



Grant agreement No. 822390

MICROPROD

Raising EU Productivity: Lessons from Improved Micro Data

H2020-SC6-TRANSFORMATIONS-2018

Supply and demand-oriented economic policies to boost robust growth in Europe –
Addressing the social and economic challenges in Europe

Deliverable 7.5

Policy brief

WP 7 – Exploitation, Dissemination and Communication

Due date of deliverable	Month 24 – December 2020
Actual submission date	22/01/2021
Start date of project	01/01/2019
Duration	36 months
Lead beneficiary	BRUEGEL
Last editor	Emanuela Dimonte (BRUEGEL)
Contributors	BRUEGEL

Dissemination Level		
PU	Public	X
PP	Restricted to other programme participants (including the Commission Services)	
RE	Restricted to a group specified by the consortium (including the Commission Services)	
CO	Confidential, only for members of the consortium (including the Commission Services)	



This Project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement no. 822390.

Disclaimer

The content of this deliverable does not reflect the official opinion of the European Union. Responsibility for the information and views expressed herein lies entirely with the author(s).

History of the changes

Version	Date	Released by	Comments
0.1	24-12-2020	Gregory Claeys & Maria Demertzis	Inputs finalised
1.0	22/01/2021	Emanuela Dimonte	Final draft to submit

Table of contents

Disclaimer.....	2
History of the changes	2
Table of contents	3
Key word list.....	4
Definitions and acronyms	4
1. Introduction	5
1.1. General context	5
1.2. Deliverable objectives.....	5
2. Methodological approach	5
3. Summary of activities and research findings	5
4. Conclusions and future steps.....	5
5. Publications resulting from the work described (if applicable)	6
6. Bibliographical references (<i>if applicable</i>).....	6

Key word list

Productivity; growth; macroeconomic; globalisation; digitalisation; productivity shocks; intangible capitals; international trade; Global Value Chains;

Definitions and acronyms

Acronyms	Definitions
CMU	Capital Markets Union
ECB	European Central Bank
GAFAs	Google, Amazon, Facebook and Apple
GVC	Global Value Chain
GDP	Gross domestic product
ICT	Information and communication technologies
R&D	Research and development
SME	Small medium enterprise
STEM	Science, technology, engineering and mathematics
TFP	Total factor productivity

1. Introduction

1.1. General context

The Deliverable D7.5 is part of the dissemination, communication and exploitation outcomes to be developed within WP7. In particular, D7.5 represents a easy-to-read document presenting the the interim findings of the project and to explore the impact of the results achieved in the policy debate.

1.2. Deliverable objectives

This deliverable summarises the main conclusions of the MICROPROD papers submitted so far and how these inform the current policy debates in form of a pdf file, thus in an easier readable format.

Specifically, leveraging on D6.2, 20 papers have been analysed, which tackle the following four broad issues: (i) the measurement and effects of intangible capital; (ii) globalisation, international trade and the integration of Global Value Chains (GVCs); (iii) factor allocation and allocative efficiency and (iv) identify some of the social consequences of these two broad shocks.

2. Methodological approach

This presentation summarises the main conclusions of the 20 MICROPROD papers submitted so far and how these papers inform the current policy debates at the European level as it was presented in D6.2.

3. Summary of activities and research findings

In this midterm policy brief, we review the 20 papers delivered so far by MICROPROD researchers. These papers contribute to four broad issues relevant for today's policy debates: the measurement and effects of intangible capital on productivity, the impact of globalisation, international trade and the integration of Global Value Chains (GVCs) on productivity, factor allocation and allocative efficiency and finally the social consequences of these two structural shocks that Europe faced in the last two decades: globalisation and technological progress.

4. Conclusions and future steps

Overall, MICROPROD papers shed light on the effects of the two main structural changes over the past 20 year on productivity: first, globalisation and the opening of China and second the increasing digitalisation-automation of the economy. Their main contributions are to point to both aggregate effects, how they affect productivity but also to highlight that there are distributional effects that are important for good societal outcomes.

This policy brief will be followed by papers summarising policy implications for each work package, that will be delivered in the last year of the project.

5. Publications resulting from the work described (if applicable)

Not applicable

6. Bibliographical references (*if applicable*)

Claeys, G. and M. Demertzis (2021) 'The productivity paradox: policy lessons from MICROPROD', Policy Contribution 01/2021', Bruegel [Deliverable 6.2]

D7.5 – Policy Brief

Brief summary/conclusion of the activity policy-relevant findings from WP1 to WP5, with a focus on those activities that have reached a certain level of maturity.

