Staggered Contracts and Unemployment During Recessions

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INTRODUCTION

A well-known propagation mechanism during recessions is the inability of wages to adjust downwards when aggregate demand falls abruptly. Namely, collective contracts set nominal wages for a fixed period and hence for a given fall in aggregate demand, high labor costs may induce employers to adjust employment downwards.[1]

A number of factors can attenuate the employment consequences of downward wage rigidity. For example, wage rigidity can be less binding if collective contracts are renegotiated or, alternatively, if firms react by adjusting hours of work downwards. Moreover, some wage components may be more flexible than others –for example, collective contracts in Spain typically set minimum wages by skill, province and year, but do not prevent wage cuts above those levels.

A recent study matches rich data on the universe of sectoral collective contracts to longitudinal information on workers' employment histories to estimate the impact of downward nominal wage rigidity on employment during major recessions in Spain.[2] Recessions differ in their duration, the level of inflation and/or the availability of other margins of adjustment, thus providing a setup to learn about how downward wage rigidity shapes employment adjustments.

THE THOUGHT EXPERIMENT

Unions and employer federations in Spain set pre-specified minimum wages by province and occupation level that are compulsory for all covered workers and firms for a predetermined period of time. As negotiations mostly take place at the province-industry level, at any moment in time, social partners in some provinces-industries are under ongoing negotiations over minimum wage floors while others have already agreed on a set of minimum wage floors. That is, collective contracts are staggered. Consider a large anticipated shock (say, the 1993 recession or the 2009 Recession). At the moment of that shock some collective contracts are being negotiated while others are not. Collective contracts under ongoing negotiation can incorporate the information provided by an aggregate perturbation and can adjust wages downwards, while those that have been settled before the onset of a recession reflect the labor market conditions of the expansion. The latter are subject to "downward wage rigidity".

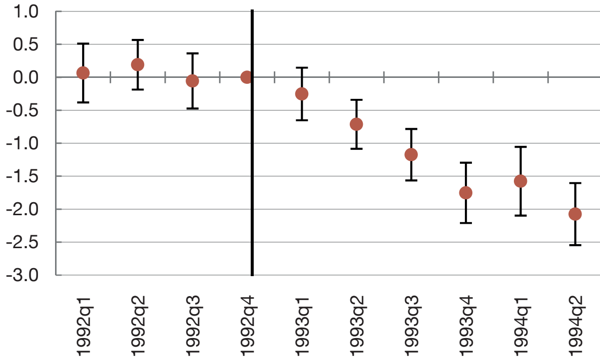
Panels A and B in Chart 1 display the adjustment of negotiated wage growth as envisaged in collective contracts in the 1993 and 2009 recessions. Collective contracts negotiated right before the recession (marked with a vertical line) settled on higher wage growth for the first year of the recession than those signed afterwards. In both recessions, the adjustment is sluggish and wage growth in collective contacts signed after the onset of the recession settles at about 1.5-2.0 pp below those signed pre-recession.

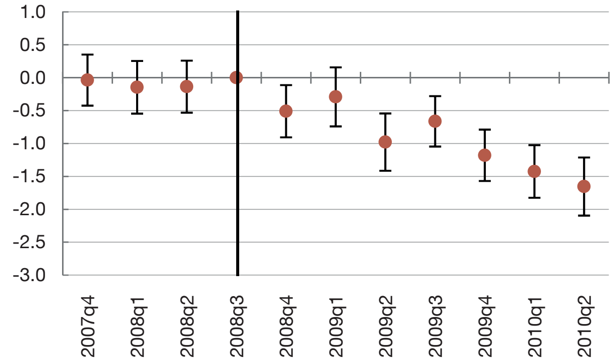
THE RESULTS: THE RESPONSE OF WAGES

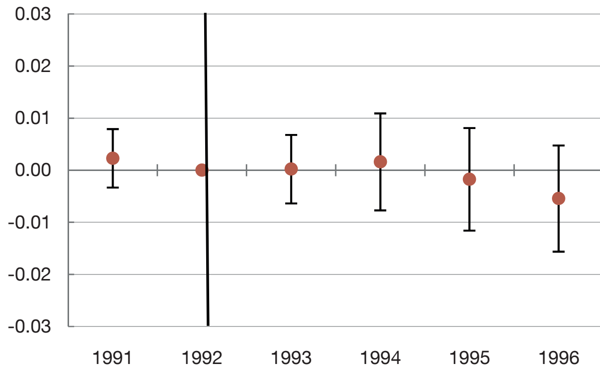
Adamopoulou et al. (2024) first examine to what extent the differences in negotiated wage growth settled in collective contracts propagate over the entire distribution of wages earned by workers/paid by employers. The behavior in both recessions, as shown in the study, is similar: the higher negotiated wage growth set in collective contracts signed pre-recession results in higher wage growth among workers whose earnings are closest to the minimum wage floors (at most 20 pp above the minimum corresponding to workers' skill and province), but less so among the rest. Overall, a 1 pp additional increase in minimum wage growth set in collective contracts results in between 0.40 (in 2009) and 0.45 pp (in 1993) increase in workers' wage growth.[3]

