

COMPETITIVE PROJECTS

Group for
Research in
Economics and
Finance
(GREF)

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in Economics and
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Intangibles, Technology Diffusion and Public Policies: Implications for Firm Investment, Market Structure and Aggregate Productivity



PRINCIPAL INVESTIGATOR:



Carolina Villegas

PERIOD:

October 2021 – September 2024

FUNDING BODY:

EIBURS: European Investment Bank Institute

COORDINATING INSTITUTION:

Universitat Pompeu Fabra (UPF)

RESEARCH TEAM:

Andrea Caggese (UPF)

SUMMARY:

The first part of this project looks at “Intangible Capital and Technology Diffusion: Measurement and Implications for Productivity Growth, Market Power and Wage Inequality”, and aims to study the factors that explain the linkages between technological progress, technology diffusion, and market outcomes. It places a special emphasis on the empirical analysis of firm level data, and focuses on European firms, making use of the EIBIS Survey combined with Orbis information. Moreover, it will also develop and analyse structural models of firm dynamics with both real and financial frictions and productivity enhancing innovation decisions, that allow both for identification and counterfactual policy analysis.

One important element that affects both firm-level investment as well as capital misallocation and long-run growth in Europe is the crucial role played by government policies. The importance of these policies will be even larger in the next few years, since the COVID crisis is currently posing and will continue to pose significant economic challenges to all countries. In a context in which credit is frozen, and many firms stop their operations, governments will have to develop innovative policies to ensure that growth will be restored shortly. In the EU’s particular context, countries’ leaders recently agreed on a comprehensive package of close to €2 billion, which will provide all types of governments throughout Europe (local, regional and national) with many resources. Whether or not this ambitious recovery plan will help rebuild the EU’s economic systems will crucially depend on the efficiency with which the newly available resources are allocated across sectors and firms.

The second part of the project will focus on “The Investment-Promoting Role of Government

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Policy: Measurement and Implications for Capital Misallocation and Long-Run Growth”. We will investigate the importance of the two main policy tools that governments have available to affect the allocation of resources—government expenditure, through public procurement projects, and its associated taxation policies—in promoting private investment. The projects focus the analysis in two dimensions. From the “micro” perspective, we will study the impact of government policies in determining investment and performance at the firm-level. To do this, we will leverage on the increasing availability of comprehensive procurement microdata that can be linked with firm-level datasets. From the “macro” perspective, we will study the aggregate implications of government policies in terms of capital misallocation, propagation of technology shocks, and long-run growth.

LABTECHNO



Labor markets, technology and structural change: data, theories and policy implications

PRINCIPAL INVESTIGATORS:



Calin
Arcalean



Ioana
Schiopu

PERIOD:

September 2021 – August 2024

FUNDING BODY:

MICINN-MCIU

REFERENCE:

PID2020-120013GB-I00

RESEARCH TEAM:

Omar Rachedi

SUMMARY:

Labor markets around the world have been disrupted by a host of macroeconomic factors, in particular by a rapid pace of technological change. Since labor markets conditions directly affect the livelihoods and welfare of citizens, understanding the implications of technological and structural change becomes all the more relevant, not only from an academic point of view, but more importantly, for guiding policy making towards efficient and equitable responses to these macroeconomic challenges. In this project, we focus on three large sets of problems arising in direct connection to the labor markets.

The first pillar of the project emphasizes the role of labor supply - the quantity and quality of skills available in an economy in understanding the evolution of wage inequality. We plan to connect the evolving structure of the higher education market with incentives to invest in skills, in the context of enrolment expansion driven by fast technological change. We aim to understand recent trends in educational attainments, college premium and wage distributions for unskilled and skilled workers, which have important effects on the growth performance and income inequality.

A second research line considers directly the labor markets. Specifically, we plan to study empirically how the shift towards services feeds into the overall polarization of the labor market the rise in high and low paid jobs at the expense of middle paying ones - in a sample of European economies. Going beyond aggregate trends, we also aim to look at the gender specific patterns of job polarization and study whether the theory of structural change is able to explain the observed polarization patterns across genders.

In our third research line, we plan to look at the broader implications of labor markets re-organization following technological and structural changes. On the one hand, we take a global perspective to understand sectoral employment trends in open economies undergoing

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the process of structural transformation and the welfare implications of trade-driven differences in (de)industrialization. On the other hand, we look more closely at the consequences of automation and robot adoption on the structure of labor markets. A first project considers the environmental aspects, while a second one analyzes the aggregate effects of adopting labor-substituting technologies on the formation of wages and prices.

