Research Statement

Luis Perez, University of Minnesota, September 2023

I am a macroeconomist interested in Market Power, Aggregate Productivity, and Public Finance. In my research, I use tools from these literatures, and from those on International Trade, Production Networks, and Industrial Organization.

My work seeks to advance three research agendas. The first quantifies different sources of market power—monopoly and monopsony—and their impact on the macroeconomy. The second addresses the question, Why are some countries more productive than others? The third is concerned with policy and works toward detecting market failures in different aspects of economic life to then propose optimal interventions.

Market Power and the Macroeconomy. Understanding the extent to which firms have and use market power is essential for understanding many macroeconomic phenomena, and designing well-intended regulations on antitrust, taxation, and redistribution.

In my Job Market Paper "The Micro–Aggregated Profit Share," Thomas Hasenzagl and I connect indicators of aggregate market power to the profit share, which is the share of GDP not used to compensate factors of production (see Hasenzagl and Perez, 2023). More specifically, we show that the profit share can be constructed from micro-level data, and be expressed in terms of several market-power indicators—the aggregate markup, an aggregate monopsony term, aggregate returns to scale—and a sufficient statistic for production networks that captures double marginalization (i.e., how profits propagate from downstream- to upstream sellers.)

We use these novel theoretical insights to study the evolution of market power and profitability in the United States during the last fifty years. We document that several indicators of aggregate market power have steadily increased since 1970. In particular, we find that the aggregate markup has gone up from 10% of price over marginal cost in 1970 to 23% in 2020, and that aggregate returns to scale have risen from 1.00 to 1.13. We find that despite the rise in market power, the US profit share has been stable at 18% of GDP because the increase in monopoly rents has been completely offset by rising fixed costs and changing technology.

Our empirical findings have subtle implications for policymakers. The increasing monopoly rents reflect increases in market power that could be counteracted by more aggressive enforcement of antitrust law. Such aggressive enforcement could, however, lower monopoly rents, making it unsustainable for some firms to operate given the high fixed costs. Therefore, overly aggressive enforcement of antitrust law could decrease firm dynamism and paradoxically lead to lower competition and higher market power.

In future work, we plan to use our aggregation theorems to quantify the sources of market power—monopoly *vis-à-vis* monopsony—across industries. Understanding the extent to which market-power rents originate from input- and output markets is important for the design of merger guidelines, labor-market regulations, and the like. We will build on this work to develop and calibrate structural models to evaluate existing regulations on antitrust and test new ones.

Aggregate Productivity. Building on the pioneering work of Solow (1957), a large literature has studied the evolution of aggregate productivity (TFP,) trying to understand its determinants.

A fascinating question within this literature—one that I address in my own research (see Perez, 2023)—is, Why have Southern European countries experienced declines in TFP over the past few decades? In other words, how is it possible that countries like Spain, Italy, Portugal and Greece use factors of production today less efficiently than they did three decades ago?

Apart from technological change, which has historically been thought of as the main driver of aggregate productivity, I study the role of misallocation and international trade in driving aggregate productivity. Recent research has demonstrated that both of these forces can have first-order effects on TFP (Baqaee and Farhi, 2023). In my research, I provide a mechanism through which either changes in distortions (say, in markups) or changes in the terms of trade (i.e., in the ratio of export- to import prices) affect aggregate productivity: factor reallocation. When there are productivity differences in the cross section, changes in monopolistic wedges or in the terms of trade may cause mobile factors of production to reallocate across producers, leading to a TFP decline when reallocation occurs towards less productive firms or sectors.

In my empirical investigation I find that aggregate productivity in Spain has been less dismal than previous studies have found. This is because traditional measures of TFP do not consider distortions, and distortions introduce downward biases in Spanish TFP. More specifically, I find that aggregate TFP in Spain declined by 7 percentage points between 1995 and 2010—not 10, as the traditional Solow residual would suggest. A first-order decomposition of TFP growth reveals that the decline in Spanish TFP is driven by negative technological- and reallocation effects, and non-linearities. Trade had a positive impact on Spanish TFP.

