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MORTGAGE MARKET DISRUPTIONS

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Abstract

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JEL Classification: G21, G51, H12

Keywords: credit supply, mortgage originations, Covid pandemic, financial crisis

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Mortgage Market Disruptions*

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Abstract

Using the universe of residential mortgage contracts offered and originated in the United Kingdom, we document the major trends associated with the pandemic of 2020 and compare them to the financial crisis of 2007-09. Looking at initial impact, the mortgage market disruptions of 2020 were larger and more abrupt than in 2007-09; as of June 2020, the recovery had been much faster, although uncertainty remains over whether the momentum will persist. Products with loan-to-value above 90% or loan-to-income above 4 took the largest hit but their market shares had begun to rebound since May 2020. In contrast, the Great Recession was characterised by a more gradual but far more persistent decline in originations, especially among riskier borrowers, as the recovery did not start until 18 months after the onset of the financial crisis. The share of remortgagors that extract housing equity has declined significantly in the first months of the 2020 pandemic and the amount withdrawn has been typically smaller than in most of the previous years. By the end of 2020 Q2, roughly one in five mortgages were benefitting from payment deferrals while repossession orders had virtually disappeared following the temporary ban introduced by the Financial Conduct Authority in March 2020.

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1 Introduction

The 2020 Covid-19 pandemic has brought the world economy into disarray. Many countries across advanced, low-income and emerging markets have experienced historically unprecedented contractions, with double digit reductions in Gross Domestic Product over the very short span of a few weeks. The outlook for the rest of 2020 and 2021 remains highly uncertain.

Policy makers and researchers around the world have risen to the challenge. Governments, central banks and regulators have launched very large public programmes to support businesses and workers amid the economic consequences of the pandemic. Academics have turned to high-frequency transaction data as well as households and businesses surveys to provide policy-makers with real-time indicators (see Cox et al., 2020 for the United States; Carvalho et al., 2020, for Spain; Andersen et. al, 2020, for Scandinavia; Bounie et al., 2020, for France, and Hacıoglu et al., 2020, for the United Kingdom, among many others).

While excellent progress has been made on tracking consumption, employment and business activities in almost real-time during the 2020 pandemic, relatively less attention has been paid to developments in the mortgage market. This is unfortunate as earlier research has shown that housing debt is a key driver of household spending (Mian et al., 2013), firm investment (Bahaj et al., 2020) and, more generally, the business cycle (Piazzesi and Schneider, 2016), suggesting it may also play a role in the post-pandemic recovery.

This paper seeks to make 3 main contributions to the policy and academic debate on the economic consequences of the Covid-19 crisis. First, it documents the major trends in the residential mortgage market during 2020, using the universe of regulated contracts offered and originated in the UK. Second, we contrast the most recent events with the dynamics that prevailed during the financial crisis of 2007-09. We highlight similarities but also point out the important differences between the two events, keeping in mind that, so far, we have a long view of the 2007-2009 shock but still a short view of the current pandemic. Third, we provide a unified framework based upon a set of indicators that can be regularly updated and adopted by other countries in an effort to monitor international developments in the mortgage market.

Through these contributions, we aim at improving our understanding of the functioning of the mortgage market, especially in times of crisis, with a view to informing evidence-based policy and regulation.

The reason behind the UK focus is twofold. First, it is one of the most sophisticated

credit markets in the world, with (i) lenders frequently altering the offer of a wide range of differentiated products to segment the market and (ii) borrowers repeatedly involved in remortgaging activities and equity extraction over the life of their mortgage contracts. Second, policy makers have actively tried to shield mortgagors from the impact of the pandemic through payment deferrals and repossession order suspensions.

Our main results can be summarised as follows. Both the 2020 pandemic and the financial crisis of 2007-09 saw a fall of about 60% in the number of products offered in the mortgage market. But while this decline materialised in less than a month during the pandemic, it took more than 18 months to go from peak to trough during the Great Recession of 2007-09. Furthermore, the share of offered deals with Loan-To-Value (LTV) above 90% went from 10% to 2% between March and June 2020 (and it was still 2% as of August 2020) whereas it declined from 40% to 2% of the total supply between October 2007 and June 2009. In both crises, though, the average introductory interest rate increased for products with LTV above 90% but decreased for deals offered for mortgages with LTV below 75%.