Beyond the direct academic interest, we expect our project to generate significant policy implications. Higher education policies are increasingly important in a knowledge-based economy. Similarly, job polarization and associated gender specific evolutions have been receiving a lot of attention lately, in particular since the COVID crisis. Documenting these patterns would help design appropriate policies during the pandemic and the recovery. Better understanding the welfare implications of international trade is relevant for the current ramp up of protectionist and strategic policies. Finally, research on the broad effects on automation will help inform the public debate on the less obvious consequences of technological change, beyond the dichotomous discussion about job destruction/creation.

IVLERM



Implied Volatilities: leverage effect and risk management

PRINCIPAL INVESTIGATOR:



Santiago Forte

PERIOD:

June 2020 – May 2023

FUNDING BODY:

MICINN-MCIU

REFERENCE:

PID2019-106465GB-I00

RESEARCH TEAM:

Marco Menner, Carlo Sala, Lidija Lovreta

SUMMARY:

The IVLERM project comprises four main objectives. The first is to analyse and compare the informational content of equity options and credit default swaps (or CDS) regarding future volatilities.

For our analysis, we will distinguish between:

1. Equity volatility versus firm asset volatility;
2. Cross-section versus time-series; and
3. Short-run versus long-run.

The second objective is to analyse the long-memory properties of equity and firm asset volatility at the firm-level, and its impact on volatility forecasting.

The third objective is to expand our knowledge on the design and calibration of structural credit risk models. In particular, we will adopt a model-free approach to derive simple closed-form expressions for the pricing of credit sensitive claims like risky bonds, CDS contracts, and forward CDS contracts (i.e., CDS contracts signed today, but initiated at a future date). Our result will also allow for the time decomposition of credit spreads. Additionally, we will explore in detail the theoretical and empirical properties of the CreditGrades model.

The fourth and last objective is to investigate the information content on risk provided by the volatility surface of the option market. Specifically, we will employ different estimation techniques and test the validity of the obtained results using classical back-testing techniques as well as we aim to create new ones. As a key common denominator, all techniques we aim to implement will produce forward-looking profit/loss density estimations. This will be achieved either under the statistical (physical) measure, or under the pricing (risk-neutral) measure. One focus will thereby be on estimation and hedging of downside risk.

FRE



Financing the Real Economy

**PRINCIPAL
INVESTIGATOR:**



Carolina
Villegas

PERIOD:

January 2019 – December 2021

FUNDING BODY:

MICINN-MCIU

REFERENCE:

PGC2018-099700-A-100

RESEARCH TEAM:

Carmen Ansotegui, Luca del Viva, Petya Platikanova,
Giulia Redigolo, Vicente Bermejo

SUMMARY:

Financial frictions can have important implications for firm real outcomes such as firm growth, investment, and the internationalization decision of the firm. Ultimately, changes in these variables have direct implications for aggregate productivity growth, a major current policy concern in the euro area. Starting in the 1990s, the productivity growth in the euro area experienced a continuous decline and the process accelerated from the mid-90s, dropping from 2% in 1995 to the current 0.5%. In international terms, the European productivity growth rate lags behind the growth rates of other advanced economies.

This project proposes to empirically explore the causal link between firms' financial constraints and real economic activity. In doing so, we will make use of firm level databases and recent advances in econometric techniques that go beyond aggregate correlations. This will allow us to quantify the magnitude of the effects and importantly for policy-making, understand the channels at play. A central debate in finance and macroeconomics is whether the link between finance and firms' economic outcomes is driven by supply, demand or external factors. These channels highlight the difficulty in properly identifying the link between financial constraints and real outcomes. Periods of low economic activity are also periods of binding financial constraints that can arise from several sources.

The research project focuses on the effect that financial constraints have on three main outcome variables that in turn greatly contribute to aggregate productivity growth: namely, a. firm dynamics (firm growth, entry and exit), b. investment, and c. the international activity of the firm.

TITFM

Technological Innovation and Transparency of Financial Markets

**PRINCIPAL
INVESTIGATOR:**



Ariadna
Dumitrescu

PERIOD:

January 2019 – December 2021

FUNDING BODY:

MICINN-MCIU

REFERENCE:

PGC2018-098670-B-100

RESEARCH TEAM:

Anna Bayona

SUMMARY:

This project aims to analyze how transparency and prices in secondary financial markets interact with the market structure in determining market performance and welfare of market participants. There is debate in academia and in policy on how new financial market structures (like dark pools, crossing networks or alternative finance platforms) and different disclosure regimes contribute to amplify or mitigate crises. One of the main questions is how to efficiently use secondary financial markets prices to guide firms' decisions and policy.