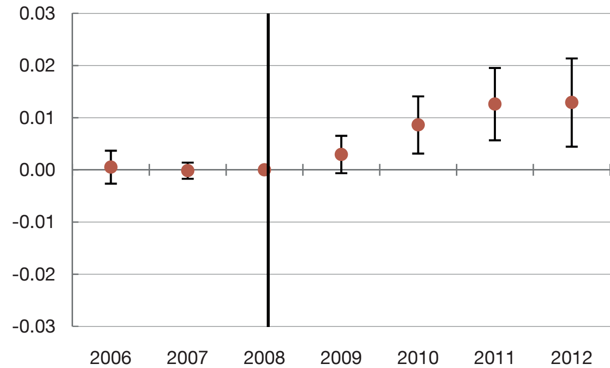
1 See Olivei and Tenreyro (2010) or Gertler and Trigari (2009) for models of the aggregate implications of staggered contracts.
2 See Adamopoulou et al. (2024), who match data from the 1991-2012 Continuous Sample of Working Histories to the Register of Collective contracts.
3 Card and Cardoso (2022), Fanfani (2024), and Gautier et al. (2022) estimate the wage response to negotiated wage increases for Portugal, Italy and France, respectively. The estimates imply that 1pp growth in negotiated wages increase mean wages by between 0.2pp (in France) and about 0.5pp (Italy and Portugal).

Figure 1









SOURCE: Adamopoulou, Díez-Catalán and Villanueva (2024), using matched data of the Register of Collective Contracts and the Continuous Sample of Working Histories.

THE RESPONSE OF EMPLOYMENT

A higher labor cost to employer can result in job separations. Namely, employers covered by a collective agreement signed before the onset of a recession would face a higher labor cost than a similar employer covered by an agreement signed afterwards. A possible reaction of the employer to the increased cost of labor is to reduce the size of its labor force. In this regard, the results shown in Chart 1, panel D show the average monthly probability of non-employment in each year of workers covered by collective agreements signed before the 2009 recession compared to that of workers whose collective contract was signed afterwards. One year after the start of the 2009 recession, workers covered by collective agreements signed prior to the recession were 0.5 pp more likely to be non-employed. Four years afterwards, that group of workers had a 1 pp higher chance of being non-employed in any firm. In that recession, the employment response to downward nominal wage rigidity was substantial – Adamopoulou et al. (2024) estimate firm-specific labor demand elasticities to negotiated wages of about 0.52. In keeping with the wage dynamics described above, the response is entirely driven by employees whose pre-recession earnings were at most 20% higher than the minimum wages set in collective contracts.

Chart 1, panel C shows a remarkably different result for the 1993 recession. In that case, the employment trajectories of workers covered by collective contracts signed prior to the recession and those signed during the recession are very similar, and the difference is not statistically significant.

USING HETEROGENEITY ACROSS COLLECTIVE CONTRACTS TO UNPACK MECHANISMS

A key source of wage rigidity due to staggered collective contracts is that current wages reflect the macroeconomic conditions that prevailed when the negotiations took place, which may differ from those in the present. Thus, a longer period until renegotiation prolongs differences in labor costs and thus their real effects. To shed light on this mechanism, the study compares the employment outcomes of contracts signed prior to the recession that set a lengthy period until renegotiation to those that set shorter periods until renegotiation. Focusing on the 2009 recession, it is found that workers under contracts signed during the expansion, which were to be renegotiated shortly after the onset of the recession, did have very similar employment dynamics as those covered by contracts renegotiated during the recession. Instead, all the dis-employment effects are concentrated among workers covered by lengthy contracts of two-or three-year duration.

This finding is relevant as, possibly due to the volatility and uncertainty midst an inflationary period, most collective contracts during the 1993 recession were signed for a short period (about one year on average). In other words, had the average contract duration of collective contracts in 2009 been similar to the 1993 one, employment losses would have been much more muted. Thus, a possible explanation for the lack of employment responses to downward wage rigidity in 1993 was the short renegotiation period.[4]

Finally, the richness of the data permit ruling out other features of collective bargaining as a determinant of employment dynamics, namely nominal versus real wage rigidity or the role of layoff costs.[5]

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4 Recent estimates of employment losses due to staggered contracts vary from rather large —Faia and Pezone (2024), Fanfani (2024) and Martins (2022) to more muted ones —Card and Cardoso (2022). All those studies focus on the period around the 2009 recession.

5 Additional evidence from the COVID-19 recession suggests that the possibility to adjust hours via furloughing schemes could have played a role in mitigating employment losses.