

A New World Post COVID-19

Lessons for Business, the Finance Industry and Policy Makers

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The Global Financial Crisis and the COVID-19 Pandemic

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Abstract We sketch possible linkages between features of the 2008-2009 financial crisis and outcomes of the 2020 COVID-19 pandemic. We start from three features of the financial crisis, i.e. (1) costly bank bailouts, (2) constrained SME credit, and (3) strict bank regulation. We then discuss their intermediate outcomes in terms of: (1) sovereign debt accumulation and possible cuts in public health spending, (2) the slowing of economic growth and labour mobility; and (3) bank zombie lending, to arrive at the COVID-19 pandemic severity in terms of infection and death rates and the difficulties in designing and implementing economic support policies.

Keywords Financial crisis. COVID-19 pandemic. Bank default. Local credit. Zombie lending.

Summary 1 Costly Bank Bailouts. – 2 Constrained SME Credit. – 3 Strict Bank Regulation. – 4 Testing Strategy: Preliminary Exploration.

We aim to sketch possible linkages between features of the 2008-09 financial crisis and outcomes of the 2020 COVID-19 pandemic. We do not aspire to theoretically and/or empirically establish such links in this chapter, but rather seek to point out a few possible channels. Our hope is that future re-



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search (including our own, i.e. we are pursuing cross-country and within-country testing) can reject or confirm some of the conjectures regarding the impact of the 2008-09 financial crisis on the unfolding health and economic outcomes of the 2020 COVID-19 pandemic. Empirical testing for sure can occur comparing countries, but also across localities, banks, and firms.

We will focus on three features of the financial crisis, i.e. *bank bailouts* that were often costly, *SME credit* which became more constrained, and *bank regulation* that became stricter. We will then discuss their *intermediate outcomes* in terms of the accumulation of sovereign debt and possible cuts in public health spending, the slowing of economic growth and labour mobility, and bank zombie lending, to arrive at the *COVID-19 pandemic severity* in terms of infection and death rates and difficulties in designing and implementing economic support policies.

Figure 1 below provides a small roadmap to the rest of the discussion.

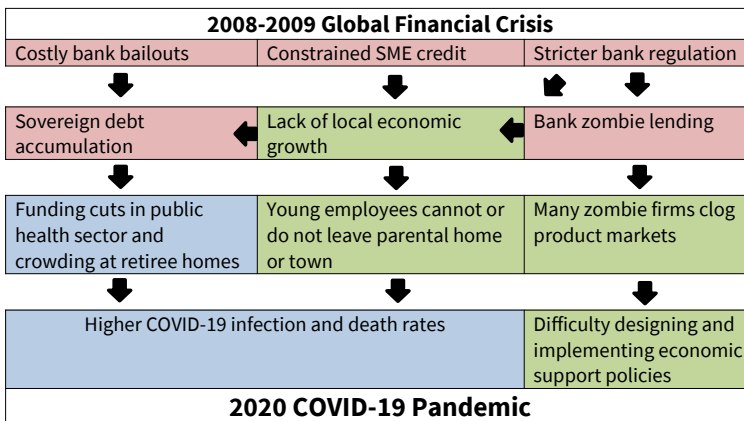


Figure 1 The channels through which the Global Financial Crisis affected the COVID-19 Pandemic Outcomes

Figure 1 links elements of the financial crisis in 2008-09, through their impact on public health and economic outcomes since then, on characteristics of the COVID-19 pandemic in 2020. Financial elements are in red, public health elements are in blue, and economic elements are in green.

The rest of the paper proceeds as follows. Section I discusses the costly bank bailouts, Section II the constrained SME credit, and Section III the strict bank regulation. Section IV concludes by discussing a few possible empirical testing strategies and offers preliminary findings.

