

GROWINPRO

Growth Welfare Innovation Productivity

Policy Brief

The GROWINPRO Policy Package for Unleashing Sustainable and Inclusive Growth in the European Union

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Introduction

In this policy brief, we present the insights and policy solutions stemming from the research carried out during the three year of the Horizon 2020 [GROWINPRO](#) project. The main goals of the project are to provide a detailed analysis of the causes of the anemic growth performance observed in Europe during the last decades and deliver a set of policy solutions aimed at restoring sustained and inclusive economic growth with particular attention both on the demand- and on the supply-side. The project first defines the updated context in which these policies will be implemented: new technologies, globalization and processes of institutional change impact on the patterns of EU innovation and productivity growth, income growth, labor markets dynamics and inequalities. Such impacts occur in the climate crisis, the most pressing societal challenge EU must face. Finally, additional challenges are posed by the fragile post-pandemic social fabric. The [publications](#), [working papers](#), [policy briefs](#) and [deliverables](#) of the GROWINPRO projects are freely accessible online.

Results from the GROWINPRO project

Do digital technologies represent a new industrial revolution?

Not really, the so-called IV-Industrial Revolution shows a lot of elements of continuity with the ICT trajectories ([WP5/2020](#)). We observe a strong rise of 4.0 technologies in the 2000s in terms of number of patents and patenting sectors, while more recently digital technologies have diffused towards non-digital areas ([WP16/2021](#)). Focusing on 6 technologies from Industry 4.0 (AI, Big Data, Cloud computing, Internet of Things, 3D printing and robotics) we show heterogeneities in maturity levels, opportunities, and technological roots ([Martinelli et al., 2021](#)). However, many of these labor saving technologies are targeting the weakest segment of the working population, receiving lower wages and less secured in terms of working conditions (see [WP 39/2021](#)).

What are new patterns of structural change?

Past decades were characterised by the rise of the service sector, but even if manufacturing shares are declining, manufacturing productivity growth has the highest contributions to aggregate productivity growth ([WP58/2021](#)). Such servitization is further accentuated by digitalisation in the manufacturing sector ([Deliverable 4.4](#)) and is negatively impacting upon the labor share along the GVCs ([WP9/2022](#)). Yet, even in China, the World Factory Economy, those productivity gains did not translate into meaningful wage increases ([Dosi et al., 2020a, 2022](#)).

What are the sources of new knowledge?

We report a worrying neglect of curiosity-driven scientific search in favor of more marketable applied projects, while, at the same time, private firms tend to do less basic research ([WP7/2020](#)). Tighter appropriation via IPR certainly increase rents, but has ambiguous (possibly negative) effects upon the rates of innovation ([deliverable 5.2](#); [WP38/2021](#)), as revealed by the paradigmatic example of the development of COVID vaccines ([WP32/2021,PB3/2022](#)).

What are the sources of productivity growth?

The slow productivity growth in Europe is partly explained by a “prolonged creative destruction process” with slow business entry and exit dynamics ([WP18/2020](#)). Moreover, the weakening of unions and wider dispersion of wages allow “laggard”/low-productivity firms to survive ([WP19/2020](#)). Servitization is observed as a general tendency, but unrelated to sectoral productivity and employment growth ([WP20/2021](#)). At the firm level, advances have been made to identify the role played by learning regimes, organizational capabilities, and process of accumulation of knowledge. For example, productivity stagnation in Italy is explained by poorly developed technological

capabilities, as well as weak organizational and learning capabilities in the case of service firms ([WP19/2021](#)).

What are the sources of inequalities?

Together with a decrease in the labor share ([Abraham and Bormans, 2020, WP9/2022](#)), wage inequality is related to an incomplete pass-through of productivity gains to wages ([WP19/2020](#)), which can be explained by the weakening of institutions aimed at worker protection (union and pro-labor law and policies, cf. [Dosi et al., 2021; Dawid et al., 2020](#)). Technology adoption does not seem to play a role in wage inequalities within firms ([Domini et al., 2022](#)), but conversely the casualization of work, populated by information-based “winner takes almost all” firms, creates new (atypical) form of labor relations that threaten worker rights and wages ([Dosi et al., 2021](#)). Inequality, rather than a technological-driven phenomenon can be largely attributed to wage compression policies, eroding working bargaining power, occupational stability and wage increases ([WP 34/2021](#)).