As for originations, the largest decline in 2020 has occurred at around -70% and took place during the second month of the crisis, April, with the mortgage market starting to rebound already in May. In sharp contrast, the largest cumulated fall in originations in 2007-09 was recorded at about -50% and took place more than 18 months since the onset of the financial crisis. Despite the more abrupt start, the faster rebound of 2020 Q2 suggests that, should the current positive trend in mortgage originations continue, the overall number of ‘lost’ originations in 2020 may turn out to be smaller than in 2007-09.

In both historical episodes, the decline in originations has been larger among mortgage products with LTV above 90% or Loan-To-Income (LTI) in excess of 4. Finally, the second quarter of 2020 has witnessed a significant drop in the share of borrowers extracting home equity when remortgaging with another lender. And among those who engaged in equity withdrawals, the extracted amount was typically smaller than in previous years.

Following the introduction of a number of temporary policy measures to support the mortgage market, 1 in 5 UK mortgages have benefitted from payment deferrals, and repossession orders have virtually disappeared in 2020 Q2. While this has not prevented an increase in mortgage arrears during April (and to a lesser extent May 2020), the share of mortgagors experiencing recurrent payment difficulties in June 2020 has fallen back to the level seen in the same month of 2019.

The paper is structured in 8 parts. In Section 2, we present our data sources, which are MoneyFacts for the mortgage deals offered in the UK market and the Financial Conduct

Authority (FCA) ‘Product Sale Database’ (PSD) for mortgage originations. The evidence from MoneyFacts on credit supply is reported in Section 3. The following section describes the major trends in mortgage originations from the PSD, giving particular emphasis to the heterogeneity by LTV and LTI bands as well as regional variation. Evidence on equity extraction is reported in Section 5. In Section 6, we present evidence on mortgage payment deferrals, payment arrears and home repossession orders. In Section 7, we describe the major trends in the UK housing market. Section 8 concludes. All figures and tables referenced in the article are presented together in Annex 1.

2 Background and data

In this section, we describe some of the most relevant Covid-related events and policy interventions in the United Kingdom during the first half of 2020. We present also the data sources used in our analysis and their main features.

2.1 The unfolding of the pandemic crisis

At the beginning of March 2020, the number of positive cases of coronavirus in the UK reached 100 and began to increase rapidly. On 9 March, the FTSE 100 suffered its largest fall since 2008 (-8%), due to the rising awareness of the spreading of Covid-19. On 11 March, the Bank of England cut its policy rate by 50 basis point, from 0.75% to 0.25%. On 19 March, the Bank rate was further cut to 0.1%.

In the week of March 16, a number of policies were announced to help the economy during the pandemic. The Government announced the intention to pay 80% of the wages of employees not working because of the pandemic – a measure known as the Coronavirus Job Retention Scheme. The FCA announced a payment deferral scheme to allow mortgagors to suspend payments for three months. The FCA also banned most property repossessions from taking place over the same period. In parallel, the UK Government brought in a 3-month ban on evictions to help renters.

After these measures were announced, the UK Government started to put in place a number of public health measures to prevent the spread of coronavirus. On 20 March, cafes, pubs and restaurants were ordered to close (except for take-away food). On 23 March, the Government instructed the public to stay at home except for a limited number of purposes, such as shopping for essential items or exercising outdoor once a day. When these rules came into force on 26 March, the housing market was significantly affected: property viewings stopped and valuations could only be performed remotely.

The public health measures remained in place for the whole month of April and part of May. On 10 May, the Government announced a gradual lifting of restrictions. Starting on 13 May, those who could not work from home (eg in the construction and manufacturing sectors) were encouraged to return to work. House viewings and physical property inspections were again allowed in England.

Some of the main support policies, such as the Coronavirus Job Retention Scheme and the mortgage payment deferral scheme, were extended until the end of October. On 8 July, the Government announced, among a set of additional measures to help the economy mitigating the impact of the pandemic, a 9-month suspension of stamp duty (a transaction tax on housing sales) for properties worth up to £500,000.

2.2 Micro and macro data

To study the entire range of products offered by mortgage lenders, we use data from MoneyFacts, the largest and longest-standing financial data provider in the UK. It produces a monthly publication that compares the products offered in the market for mortgages, savings, banking, credit cards, personal loans and investments (unit trusts, investment trusts, with-profit bonds, pensions and annuities). Since January 2007, MoneyFacts provides electronically a comprehensive list of the mortgages available for residential borrowers, including their main characteristics, such as interest rate, length of the initial incentive period (if any), term and fees. In the UK, differently from the US, borrowers have access to a pre-defined set of products. Once a borrower applies for a mortgage and get accepted, they enter the loan contract with the characteristics that were advertised.