Despite the 7-percentage-points TFP decline, I find that welfare in Spain increased by 10 percentage points between 1995 and 2010. The reason why welfare increased is that Spanish households benefited from technological improvements and positive reallocation effects across the globe through the consumption of (increasingly more) foreign goods. My findings stress the importance of conducting growth accounting and welfare analysis in an open-economy framework, where TFP and welfare do not necessarily go hand in hand.

In future work, I would like to conduct a more detailed analysis on aggregate productivity in Southern Europe using micro-level data to study misallocation within industries. I also plan to delve deeper into productivity measurement in service sectors where productivity improvements are much harder to detect.

Public Finance. My third research agenda is the broadest of the three. It is concerned with the detection of market imperfections, as well as flaws in existing regulations, to then propose optimal interventions. Thus far, my work on this area has focused on health.

My work with V.V. Chari and Rishabh Kirpalani has studied the nature of externalities in the context of pandemics (see Chari, Kirpalani and Pérez, 2023). In particular, we show that if society can control the extent to which people are exposed to viruses and people can commit to contracts, virus externalities are local, and equilibrium outcomes are efficient. The view of virus externalities as a local phenomenon is supported by the epidemiological literature, and contrasts with the global-externality view of pandemics adopted by the economic literature. Our results are consistent with a view of the world in which people with an unknown infection status are

willing to pay a premium for vaccinated or recovered individuals to conduct economic activity in their presence since these individuals make it less likely that they get infected. Empirical evidence favorable to our results can be found in multiple countries where government agencies have provided free vaccination and even paid individuals to get vaccinated.

A different view of pandemics—the one adopted by most of the economic literature—is that society cannot control virus exposure (see, for instance, Bethune and Korinek, 2020; Eichenbaum et al., 2021). In that case, virus externalities are global and equilibrium outcomes are inefficient. We contribute to this literature by showing that if viruses cause global externalities (like greenhouse gases,) then economic activity can be "too low." This is in sharp contrast with the conventional wisdom that viruses result in "too much" economic activity. There are two key reasons for these discrepancies. The first is that the presence of recovered/vaccinated people makes infection less likely for susceptible individuals. The second is that susceptible people do not internalize that they benefit others by engaging in more economic activity.

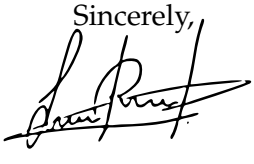
My work with Martin Garcia-Vazquez has studied the importance of health measurement within economic models that are specifically designed for evaluating public policies on health insurance and social security (see Garcia-Vazquez and Pérez, 2022). The standard assumption in the structural-health literature is that health is perfectly measured—that is, observed with infinite precision. We question this assumption, and ask, How important is the imperfect observability of health to evaluate the costs of bad health? To answer this question, we estimate a dynamic, structural life-cycle model of savings and labor supply with health risk under two assumptions on the observability of health. The first one is that health is perfectly observable. The second one is that while health is not observable, a battery of noisy measures of health is (e.g., limitations with activities of daily living.)

We find that ignoring measurement error in health leads to substantially underestimating both the persistence of health (i.e., the probability of continuing in a given health state, whether good or bad, from one period to the next) and the time costs of being unhealthy (i.e., the number of hours spent dealing with health complications.) Ultimately, measurement error in health affects the estimated lifetime costs of bad health—as measured by labor earnings, hours worked, consumption, and assets—leading to underestimating these by as much as 300%. The key message from our paper is that researchers interested in estimating the costs of bad health and evaluating economic policies on health insurance and social security through structural economic models need to worry about measurement error in health.

In the future, I plan to continue my work on public finance. I currently have two works in progress that I will continue to work on once the 2023/24 economics job market is over. One project addresses optimal regulations in the banking sector, and the other studies granular spending multipliers and optimal fiscal policy in the presence of production networks.

As a graduate student, I have had the opportunity to do research in economics, a subject about which I am passionate, and fortunate to have found such good advisors and collaborators. I am very excited to see what comes next in my career, where I hope to be able to continue existing collaborations, as well as start new ones, to tackle interesting research questions.

Sincerely,



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