**Emanuela Dimonte
Maria Demertzis
Gregory Claes
Bruegel
January 2021**

Table of content



- ▶ Intro
- ▶ Intangible capital
- ▶ Globalisation and the integration of GVCs
- ▶ Finance and resource allocation
- ▶ Social implications of globalisation and technological change
- ▶ MICROPROD and COVID-19

INTRO



The productivity paradox

- ▶ Technological progress has continued and GDP growth has not fallen as much as productivity
- ▶ The secular stagnation hypothesis explains this slowdown as a savings-investment imbalance caused by various factors (including demographics and inequality), which led to a global savings glut and underinvestment → BUT macroeconomic policies (both fiscal and monetary) has not reversed the productivity trend
- ▶ Need to understand how **digitisation** and **globalisation** changed market structures
 - ▷ The much-reduced need for physical capital have led to some firms claiming significant market shares → the resulting concentration and monopoly power implied less competition and the extraction of rents
 - ▷ Removed barriers to foreign markets, domestic dominance allowed firms to expand their market shares globally
- ▶ Low and declining interest rates → zombies firms will survive longer and thus slowing down the process of creative destruction and exploitation of strategic advantages

INTANGIBLE CAPITAL

The measurement and effects of intangible capital

Intangible Capital

WHAT WE HAVE LEARNED SO FAR (1)



- ▶ The rise of intangible assets – i.e. assets without physical substance - has not produced the expected boom in productivity growth at aggregate level → BUT this does not seem to be the case at the micro level
- ▶ At firm level, it appears that
 - ▷ investment in intangible capital is a non-negligible factor in the production process and a strong predictor of higher productivity
 - ▷ Different types of intangible assets might affect the production process differently: e.g. ICT use and efficiency of innovation process are strongly correlated with productivity
 - ▷ Intangible capital investments are concentrated in few firms → only a few firms benefit from the boost in productivity provided by intangible investments → it might explain why the effect is less visible at aggregate level

Intangible Capital

WHAT WE HAVE LEARNED SO FAR (2)



- ▶ Easier access to finance leads to higher levels of investments in (cost-reducing) intangibles and thus to higher mark-ups over marginal costs → Financial capability is source of competitive advantage → the differences in financial capability in different firms and countries might explain in part the different levels of firms' investments in intangibles
- ▶ Firms with work councils have higher levels of productivity, wages and profits

Intangible Capital

RELEVANCE FOR POLICY (1)



- ▶ Less and less tangible capital is installed although the value added produced is still increasing → **the value added is more and more generated by intangible capitals** → the better we understand what constitutes intangible capital and how it generates value added, the more effective we can be in stimulating productivity and thus, understanding the real investment needs
- ▶ Differences in mark-ups between US and EU could be attributed to differences in intangible investments → **new industrial policy to boost incentives for R&D and other intangibles** (e.g. tax incentives, grants, training workers, supporting skilled migration)
- ▶ **Competition policy** needs to be rethought: intangible capital's investments might lead to concentration effects, leading to monopoly power → detriment of productivity and waves of disruptive innovation.

Intangible Capital

RELEVANCE FOR POLICY (2)



- ▶ Market concentration is not necessarily detrimental: result of higher productivity and greater allocative efficiency at the **firm level** (but not at aggregate level)
- ▶ If ratio of tangible to intangible reduces (digitisation) and if intangible investment is less costly, low real interest rate is sustained, which brings unfavourable growth conditions and lower productivity
- ▶ Intangible assets do not provide physical collateral for banks to lend against
→ production that relies on intangibles lacks of financing

GLOBALISATION & INTEGRATION of GVCs

Globalisation, international trade and the integration of global value chains

Globalisation & integration of GVCs



WHAT WE HAVE LEARNED (1)

- ▶ **Imports** from low-income countries are produced with standard technologies and low-wage labour → R&D cannot compensate for the cost disadvantages faced by high-wage domestic producers
- ▶ Imports from high-income countries are typically relatively capital- and knowledge intensive → R&D is pushed and leads to productivity gains
- ▶ Regions that were more exposed before the global financial crisis to import competition (low-wage China) have experienced slower productivity growth since the crisis.
- ▶ Relationships among firms in GVCs can lead to innovation efforts on the supplier side, but supported by the buyer through technical advice and technology / assets transfers → **foreign direct investments**
- ▶ Larger and foreign-owned companies are more likely to innovate than small domestically-owned companies → **less productive firms do not invest in innovation to upgrade their technological level**, while the most-productive firms customize their production process / products to fit the demand from buyers

Globalisation & integration of GVCs

RELEVANCE FOR POLICY



- ▶ Need to have a **strong multilateral system**: trade deals (i) between high-income countries (ii) between countries that compete in similar markets (iii) intend to increase competition in knowledge-intensive sectors
Productivity effects of trade liberalisation in general and import competition in particular depend on the relative (dis)advantages of domestic firms compared to the foreign competitors
- ▶ **Closing down unproductive firms** – as a result of import competition – increase overall productivity, BUT this does not ensure reallocation of resources (e.g. workers)
- ▶ Local labour market composition matters in response to trade shocks: transferability of skills → **education policy / active labour market policies** (life-long learning, retraining, promoting mobility)
- ▶ Integration within GVCs as transferring knowledge tool → **knowledge transfer** as important aspect in the innovation process