To study the universe of loans advanced and outstanding in the UK regulated mortgage market, we use the Product Sales Data ('PSD') collected by the FCA.¹ More precisely, to study the flow of new mortgages we use the PSD on mortgage originations (PSD001). This includes all loans for house purchase as well as refinancing mortgages when the borrower changes lender (and a new account is opened). To study the performance of existing mortgages, we use the PSD on the mortgage stock (PSD007), which reports all outstanding loans in the books of UK mortgage lenders. Lenders submit information to the PSD001 quarterly and to the PSD007 semi-annually.

At the end of the paper, to extend our analysis to parts of the housing market that are not mortgage-funded, we use 2 additional data sources. We report data from Her Majesty Revenues & Customs (HMRC), the Government department in charge of collecting stamp

¹The mortgage PSD covers residential mortgage contracts and excludes products such as second-charge lending, commercial, and buy-to-let mortgages.

duty, on the number of monthly housing sales in the UK. We also use a UK house price index computed by Nationwide, a mortgage lender, to describe house price dynamics.

As for the time span of our analysis, we always end the sample at the latest available month. This is August 2020 for the credit supply data from MoneyFacts, property transactions from HMRC and the Nationwide house price index, and June 2020 for mortgage originations and outstanding balances from the FCA PSD.

3 Credit supply

We begin our analysis from tracking the major developments on the supply side. We do so by looking at the universe of residential mortgage products offered by any lender in the UK for home purchase (ie excluding buy-to-let) or remortgaging. As described in the previous section, the data comes from the monthly publications of the financial data provider MoneyFacts.

The left column of Figure 1 zooms on the first 8 months of 2020 and therefore refers to the Covid-19 pandemic; the right column spans the period October 2007-June 2009 and thus covers the financial crisis. The overall numbers (shares) of mortgage products on offer in each month are reported in the first (second) row for three different LTV bands: up to 75%, in the range (75%, 90%] and above 90%. Higher LTV bands are typically perceived as riskier. In the last row, we record the average interest rate for mortgage deals offered in each of these three LTV bands together with the official Bank of England base rate (Bank rate).

The top left chart of Figure 1 reveals that in the few weeks between the end of March and the beginning of April 2020, lenders reduced dramatically the number of product types on offer, from 4900 to 2200. This was further lowered to 1900 in late April before rising slightly to 2000 in August. While the reduction was widespread across all categories of deals, products with LTV in excess of 90% saw the largest relative decline. This is more clearly visible in the second row, which shows that the share of offered products in the riskiest LTV band went from 10% at the end of 2020 Q1 to 2% at the end of 2020 Q2.

As for prices, the bottom row of Figure 1 shows that, in April 2020, mortgage deals with LTV below 75% saw an immediate drop of their average introductory rate of about 70 basis points. Mortgage deals with LTV between 75% and 90% saw a delayed drop of their average introductory rate of about 50 basis points. In contrast, mortgage deals offered in the LTV band above 90% witnessed a gradual increase of 25 basis points,

averaging a rate of 3.6% at the end of 2020 Q2 and 3.8% in the subsequent months of July and August.

To place the Covid-19 supply side developments in historical perspective, it is useful to compare them with the experience of the financial crisis of 2007-09, which is reported in the right column of Figure 1. The first row reveals that also during the Great Recession, lenders responded by decreasing significantly the number of contract types available in the market, by about 60%. While also in the right column products with LTV above 90% took the largest hit, a main difference between the 2 historical episodes is that before 2007, this LTV band was a large part of the market. As shown in the second row (right panel), the share of deals offered in the market for mortgages with LTV in excess of 90% plummeted from about 40% in 2007 Q4 to 5% in 2009 Q2. This difference in the initial share of high-LTV products between 2020 and 2007-09 reflects a general rebalancing of risk and more stringent mortgage requirements after the financial crisis (DeFusco et al., 2020). Also, the Great Recession was marked by the closure of many small sub-prime lenders, who typically had extensive product ranges.