To achieve our goal, we focus on three lines of research:

1. Analyzing the optimal level of transparency of the financial system. Specifically, we aim to study the role of transparency in new markets that compete among each other in attracting investors; how trading venues decide on the optimal level of transparency; on the interaction between pre-trade transparency and competition while drawing on policy implications regarding fragmentation; and on the regulators disclosure decisions to minimize the prevalence of bank runs and contagion in a setting where investors face fundamental and strategic uncertainty.
2. Analyzing the optimal design of the new alternative financing platforms (technologically driven) which allow entrepreneurs that are credit constrained to have alternative access to finance their projects.
3. Analyzing the effects of financial markets and their structure on the real economy (the decisions of firms, regulators, and consumers). More specifically, we aim to examine how the feedback effects of prices affect the performance of financial markets and firms' real decisions, such as investment decisions.

Our research is framed within the market microstructure framework with elements of microeconomics and industrial organization. We focus mainly on theoretical models and laboratory experiments. These two perspectives are complementary in understanding the complex issues of how the disclosure of information and competition in financial markets interact with the real economy.

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**PRINCIPAL
INVESTIGATOR:**



Carolina
Villegas

PERIOD:

January 2017 – September 2021

FUNDING BODY:

AGAUR

REFERENCE:

2017 SGR 640

RESEARCH TEAM:

Carmen Ansotegui, Calin Arcalean, Anna Bayona Font, Vicente Bermejo Boixareu, Josep Bisbe Viñas, Ariadna Dumitrescu, Petya Platikanova, Carlo Sala, Ioana Schiopu, Fernando Ballabriga, Santiago Forte Arcos, Menatalla Aher Abde El Hefnawy, Mohammed Zakriya, Luca Del Viva, Giulia Redigolo, Pedro Rey Biel

SUMMARY:

The aim of these grants from the Catalan Government is to promote the activities of research groups that allow to strengthen the scientific, economic and social impact of research, as well as promote its international projection.

MAPCHANGE



Mapear el cambio estructural: teoría y consecuencias para las políticas públicas

PRINCIPAL INVESTIGATORS:



Ioana Schiopu



Calin Arcalean

PERIOD:

December 2016 – December 2020

FUNDING BODY:

MICINN-MINECO

REFERENCE:

ECO2016-76855-P

SUMMARY:

Understanding secular shifts in the structure of modern economies is at the core of macroeconomics. This research proposal focuses on three such prominent trends: the increase in the demand for skills, the de-industrialization, and the agglomeration of people in cities. The overarching goal of the project is twofold. On the one hand we set out to map and understand important linkages between these interdependent drivers of structural change. To achieve this, we build on previous research, including our own, in macroeconomics, urban and labour economics, by building theoretical models amenable to quantitative evaluation as well as empirical analyses. On the other hand, making progress in understanding complex structural transformations is also critical from a policy perspective as they jointly contribute to outcomes that raise concerns in the society at large, such as the rise in skill premium and the cost of higher education, the increase in income and wealth inequality or the rise of the slums.

CMIPP



Mercados de capitales, informacion y politicas publicas

**PRINCIPAL
INVESTIGATOR:**



Ariadna
Dumitrescu

PERIOD:

January 2012 – December 2015

FUNDING BODY:

MICINN-MINECO

REFERENCE:

ECO2011-24928

RESEARCH GROUP:

Luca Del Viva, Carlin Arcalean

SUMMARY:

Recent developments in the world economy have brought capital markets to the forefront of academic and public debate. This research project covers critical developments related to the organisation of capital markets and their interactions with public policy. This project has two main parts:

1. On the one hand, the current context makes it crucial to reconsider the extent to which financial intermediation, market discipline or current regulations are capable of solving the problems of asymmetric information and other market imperfections, which have significant economic consequences. This research proposal's main purpose is to reveal how different degrees of transparency affect the performance and structure of financial markets and the investor protection.
2. On the other hand, the integration of national capital markets at regional and global levels significantly alters incentives for national policy makers. In economically integrated areas, domestic fiscal policy is used strategically to attract mobile production factors, generating a non-trivial trade-off between fiscal policy coordination versus competition. The interaction between capital markets and public policy determines whether or not economic integration is sustainable and has a considerable impact on the growth prospects of each participating economy.

The analysis combines contributions from financial economics, international economics and public finance. It relies on theoretical as well as econometric modelling, encompassing micro- and macro-economic perspectives. The expected results of the Project will have important implications with respect to the regulation of the financial system and fiscal policy.