FINANCE & RESOURCE ALLOCATION

Factor allocation and allocative efficiency

Finance & Resource Allocation



WHAT WE HAVE LEARNED

- ▶ Restructuring of **distressed banks** during a crisis can have a positive long-term effect on productivity → BUT keeping distressed banks alive (while less destructive in the short term) might have a negative impact on long-term productivity growth by maintaining inefficient lending relationships between weak banks and unproductive firms → regions with less supervisory forbearance are more dynamic and experience higher productivity growth
- ▶ Firms, which have relationships with banks that benefit from the central bank intervention, experienced lower growth in employment and sales BUT higher levels of investment and productivity → **monetary policy has a significant long-run effect**
- ▶ Measurement of elasticity of productivity growth to credit growth can help measure the efficiency of allocation of capital
- ▶ Financial constraints do not constrain highly leveraged firms in some countries → need of identifying **country-specific factors**

Finance & Resource Allocation

RELEVANCE FOR POLICY



- ▶ The way production is financed may also have real economic consequences
- ▶ Need to **design bank-resolution schemes** that take into account the identification of the optimal trade-off between the short and the long terms affecting the viability of their customers
- ▶ Need to understand the **real long-run effects (particularly unintended ones) of unconventional monetary policy**
- ▶ Crucial to revive the **EC's capital markets union initiative** to try to alleviate the financial constraints that prevent the efficient allocation of resources in EU

SOCIAL IMPLICATION of GLOBALISATION and TECHNOLOGICAL CHANGE

Social implications of globalisation & technological change



WHAT WE HAVE LEARNED

- ▶ Higher imports result in higher levels of **income risk for workers**, while higher exports result in lower risk level → the increase in income risk from high imports could be compensated for decreased risk from high exports from a region
- ▶ Import and robotic shocks are associated with a rise in productivity because competition forces firms to invest in cost-reducing new technologies → BUT these shocks are also associated with falls in manufacturing employment (possible negative welfare effects)
- ▶ At firm level, technological innovation is positively associated with an increase in the share of college-educated workers and their wage premium → **need of well-educated workforce to deal with technological innovation**
- ▶ Individuals more exposed to automation and to a decline in manufacturing employment are substantially more likely to **vote for radical-right/nationalist parties**

Social implications of globalisation & technological change



RELEVANCE FOR POLICY

- ▶ Need for import and export mixes to ensure income stability
- ▶ Need for a **more balanced growth model** in which the economy relies on a combination of domestic demand and export-led demand
- ▶ Digitisation and globalization are not neutral in the way they create/destroy value → need to design transition policies to help region and sectors restructure (e.g. Just Transition Fund)
- ▶ Need for **appropriate education and training** to meet future employment needs
- ▶ If technology leads to wage inequality, **welfare systems** must be adapted
- ▶ The absence of proper **policies for reskilling and upskilling workers** can lead to greater political polarisation

MICROPROD and COVID-19

MICROPROD & COVID-19

CONCLUDING REMARKS



How the COVID-19 shock may have

1. Accelerated **digitisation**

→ as physical economic activity came to a halt, there was an increase in digital activity

→ It is inevitable that this adjustment will not reverse fully when the pandemic ends

(i) what investments are needed to enable businesses to go digital → intangible capital and how it contributes to value added.

(ii) transferability of skills as work becomes more digital and GVCs become shorter

(ii) digital divide will manifest itself in distributional outcomes

MICROPROD & COVID-19

CONCLUDING REMARKS



How the COVID-19 shock may have

2. Put a hold, or possibly reversed **globalisation**

→ Protectionist tendencies that have been increasing over the past few years found fertile ground during the pandemic, primarily in relation to vital goods such as medical supplies

→ the length of value chains is linked to economic efficiency gains, any attempt to boost robustness will necessarily cost. These costs might increase prices: ECB might tighten monetary policy and hike rates

MICROPROD & COVID-19

CONCLUDING REMARKS



How the COVID-19 shock may have

3. What to make of the massive **state interventions** that we have seen in response to collapse in economic activity - i.e. lifting of state-aid rules, the suspension of fiscal rules, and issuance of significant common
 - State support applied bluntly to all may save viable firms, but it also sustains unproductive zombie firms, reducing productivity in the long run.
BUT the COVID-19 pandemic have forced some of these firms to digitalise and to increase efficiency and productivity and thus, the shock could also increase productivity in some ways.
 - Many productive firms will be eliminated in fiscally vulnerable countries, possibly changing the landscape of the single market