Finally, the right panel of the bottom row of Figure 1 suggests that the patterns of interest rates during the period 2007-09 and in the first 2 quarters of 2020 were relatively similar, despite the fact that the Bank rate (yellow solid line) had much more room to decline at the time of the financial crisis.² During the Great Recession, the average introductory rate offered on deals with LTV below 75% declined by about 100 basis points while the average rate on products with LTV between 75% and 90% stayed relatively flat. In contrast, during the summer 2008, mortgagors seeking a deal with LTV above 90% faced a temporary increase in the introductory interest rates that was as high as 100 basis points.

In summary, the supply side response of lenders to the pandemic of 2020 and the financial crisis of 2007-09 has been generally similar: the offer of mortgage types has been reduced significantly in both historical episodes. This holds especially among riskier products that cover higher LTV mortgage loans whose introductory interest rate has been typically increased during both crises. Two specific differences, however, are represented by the fact that: (i) the supply contraction was far more gradual and prolonged in 2007-09 than in 2020, taking 18 months from peak to trough then, as opposed to only two months more recently; (ii) mortgage deals with LTV above 90% represented almost 40% of the lenders' supply before the financial crisis but only 10% of offered market share

²This does not imply that lenders' funding costs, which are more directly linked to mortgage interest rates, declined in the same way as the Bank rate

before the Covid-19 pandemic.

4 Mortgage originations

In this section, we turn to mortgage originations and study the major trends in the PSD collected by the FCA. We start by looking at the overall number of originations for either house purchase or remortgaging, the market shares of riskier products and the associated average interest rates. We do so by comparing the recent experience of the 2020 pandemic with the dynamics of the 2007-09 financial crisis. Then we look at the heterogeneity in the pattern of originations across different LTV and LTI bands as well as across the UK 12 statistical regions.

4.1 House purchases and remortgaging

Over the last 15 years, the British mortgage market has experienced 2 large disruptions: the first associated with the financial crisis of 2007-09 and the second with the pandemic of 2020. These patterns are displayed in Figure 2, which covers the period from March 2005 (when lenders started to report their origination to the PSD) to June 2020 (the latest available month).

The top row of Figure 2 displays mortgage originations (solid line) and mortgage approvals (dashed line) for: (i) house purchases in the left column and (ii) remortgaging with another lender (external remortgaging) in the right column. All time series in this row display a marked decline, between 50% and 70%, in the overall number of deals agreed over the period 2007-09. Interestingly, neither forms of originations have ever gone back to the pre-2007 peak: by early 2020, the overall number of mortgages is still some 50% below the level seen before the financial crisis. While mortgages for house purchase in 2020 Q2 have seen a similar percentage decline than in 2007-09, unlike in the Great Recession, the number of external remortgages has broadly remained at its pre-pandemic level.³

The second row of Figure 2 records the evolution of the market shares for mortgages with two characteristics that are typically associated with higher risk: LTV above 90% (in the left column) and LTI in excess of 4 (in the right column). The decline in the market

³For a full picture of remortgaging activity, it is important to consider remortgages with the same lender (internal remortgages), which constitute the majority of these transactions (Belgibayeva et al, 2020). However, internal remortgages are not tracked by PSD001, so we leave this investigation for future research.

shares of riskier LTV mortgages during the financial crisis was very significant, going from 15% in the 2007 Q3 to 2% at the end of 2008, and finally reaching a trough at 1% by early 2011. The largest increases afterwards occurred in 2013 and 2014 respectively. By early 2020, the market share of mortgages with LTV above 90% was still around 8%, slightly more than half of what was in 2006. The evolution of deals with LTI in excess of 4, however, paints a quite different picture. While the financial crisis triggered a decline also in the share of this type of mortgages during 2008, this was short-lived. Since then, the market has witnessed a steady increase in more levered deals: by 2020, 1 in 4 mortgages had a LTI above four as opposed to only 1 in 10 during 2006.

The bottom row of Figure 2 focuses on the average introductory rate for mortgages with LTV above 90% (left column) and LTI in excess of 4 (right column). The long-run decline is apparent in both charts, beginning at around 5% in 2006 and ending at about 2.5% in 2020. While the decline has been generally gradual and persistent, the drop in the average rate around the financial crisis has been particularly pronounced for mortgages with LTI above 4.

