My research interests lie on the intersection of macroeconomics with the study of labor markets. I am particularly interested in policy-relevant questions that are able to shed light on how workers adapt to changing labor market conditions over time, with special focus to time periods following structural changes in the economy such as the Great Moderation and the Great Recession.

In my job market paper, “The Structural Shift in the Cyclicality of the U.S. Labor Income Share”, I document a structural change in the cyclical movements of the U.S. labor share. Traditionally thought as countercyclical, the labor share started to move with the business cycle in the last three decades. The dynamics and cyclical movements of the labor share are important statistics for labor market policy. In particular, the (counter-)cyclicality of the labor share is a measure of insurance in the labor market. A countercyclical labor share occurs when total compensation is not increasing or decreasing as much as the national income, which in turn implies that workers are willing to earn less money in expansions in order to obtain some insurance against unemployment risk in recessions. In the last three decades, the labor share became procyclical. This implies that total compensation is increasing (decreasing) by more than total output increases (decreases), which in turn amplifies the impact of recessions to the labor market due to large declines in real wages and/or a large increase in unemployment. Therefore, the cyclicality of the labor share is informative for policy-makers on the degree or lack of formal insurance that is obtained by workers in the labor market.

I trace the shift in the cyclicality of the labor share to three key aggregate empirical facts: the vanishing procyclicality of labor productivity, the increase in the relative volatility of real wages, and the imperfect co-movement between real wages and labor productivity. Empirically, the vanishing procyclicality of labor productivity and the increase in the relative volatility of real wages explain, respectively, 76.8% and 41.4% of the shift in the cyclicality of the labor share. The vanishing procyclicality of labor productivity implies that the average output produced per hour worked became constant over the cycle. This contrasts with the historical evidence that productivity increased in expansions and decreased in recessions, which is usually explained by the practice of labor hoarding. On the other hand, the increase in the relative volatility of real wages made real wages to be more volatile than aggregate output in the last three decades. This means that real wage fluctuations became larger than the ones expansions and recessions observed in the economy. This questions the existence of real wage rigidities in the macroeconomic environment and suggests that the decline in the importance of labor unions in the U.S. economy lead not only to a reduction in workers' bargaining power but also to an increase in the flexibility of wages.
The last important ingredient is the imperfect co-movement between real wages and labor productivity. However, the importance of this fact is theoretical and not empirical, and needs to be taken jointly with one of the other two key facts. In a perfectly competitive environment real wages are proportional to the marginal labor productivity, which is usually a function of the output produced per unit of labor input. In most formulations, this makes real wages to be almost proportional to average labor productivity. I show theoretically by means of a counterexample that the imperfect co-movement between real wages and labor productivity is crucial in obtaining the shift in the cyclicality of the labor share following the vanishing procyclicality of labor productivity. In particular, I use a relatively stylized real business cycle model embedded with a labor hoarding mechanism and wage bargaining. While the model is able to generate a decline in the procyclicality of labor productivity following a reduction in the labor market reallocation rates, a decline in the workers’ bargaining power, or an increase in the relative volatility of demand shocks, the model is not able to generate a shift in the cyclicality of the labor share. In fact, the labor share becomes even more countercyclical under these scenarios. Introducing wage rigidity in the model also makes the labor share more countercyclical, as it decreases considerably the volatility of real wages.

Finally, I extend the analysis to understand whether the shift in the cyclicality of the labor share comes from structural changes in the industrial composition of the U.S. economy. I provide empirical evidence that this is not the case, as the labor share in both manufacturing, trade, and services become procyclical in the last three decades. To quantify the impact of sectoral composition to the cyclicality of the labor share, I perform a sectoral decomposition of the aggregate labor share. I confirm quantitatively that the shift in the cyclicality of the labor share is not an aggregation result, since it happens both for the aggregate and at the industry level.

Outside my job market paper, my research is focused on answering macroeconomic questions by looking to microeconomic patterns. In particular, in my paper “The Public Sector Wage Premium: An Occupational Approach”, I relate the public sector wage premium with job polarization and I show that the public sector provides different incentives for workers in different occupation groups. The public sector wage differential (per hour worked) is particularly high for non-routine manual occupations, the occupational group with the lowest average wage. Moreover, it is positive for routine jobs, the ones that are suffering the most in terms of jobs lost with the polarization of jobs in the U.S. economy. Overall, the public sector wage premium depends negatively on the valuation of the private sector for each occupation, which suggests that the public sector is actively attempting to insure workers with worse economic or labor market conditions in the private sector. In this paper, I perform a Oaxaca-Blinder Decomposition to quantify how much of the public sector wage premium is explained by demographics and by the occupational composition for (non)-routine cognitive and manual occupations. I conclude that the occupational composition explains 24.0% of the public sector wage premium between 1980 and 1989 and 32.5% of the public sector wage premium between 1990 and 2013. Then, I look to each occupational category separately and I confirm the importance of the occupational composition by noting that the public sector wage premium for each group cannot be explained solely by demographics. For non-routine manual occupations, demographics can only explain up to one-third of the public sector wage premium, while for non-routine cognitive occupations, demographics would predict the public sector to pay 7.4% more to its average worker
than in the private sector, while in fact the public sector values less these workers than the private sector. I take two conclusions from this study. First, that the composition of workers in the public sector goes towards older and more experienced workers than in the private sector. Second, that the private and public sector have different valuations towards occupations, with the former having a higher valuation for the high wage non-routine cognitive occupations, and the latter valuing more the low wage non-routine manual and routine occupations.

My remainder research papers are still embryonic. In the paper “An Empirical Identification of Firms’ Choice of Extensive and Intensive Margins of Employment Adjustment”, joint with Yang Yu, we look to the adjustment of labor input both at the extensive and intensive margins at the firm and industry level. The motivation for this project comes from a cross-country analysis between the United States and Germany on the aftermath of the Great Recession. The labor input fell considerably in both countries during the Great Recession but, while in the U.S. this implied a large decline in employment with virtually no change in hours per worker, in Germany the fall was mostly in the hours worked per employee and not in the number of employees. We extend the standard search and matching model to include adjustment costs for hours per worker at the firm level. We argue that the labor adjustment behavior in Germany can be obtained by a reduction in these adjustment costs, interacted with strong incentives for labor hoarding policies at the firm level. In the paper “Involuntary Retirement and the Fall in Consumption Growth”, with Adam Bergeron, we quantify the impact of an increase in the number of “involuntary retired” workers on the decline in Consumption Growth after the Great Recession. In particular, we use data from the Current Population Survey (CPS) to identify how involuntary retirement evolved since the Great Recession and to characterize the aggregate labor income compositions for these individuals. We complement the analysis studying changes in the balance sheet and asset composition of households with involuntary retired workers on the following the Great Recession. We do so by applying a panel data approach to the Panel Study of Income Dynamics (PSID).