In 2022, the choice is only between more or less coherent, more or less socially just, more or less late and disordered transition trajectories to be put in place now, with a first 2030 checkpoint as horizon.

Fifth, the complementarity between economic and fiscal policies on the one hand, and prudential regulation of the financial system on the other, must be valued. The transition may pose significant risks to banks and other financial institutions. These risks can be mitigated by economic and fiscal policies as well as by financial regulation.

This requires early and orderly transition policies on the one hand, and regulation to accelerate the shift of finance to carbon neutral activities on the other. This implies applying prudential rules to financial institutions that will allow them to cope with the devaluation of fossil fuel dependent assets. A failure of one policy would slow down the implementation of the other and significantly increase the risks of the transition¹⁶.

7. Seven operational proposals for a new European economic governance integrating climate risks

In operational terms, future economic governance should include the following elements:

¹⁴ An example of a rebound effect: the savings made by improving the fuel efficiency of cars encourages the purchase of heavier vehicles, partially or totally offsetting the reduction in energy consumption that might otherwise have been expected.

¹⁵ Macroeconomic imbalances procedure (MIP). The Commission proposes that such systemic challenges should only be addressed when a clear link is established with macroeconomic imbalances. [Communication on the orientation of economic governance reform](#), P. 18/19

¹⁶ For suggestions for strengthening financial regulation, see H. Chenet, J. Ryan-Collins, F. van Lerven, 2021, Finance, Climate change and radical uncertainty, Ecological economics, 183(2021) ; Institut Veblen, [Emmanuel Carré & Jézabel Couppey-Soubeyran & Clément Fontan & Pierre Monnin & Dominique Plihon & Michael Vincent](#), 2022, [How banking regulation can serve the ecological transition](#); Finance Watch, 2022, [A safer transition for fossil banking](#)



GREENTERVENTION

- 1) Greenhouse gas emissions on the territory, a quarterly data, becomes a main indicator of economic governance in the same way as GDP or the level of debt. This indicator signals the risk of a delay in the transition. It should be complemented by an indicator of the carbon footprint of European residents.
- 2) Performance and outcome indicators in the sectors mainly responsible for GHG emissions are associated with the budget, reform and investment programmes prepared for economic governance. They are chosen in coherence with the National Energy and Climate Plans adopted elsewhere. The aim is not to impose an obligation of results in the framework of economic governance, but to be able to adjust budget programmes, reforms, and investments if necessary. These indicators signal the risk of a disorderly transition between sectors or between countries in the Union.
- 3) The economic and public debt sustainability analysis incorporates indicators of the vulnerability of firms and households to the physical risks generated by global warming. It also includes the risks resulting from the expected increase in the price of fossil fuels or from restrictive regulations. The current experience of the energy crisis provides data for this purpose. The aim is to adjust adaptation and transition support policies if necessary.
- 4) The analysis of debt sustainability includes aggregate indicators of banks' and insurers' exposure to fossil fuels. One indicator could for example be the volume of GHG emissions of the business sectors that account for 2 thirds of the banking sector's revenues¹⁷. This indicator would decrease either because the banks disengage from their highest emitting clients under pressure from prudential regulations, or because the latter make progress in the transition, or because the sector of activity becomes less important.
- 5) Instead of a single path, a corridor delimits the growth of "allowed" net public expenditure. The width of the corridor depends on whether the public debt is classified as "low", "medium" or "high" risk, taking into account aggravating or mitigating factors. These factors include the vulnerability of households and enterprises and the exposure of financial institutions, particularly banks, to fossil fuels. The budget programme, reforms and investment are consistent with the lower limit of the corridor. On a yearly basis, net public expenditure growth can be close to the upper bound provided it is accompanied by a faster than expected transition or increased resilience of households and businesses. Pressures on productive capacity due to excess demand and specific coordination needs with euro area monetary policy are taken into account.
- 6) Countries with low risk debt levels commit themselves to effectively use the margins available for fiscal measures to accelerate the transition.

¹⁷ Such a calculation was made by ECB in the context of the latest 'climate risk stress test' for banks. See above.



GREENTERVENTION

- 7) The scoreboard of the macroeconomic imbalances procedure is extended to include indicators of progress towards carbon neutrality and vulnerability. Lack of progress is still considered to pose a major risk to macroeconomic balances. This will allow full use to be made of this procedure to identify shortcomings in budget programmes, reforms and investments and adjust them accordingly.