A sharper way of contrasting the experience of the pandemic so far with either the years immediately earlier or with the Great Recession is depicted in Figure 3. The left column displays a comparison with the years 2015 to 2019: this comes in the form of a swathe representing, in each month, the interquartile range of the distribution of the values of the variable in each chart across these 5 earlier years. The benchmark for comparison in the right column is 2007-2009 in dashed orange whereas 2020 is represented in solid blue. The time series in the right column of Figure 3 have been normalized to zero at the start of the relevant period (ie January 2020 for the health crisis and July 2007 for the financial crisis) so that the horizontal axis reads the number of months since the onset of each disruption. In both columns, the vertical axis reads the cumulative percentage change of the variable of interest in each month relative to the crisis start.

The top row of Figure 3 refers to mortgage originations for house purchases whereas the second and third rows report the percentage changes in the market shares of loan advances with LTV above 90% and LTI in excess of 4, respectively. The main takeaway from Figure 3 is that while the market disruption associated with the 2020 pandemic has been unprecedentedly large and abrupt on impact, its rebound has been - so far - much faster than in 2007-2009. Back then, the decline in both originations and interest rates was smoother but far more persistent, as it took more than 18 months to reach a turning point. All in all, the many months of smaller contractions following the financial crisis have produced a cumulative loss, in terms of missing originations, that appears

substantially larger than the initial fall associated so far with the few months of sharper declines in 2020. It remains to be seen whether the positive trend in originations observed during May and June 2020 will continue over the subsequent months, or whether this rebound – possibly helped by pent-up demand and Government support of the economy – will lose momentum.

4.2 Risk heterogeneity

In this section, we explore 2 relevant dimensions of heterogeneity that are typically associated with risk (see for instance Besley et al., 2013, and Benetton et al., 2020). First, we look at the percentage changes in mortgage originations across 3 tenure groups: first-time buyers, home movers and remortgagors. Then, we turn our attention to the heterogeneity across product characteristics by zooming on deals with LTV: (i) below 75%, (ii) in the range (75%, 90%], (iii) above 90%; or mortgages with LTI: (i) up to 3, (ii) between (3 and 4], (iii) above 4. The results are reported in Figure 4. The solid line represents the percentage change in each month of 2020 relative to January whereas the interquartile swathe of 2015-19 is constructed as in the previous chart.

The first row reveals that the decline in mortgage originations was largely concentrated among first-time buyers and home-movers but had only negligible consequences for the number of external remortgages relative to previous years. This is consistent with the view that the pandemic has made it less likely for households to start a new mortgage rather than for existing borrowers to refinance a loan already in place. Across LTV and LTI bands, however, a very significant heterogeneity emerges. The second and third row of Figure 4 reveals that the largest decline in April and May 2020 as well as the smallest rebound in June 2020 were concentrated among the riskiest mortgages, with LTV above 90% and/or LTI in excess of 4. For instance, as of 2020 Q2 end, the number of mortgages with LTV above 90% were still 60% below their June 2019 level whereas the year on year decline in originations with LTV below 75% was ‘only’ -20% in June 2020.

In Figure 5, we compare the market conditions during the 2020 pandemic with those of the 2007-09 Great Recession, using the same format as in Figure 4. The first row shows that the decline in mortgage originations among first time buyers and home movers has been significantly larger but far more V-shaped in 2020 than in 2007-09. In contrast, during both episodes, the initial impact among external remortgagors was muted and it took about a year since the onset of the financial crisis for mortgage originations among this group of borrowers to fall significantly. The second and third rows of Figure 5 reveals that both crises share a similar pattern of heterogeneity. The decline in originations is

more pronounced among mortgages with LTV above 90% and/or LTI in excess of 4 than among contracts with LTV between (75%, 90%] and/or LTI in the range (3, 4]. The fall in the latter group is in turn significantly larger than among loans with LTV below 75% and/or LTI below 3. While for most of the product categories that we analyse in Figure 5 the contractions appear faster and shorter-lived in the first 2 quarters of 2020, mortgages with LTI above 4 represents an exception: during the financial crisis, their originations have declined at the same pace and by a similar magnitude as during the pandemic.