1 Costly Bank Bailouts

Bank bailouts are complex phenomena.¹ In Berger, Nistor, Ongena and Tsyplakov (2020) we note that bank bailouts are not the ‘one-shot’ events commonly described in the literature. Bank bailouts are instead dynamic processes in which regulators ‘catch’ financially distressed banks; ‘restrict’ their activities over time; and ‘release’ the banks from restrictions at sufficiently healthy capital ratios. Even more important than their complexity is their potential cost to the taxpayers. Both capital injections and debt guarantee bailouts led to governmental outlays that resulted in further governmental debt buildups in many countries in Europe. While it is true that the picture is dynamic and complex, as a significant portion of the capital injections were later recouped and most debt guarantees never led to any claims, the UK government for example probably ‘borrowed’ around £150 billion (and was exposed for ten times that amount) according to its own National Audit Office.² This amount represented around 10% of general government gross debt (which stood at £1,821.3 billion at the end of the financial year ending March 2019, equivalent to 85.2% of gross domestic product). As a matter of relevant comparison, that £150 billion is higher than the yearly budget of the National Health Service (NHS) by a dozen or so billions.³

The linkage from one government budget item to another one is never straightforward, as demands are many and money is fungible. At the same time also in the case of the NHS it is hard to overlook an actual decrease in its budget in 2009 after 50 years of year-on-year growth and the slower growth thereafter.

In any case, the financial crisis led to costly bailouts, not only increasing sovereign debt but also putting pressure on other governmental spending, including those in the public health space, making dealing with any pandemic more challenging. Think about the impact of lower funding prior to 2020 on the functioning or even existence of pandemic coordination units, the number of hospital beds including intensive care units, staff and their specialisation, etc. However,

1 Berger and Roman (2020) provide an excellent kaleidoscopic review of bank bailouts as these occurred around the world.

2 On December 15, 2010 in its Second Report on the financial crisis, the National Audit Office reported that the “scale of the support currently provided to the banks has fallen from its peak of £955 billion to £512 billion as at 1 December 2010. However, the amount of cash currently borrowed by the Government to support UK banks has risen by £7 billion since December 2009 to a total of £124 billion” (<https://www.nao.org.uk/report/maintaining-the-financial-stability-of-uk-banks-update-on-the-support-schemes/>).

3 See for example the websites of the Institute for Fiscal Studies and the UK Economic and Social Research Council on Health Spending: https://www.ifs.org.uk/tools_and_resources/fiscal_facts/public_spending_survey/health_spending.

not only hospital care but also elderly care may have been affected, leading to lower quality care for the elderly in more packed facilities, attended by fewer quality staff with fewer medical on-site facilities again making the pandemic outcomes potentially worse.

In addition, the further build-up of governmental debt due to the bailouts may have made it more difficult to set up very large and/or the appropriate economic assistance packages when needed (due to an actual or implied government budget constraint).⁴

2 Constrained SME Credit

The financial crisis led to a worsening of access to credit for households and corporations alike. Especially SMEs in periphery countries (such as Greece, Ireland, Italy, Portugal and Spain) were negatively affected. Banks, for example, ended up closing branches in those countries, which in Bonfim, Nogueira and Ongena (2020) we show to involve losses for (small) firms locally.

A lack of local credit access led to increasing local unemployment and worse economic conditions. Take Spain. With a real estate boom underway, once past the mandatory school age, many youngsters had directly entered the labour force to work in the well-paying real estate construction sector. Once the crisis hit, these youngsters found themselves quickly out of jobs and out of money, but strong family networks kept them off the street by bringing them back to live with their parents or other older relatives. And later, after a few years, when conditions in Spain improved, this lost generation may have found it challenging to find a job far away from their home town, maybe also not wanting to move too far away from their now aged parents or relatives.

Overall, the financial crisis may have made living at home or in the hometown for 20-to-30-year olds in countries like Spain and Italy (which was already prevalent) more common. In addition, this living-in-close-proximity of older and younger people due to the financial crisis may have made COVID-19 infections more likely and deadly as younger people often carry the virus asymptotically while especially older adults seem more likely to succumb to it.

⁴ In Andrieş, Ongena and Sprincean (2020) we assess the impact of the pandemic in Europe on sovereign CDS spreads using an event study methodology. We show that a higher number of cases and deaths and public health containment responses during the pandemic significantly increase the uncertainty among investors in European government bonds.