Does technological change lead to unemployment?

Technological change has a dual effect on employment: on the one hand, technological innovation and adoption increase employment at firm and sectoral levels ([WP31/2021 ; Domini et al., 2021](#)). On the other hand, the labor-saving nature of robotics patents can also be traced and reveals a widespread geographical and sectoral distribution of their development and use ([WP39/2021; Montobbio et al., 2022](#)). Our models also show that these impacts also depend on labor market regimes, income distribution and overall demand level, whereby a tighter regulation of the labor market akin to those in place in the sixties protects the economic system from technological unemployment ([WP18/2021](#)).

A policy mix for sustainable and inclusive growth

Given the GROWINPRO diagnostic of causes of anemic EU productivity growth, we need a new policy mix to spur sustainable and inclusive growth. This requires a new analytical framework focused on steering the direction of growth via a range of complementary policy tools - innovation, industrial, fiscal, labor, climate-change and macroprudential policies - and considering the complex nature of our economic system.

Reforming the IPR regime

A reform to relax the Intellectual Property Rights (IPR) regime is urgently needed to reduce science commercialization ([WP7/2020](#)), and boost innovation ([deliverable 5.2; WP38/2021](#)), especially in the pharmaceutical sector where they constitutes legal barriers to protect intellectual monopolies, thus stifling the discovery of new drugs ([WP32/2021,PB3/2022](#)).

A new policy mix to support innovation

Indirect incentive-based innovation policies such as R&D subsidies and investment discounting may stimulate productivity growth and employment, but they are costly ([WP30/2021; WP12/2022](#)). Instead, high-risk high-return direct policies involving an active role of the state in the research landscape via mission-oriented policies are much more effective, as revealed by historical analysis ([WP31/2020](#)) and by our modelling exercises ([WP30/2021](#)). In addition, university research and public procurement remain fundamental, and they should be strongly supported ([deliverables 4.1 and 5.2](#)).

“Good” structural reforms to regulate the labor market

To reduce income inequalities, support productivity growth and limit technological unemployment, active labor market policies, labor market institutions should be reformed to re-balance the relations

between employers and workers. Indeed, the labor share and wages can be increased via a better bargaining power of workers through the strengthening of trade unions ([Dosi et al., 2021](#); [Dawid et al., 2020](#)), as well as minimum wage requirements limiting firms' ability to artificially decrease their unit labor costs, forcing them to invest in productivity-enhancing investments and jointly increase wages and productivity ([WP19/2020](#)). In turn, positive complementarities between technology and labor outcomes can be achieved under appropriate labor market regimes that promote occupational stability and limit firms' ability to hire and fire at will ([WP18/2021](#); [WP 34/2021](#)).

Climate-change policies to stay below 2C target and achieve sustainable growth

As climate impacts are already rapidly mounting ([Coronese et al., 2019](#)) and will likely destabilize the whole Earth system under current emission pathways, a mix of policies are needed to stay below the 2C target and possibly achieve sustainable growth. Our results show that carbon-pricing policies alone are ineffective to stay below the 2C target, as the minimum level required to trigger a rapid transition would be destabilizing for the economy. On the contrary, a mix of command-and-control regulation and subsidies for investments and R&D in green energy technologies can put the economy on a win-win sustainable growth pathway ([deliverable 5.4](#)). In this framework, a small carbon tax may be levied to effectively finance green public spending in the first years of the transition. Mission-oriented policies act as synergic tool together with climate policy and have the potential to ease the shift to a new, low-carbon growth path ([WP30/2021](#)). Investments to improve government long-term capacities and dynamic capabilities are also needed to promptly adapt the public response in face of climate change and other pressing societal challenges related to health and the digital divide ([WP8/2022](#)). Finally, appropriately designed credit and macroprudential policies foster macro-financial stability in the face of climate risks while mildly mitigating emission growth ([Lamperti et al., 2021](#)). Overall, our results suggest that a European Green Deal grounded on a mission-oriented approach has potential to foster a win-win pathway characterized by net-zero emission decarbonization and sustainable growth.

