RESEARCH STATEMENT

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My research seeks to improve the understanding of Small Open Economies. Being from an emerging market country and having worked in a policy-oriented institution makes me aware and interested in the peculiarities of these markets. In this regard, my agenda is focused on:

Effects of Global shocks in business cycles: Commodities exports are an important component in the international trade of Small Open Economies. For example, during 2019 copper contributed 51% to Chilean exports, while petroleum's share in Norway's export was around 60%. Thus, commodities prices - and their correlation with terms of trade - have been considered as one of the main drivers of the business cycles in these economies (see Ben Zeev et al. (2017), Drechsel and Tenreyro (2018), Fernández et al. (2017)). However, since commodity prices are determined in the world market some of their movements reflect fluctuations in global conditions while others are market-specific. From a policy perspective, distinguishing between both of them is pertinent since they could have different transmission mechanisms and effects leading to particular responses. In this line, in a working paper I propose an econometric strategy to disentangle the effect of global innovations (common to multiple SOEs, but not explained by them) from terms of trade idiosyncratic shocks. I show that around one-third of the predictability of business cycles is explained by common innovations and that after controlling for them, terms of trade variability have less than 10 percent of explanation power over domestic output. In addition, my results show that developed SOEs commodity exporters exhibit lower exposure rather than emerging markets.

Although I provide empirical evidence of the relationship between this identified global factor with expectations and productivity, my agenda considers exploring - in a structural model- the channels that allow us to characterize these results and the possible role of financial development on it.

Impact of weather changes: The second strand of my research agenda is focused on the short run effects of weather variability on emerging markets. Dell et al. (2012) shows that low-income countries are more sensitive to temperature changes, while Acevedo et al. (2020) measures the welfare cost of weather shocks. Despite this growing literature, the heterogeneous responses across economic sectors and their contribution to the aggregate effect of weather variability on SOE's economic activity have been less studied. In one of my works in progress I provide empirical evidence of how changes in weather conditions approximated by sea temperature anomalies, known as *El Niño* Southern Oscillation affects heterogeneously (both, in level and sign) different sectors in multiple countries. Preliminary results show that the production of some sectors response positively [while others are negative] to small weather fluctuations, but as the shocks are higher mostly sectoral responses turn negative. Based on these results, I am building a multisector DSGE model to analyze the role of this heterogeneity.

Finally, sovereign default and monetary policy are also strands of my agenda. Regarding the former, in joint work with Guerrón - Quintana we are using machine learning techniques to solve

non-linear systems as models with strategic sovereign default. Concerning the latter, I am interested in analyzing the welfare cost and distributional effects caused by the heterogeneity in consumption bundles. For example, Blanco and Diz (2021) concludes that when preferences are not homothetic, the optimal price index assigns a small weight to price fluctuations of the subsistence good. In an economy with heterogeneous households, agents in the lower percentiles will tend to have consumption bundles around this subsistence level. Then, these households will be more affected by price fluctuations that have low weight in the aggregate index. Therefore, the distributional channel of monetary policy will be affected.

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