3 Strict Bank Regulation

Finally, higher capital requirements and loan loss provisioning introduced after the financial crisis may have led banks to wait longer to recognise potential loan losses. In Bonfim, Cerqueiro, Degryse and Ongena (2020), for example, we argue how in spite of growing regulatory pressure applied in the opposite direction in most developed economies, ‘zombie lending’ remains a widespread practice by banks (see also Acharya et al. 2019). We then exploit a series of large-scale on-site inspections made on the credit portfolios of several Portuguese banks to show how these inspections affect banks’ future lending decisions making an inspected bank 20% less likely to refinance zombie firms, immediately spurring their default. Overall, we document that banks seemingly reduce zombie lending because the incentives to hold these loans disappear only once they are *forced* to recognise losses.

This forced recognition of losses, and in general, the willingness by supervisors to force banks to recognise and restructure, may matter a great deal, both for subsequent economic growth and also for the possibilities for an optimal pandemic economic policy response. In Gropp, Ongena, Saadi and Rocholl (2020), for example, we show that during the recent crisis in the US regions with higher levels of supervisory forbearance on distressed banks, there was less restructuring in the real sector: fewer establishments, firms, and jobs were lost if more distressed banks remained in business. We find that in these regions the banking sector is less healthy for several years after the crisis, manifested in lower capital, and higher non-performing assets ratios. But consistent with the cleansing hypothesis, regions with less supervisory forbearance during the crisis experienced a better productivity growth path after the crisis with more establishment entries, job creation, and employment, wages, patents, and output growth. Therefore, it seems to be a matter of short-term gain, long-term pain, with both zombie firms and zombie banks depressing economic activity for a long time after a financial crisis has been unspooling.

If zombie firms (and zombie banks) are so difficult to get rid of, their presence for sure also makes the implementation of government lending programmes to help firms through the early and mid-stages of the pandemic compromised from the very start. This is because money ends up in the ‘wrong hands’ and banks are all too happy to have a deep-pocketed co-underwriter, i.e. the government, of the set of zombie firms they have continued to service.

4 Testing Strategy: Preliminary Exploration

There are several levels at which the impact of the financial crisis on the unfolding of the COVID-19 pandemic can be assessed. At the country level, correlations can be assessed of the measures of the severity of the financial crisis in terms of the loss in output growth, increase in sovereign debt or subsequent build-down in the public health sector and the (pre-lockdown) severity of the pandemic in terms of infections and death rates. At the local level, in Spain for example, one can assess how measures of changes in health care expenditures (after minus before the financial crisis) are related to financial crisis measures. In addition, we can study how measures of changes in living in close proximity (after versus before the crisis) are predicted by financial crisis measures. Based on these assessments, one can then see how predicted values of these two sets explain the COVID-19 pandemic measures, controlling for the level of healthcare and the level of living in proximity.

We present here some preliminary analysis for the Spanish case, which provides motivation for further formal work (which we pursue ourselves). We focus first on the relation between foreclosures, which capture the severity of the financial crisis across provinces, and changes in public health expenditures. Using data from the Spanish Property Registrar, we identify the number of per-capita foreclosures across the 50 provinces ('Provincias') in 2012.⁵ That year is the second trough of the Spanish double dip recession and is associated with the deepest phase of the sovereign debt crisis, which ended in an important bailout for Spanish banks. Public bailouts in Spain reached 60 billion EUR, around 6% of GDP. We correlate three foreclosure measures with the percent changes in per-capita public health expenditures across provinces relative to 2009, the year with highest per-capita public health expenditure prior to crisis-driven cuts. Data for health care expenditures were collected from the Spanish Health Ministry at the regional level.⁶ This expenditure data from the 17 regions ('Comunidades Autónomas') was then distributed across provinces proportionately to the province population. The average province drop in public health expenditures relative to 2009 was 8%, 12%, 12% and 6% in 2012, 2013, 2014 and 2015, respectively. Table 1 shows the results for three measures: foreclosure initiatives, materialised foreclosures, and settlements between the household and the bank aimed to give back the property with no further payments ('dación en pago').

⁵ Foreclosures data from the Property Registrar was downloaded from: <https://www.registradores.org/actualidad/portal-estadistico-registral/estadisticas-de-propiedad>.