Responding to the COVID crisis

The COVID-19 crisis has pushed policymakers and researchers to understand and respond to the interrelated health, economic and social challenges posed by the pandemic. The crisis once again proved the need for open and collaborative science: new modelling tools were developed to understand the spread of the virus ([Bellomo et al., 2020](#); [Aguilar et al., 2021](#); [Vanni et al., 2021](#);) and the potential effect of virus-containing policies ([WP8/2021](#)), while public-private scientific partnerships allowed the fast development and diffusion of vaccination, which was effective in reducing the health impacts of the epidemic ([Damijan et al., 2022](#)). The pandemic also changed labor relations and especially harmed the vulnerable part of the population who did not have access to remote work ([Cetrulo et al., 2022](#)), further expanding social inequalities ([Dosi et al., 2020b](#)). Finally, firms' resilience was put to the test and their organizational capabilities, size and digitalisation proved to be essential to their performance during the crisis ([WP43/2021](#); [WP1/2022](#)). The European Union needs to embrace new policy actions able to prevent and eventually manage collective diseases, increasing financing of high-risk research addressing the development of medical treatments, radical but less rewarded by the markets, as vaccination and prevention schemes.

Conclusion: GROWINPRO and EU policies

How do GROWINPRO results and recommendations relate to the current economic policies of the European Union? First, the threat of future pandemics calls the European Union to **change** its role of defender of tight **intellectual property rights** ([PB3/2022](#)) by:

- a) supporting the *original* proposal of temporary [TRIPS waiver for COVID-19-related patents](#);
- b) playing an active role in the structural reform of the TRIPS treaty to broaden the fields of technologies exempted from patentability, increase IP flexibilities and derogations, and exclude commercial sanctions for violations backed by external motions of international organizations;
- c) reforming the [Unitary Patent Package](#) to harmonize the treatment of publicly funded inventions and the regulation of compulsory licenses, and provide a uniform system of exceptions across the Union, by e.g. introducing a system of EU-wide compulsory licenses.

The societal challenges of COVID-19 pandemics and climate change, as well as the threat of the Ukrainian war call for a new season of **innovation and industrial policies**:

- a) the EU and the member States need to have a more pro-active role in the re-shoring of the production in key industries. To start with, the [European Chips Act](#) and the [European Solar Strategy](#), which aim to reduce EU external dependence and to foster EU technological leadership in the semiconductor and renewable energy industries are policies that go in the right direction. They should be strengthened and extended to other key sectors.
- b) Relatedly, combining tighter regulation in the energy sector with investments in renewable energies is the best strategy to achieve energy independence, to stay below the 2C target, and to trigger sustainable growth. The decision of the European Parliament to ban the sale of combustion-engine cars from 2035 as part of the [Fit for 55 package](#) is exactly the type of command-and-control intervention that is needed, together with other Mission-Oriented policies to decarbonize the economy.

Next to this, we need a **permanent fiscal capacity** of the European Union to:

- a) respond to the societal challenges affecting the life of EU citizens;
- b) deal with sudden crises such as the war in Ukraine and the 2008 recession;
- c) to consistently steer innovation, technological change and industrial development.

This implies that the [Next Generation EU plan](#) should become permanent, while instead the [Stability and Growth Pact](#) should be reformed to loosen tight fiscal rules and to encourage pro-growth expansionary fiscal policies by EU members.

Finally, to achieve inclusive growth and to respond to the challenges stemming from the industrial revolution, pro-worker and pro-union labor policies are needed to boost the bargaining power of employees. These **new structural reforms in the labor market** help to achieve the following objectives:

- a) **adapting the European regulatory environment to new forms of casual work** made possible by digital platforms;
- b) **reducing the working week** at constant wages, to gain the triple objective of taming eventual technological unemployment, raising the labor share and creating new jobs opportunities;
- c) supporting sustainable and dignified employment and income and **protect and expand the opportunities of the most vulnerable groups** such as women, undocumented and low-skilled workers.

The [Directive on Adequate Minimum Wages](#) proposed by the European Commission and supported by the EU Parliament and Member States is hopefully the first of a new wave of good structural reforms to reduce the flexibility of the labor market and tackling income inequality.

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