⁶ Public health expenditures was obtained from: <https://www.mscbs.gob.es/estadEstudios/estadisticas/sisInfSanSNS/pdf/egspGastoReal.pdf>.

Table 1 Correlations between per-capita foreclosure measures per province in 2012 and changes in per-capita health expenditures per province with respect to 2009

	Initiations of foreclosures procedures	Foreclosure procedures materialized	Settlements between household and bank
2013-2009	-0.32**	-0.30**	-0.30**
2014-2009	-0.30**	-0.26**	-0.29**
2015-2009	-0.26*	-0.24*	-0.19
2016-2009	-0.25*	-0.24*	-0.22
2017-2009	-0.18	-0.19	-0.15
2018-2009	-0.13	-0.15	-0.12

Measures of foreclosures are: *initiations of foreclosures procedures*, *foreclosure procedures materialized*, and *settlements between household and bank* to give back the property with no further payments. One and two stars imply statistical significance at the 10% and 5% confidence levels, respectively.

Results in table 1 suggest that provinces with a higher intensity of foreclosures due to the financial crisis experienced significantly negative changes in health care expenditures in 2013, 2014, 2015 and 2016. There may be a number of mechanisms at work behind these correlations, such as the need to shift public expenditures to other items, such as unemployment benefits. Additionally, lower tax collection during those years, the need to reduce fiscal deficits during those years and an overall higher fiscal burden seem to have taken a toll precisely in provinces heavily hit by the financial crisis. We also note that these negative correlations are pervasive throughout the sample, including the latest year, 2018, though their size and statistical significance naturally decrease over time.

The severity of the Spanish financial crisis had a relevant impact in terms of the unemployment rate, which reached 26% in 2013. The real estate bubble of the 1990s and 2000's burst in 2009, when construction abruptly came to a halt and many young low-skilled workers were laid off. Unemployment was particularly high among young workers, reaching above 50% of active young population. The response of these workers came in different forms. While some moved to other countries, returning home was definitely an option for many of them. If, consequently, household sizes increase and older children are staying in the same home, this could have had an impact in the transmission of the COVID-19.

To assess the relation between the Spanish financial crisis and the potential changing patterns of co-residence in Spanish households, we retrieve yearly province-level census data from IPUMS from 2009 to 2018: family size, age of the eldest child, and the age spread between the eldest and youngest child. We then correlate

changes in these co-residence measures – also with 2009 being the base year – and the 2012 foreclosure measures.

Table 2 shows the results. Strikingly, each correlation in the table starting in 2014 is positive, implying that households in provinces that were harder-hit by the financial crisis, experienced either higher growth or a lower decrease in the household size in the following years. Not all correlations are significant. Interestingly, significance is generally higher for later years, indicating that perhaps there is a lag by which the co-residence effects are borne out. The strongest results are obtained for the age of the eldest child. While with these data it is not possible to distinguish whether these descendants return home after being laid off or stay at home after the financial crisis, both channels are consistent with our results and could potentially contribute to an increased likelihood of disease contagion during the pandemic. Overall, the findings are consistent with the hypothesis stated above, at least at the unconditional level (i.e. not controlling for other relevant factors).

Table 2 Correlations between per-capita foreclosure measures per province in 2012 and changes in co-residence census measures across households

	Foreclosure measure	Family size	Age eldest child	Age spread children
2013-2009	<i>initiations</i>	-0.21	-0.09	-0.15
	<i>materializations</i>	0.15	0.10	0.03
	<i>settlements</i>	-0.05	0.02	-0.08
2014-2009	<i>initiations</i>	0.14	0.15	0.14
	<i>materializations</i>	0.22	0.12	0.05
	<i>settlements</i>	0.25*	0.28**	0.24*
2015-2009	<i>initiations</i>	0.34***	0.39***	0.25*
	<i>materializations</i>	0.16	0.16	0.10
	<i>settlements</i>	0.21	0.15	0.14
2016-2009	<i>initiations</i>	0.20	0.28**	0.23*
	<i>materializations</i>	0.29**	0.34***	0.25*
	<i>settlements</i>	0.15	0.23	0.20
2017-2009	<i>initiations</i>	0.09	0.17	0.18
	<i>materializations</i>	0.27**	0.21	0.20
	<i>settlements</i>	0.18	0.25*	0.21
2018-2009	<i>initiations</i>	0.18	0.24*	0.16
	<i>materializations</i>	0.28**	0.24*	0.24*
	<i>settlements</i>	0.22	0.29**	0.18

Measures of foreclosures are: *initiations* of foreclosures procedures, foreclosure procedures *materialised*, and *settlements* between household and bank to give back the property with no further payments. Measures of co-residence are: changes in *family size*, changes in the *age* of the *eldest child* at home, and changes in the *age spread* between the eldest and youngest *child*. One, two and three stars imply statistical significance at the 10%, 5% and 1% confidence levels, respectively.

As a third descriptive exercise, we explore the relation between the financial crisis and the use of nursing homes for the elderly, commonly known in Spain as elderly residences. Elderly residences have been at the centre of the COVID-19 impact in Spain. In particular, and while official data are not available at the time of the writing of the article, it is widely believed that more than half of the deceased died in elderly residences.⁷ We measure the usage intensity of elderly residences with two different ratios provided by the IMSERSO (Spanish Institute for Elderly and Social Services) in 2018, the latest year available.⁸ The first one is the ratio between users of elderly residences in a given province and the province population. The second one is the ratio of users of elderly residences in a given province and their total capacity. The residences considered here are only those under public funding.

Table 3 shows the correlations between the two residence ratios and the changes in public expenditures in health services with respect to 2009. The correlations are negative in most cases, implying that provinces that reduced their per capita public health expenditures by a larger amount were also those with a more intensive usage of the elderly residences under public funding in 2018. These correlations become larger and more significant for the 2014-2009 year interval. Thus, provinces with more crowded elderly residences were also the ones that experienced more serious public health expenditure cuts. This finding points at potential trouble for these provinces in the wake of the COVID-19 pandemic, as their response may be hindered by both overcrowded residences and less public health resources.

⁷ See, for instance, the June 6th, 2020 newspaper interview with the President of the Elderly Residence Association in Spain: <https://www.elmundo.es/espana/2020/06/07/5edbeec9fdddff5e298b457f.html>.

⁸ See https://www.imserso.es/imserso_01/documentacion/estadisticas/ssppmm_esp/index.htm.

Table 3 Correlations between elderly residence ratios of intensive usage in 2018 and changes in per-capita health expenditures per province with respect to 2009

	Residence users divided by province population	Residence users divided by residence positions in the province
2013-2009	0.08	0.06
2014-2009	-0.33**	-0.33**
2015-2009	-0.02	-0.13
2016-2009	-0.14	-0.25*
2017-2009	-0.12	-0.19
2018-2009	-0.13	-0.16

Measures of residence ratios are: *residence users divided by province population*, and *residence users divided by residence positions in the province*. The residences considered are those under public funding. One and two stars imply statistical significance at the 10% and 5% confidence levels, respectively.

In future work, we aim to test more formally the links among the four dimensions considered in this chapter: severity of the financial crisis, changes in health expenditures, changes in household co-residence and overcrowding of elderly residences. The preliminary results presented here at least suggest the possibility that provinces more affected by the financial crisis suffered higher public health expenditure cuts, a higher increase in household co-residence as a response to the crisis as well as more crowded elderly residences ex-post. This combination of factors might have exacerbated the consequences of COVID-19 in these provinces.

Overall the main question that will need to be addressed is “How to better manage systemic risks – from cyber attacks and pandemics to financial crises and climate change – in a globalized world” (Goldin, Mariathan 2014). Fighting the fires of one realisation of such a global systemic risk, i.e. the financial crisis, may have led to consequences for how another realisation one decade later, i.e. the COVID-19 pandemic, is having its impact and is being handled. The whole picture calls for more creative thinking, acting and resource allocation at all levels and by all agents (government, households and firms) to enhance system resiliency, in accordance with the costs and benefits involved. But in the end, and not simplifying too much, global systemic risks likely also call for a sure-footed global ‘systemic’ approach.

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