In Figure 5, we have presented evidence on quantities. In Figure 6, we offer a similar historical comparison but for prices, across the 3 LTV bands used previously. The top row records the average basis point change in the introductory interest rate for each mortgage category relative to January (left column) and the start of the crisis (right column), respectively. Compared to either the years 2015-19 on the left or 2007-09 on the right, the decline of 35 basis points on products with LTV below 75% in 2020 Q2 was unprecedented. On the other hand, the second row uncovers that the average price of mortgages with LTV in the range (75%, 90] was little changed during the pandemic with respect to previous years. In contrast, the average rate for this group of loans saw an increase as high as 20 basis points 6 months after the onset of the financial crisis. Finally, the third row of Figure 6 shows that the 10 basis points rise in the average rate of mortgages with LTV above 90% seen in 2020 was unprecedented relative to the previous 5 years but it is in line with the increase witnessed over the first 6 months of the financial crisis.

4.3 Regional heterogeneity

The UK housing market is geographically very heterogeneous and the mortgage market follows a similar pattern of local segmentation. On the one hand, London and the South East are characterised by very high average house prices and, until 2017, the strongest regional house price growth. On the other hand, during the last 2 decades Northern Ireland, Scotland and, to a lesser extent Wales, have experienced much lower average levels and more modest house price growth rates.

Against this backdrop, it is interesting to explore whether the decline in mortgage originations during the 2020 pandemic has been more pronounced in any part of the UK, especially when looking at the riskier category of products with LTV above 90%. This is the goal of Table 1 and Figure 7. More specifically, in Table 1, we report: (i) the share of home value, (ii) share of transactions in 2015-2019, (iii) the contribution to the year-on-year quarterly percentage decline in 2020 Q2 and (iv) the date in which the housing

market lockdown was eased, for each of the 12 statistical regions of the UK. In Figure 7, we further explore local variation by displaying the heat maps of the percentage change in originations during 2020 Q2 relative to 2019 Q2 by postcode districts (the first part, usually 1 or 2 letters and 1 or 2 numbers, of UK postcodes). We do so for the whole UK (left column) and then zooming into Greater London (right column). In both Table 1 and Figure 7, the top panel focuses on mortgages with LTV above 90%, the middle panel refers to loans with LTV in the range (75%, 90%] and the bottom panel focuses on mortgages with LTV below 75%.

The evidence in this section highlights 2 main local patterns. First, the regions whose housing markets have historically been less buoyant, such as Scotland, Northern Ireland and Wales, have experienced the largest contractions in originations during the second quarter of 2020 across all LTV bands (Figure 7). In these very regions, the decline has been most pronounced among mortgages in the LTV band above 90%, with falls as large as 60% in Scotland and Northern Ireland against a national average of -37%. In contrast, Greater London, the South East and the East Midlands have seen the most resilient local markets. Second, across all LTV bands Scotland, Northern Ireland and, to a lesser extent, Wales have made the largest contribution to the national decline in 2020 Q2 relative to their typical share of originations during the previous 5 years. As shown in the last column of Table 1, the housing market lockdown in these 3 regions was eased later than in the rest of the country. On the other hand, Greater London, the South East and, to a lesser extent, the East Midlands have seen their role into the 2020 Q2 decline to go below their average share in 2015-2019 (Table 1), with a few postcodes in the capital even experiencing a rise in originations relative to 2019 Q2.

5 Equity extraction

The most popular product in the UK mortgage market is originated with an initial rate that is fixed for 2 years and then typically reverts to a Standard Variable Rate (SVR), which tends approximately to follow the Bank rate plus a margin. Once the initial fixed-term expires, households typically refinance their loan with the same (internal remortgaging) or with a different lender (external remortgaging).⁴ Refinancing activities occur several times over the life of a mortgage loan and, as shown by Mian et. al (2013) for the U.S. and Cloyne et. al (2019) for the UK, households often take advantage

⁴Please note that, strictly speaking, an internal remortgage is simply a variation of terms of the loan. Here we use the term “refinancing” in a broad sense.

of remortgaging opportunities to extract housing equity and use them for consumption purposes.

In the PSD, we are able to track borrowers who remortgage with a different lender (and thus appear in the dataset as a new origination); since 2015, we can observe the exact amount of equity that they choose to extract. We have already shown in Figure 2 that the number of external remortgages in the first 2 quarters of 2020 has been (i) above the post-financial crisis average but (ii) similar to the numbers seen during 2018 and 2019. That evidence, however, is silent on whether and to what extent external remortgagors have engaged in equity extraction during the pandemic. We tackle these questions in this section. More specifically, the left panel of Figure 8 records the year on year change in the monthly share of external remortgagors who have extracted equity, which we interpret as an extensive margin. The right panel reports the same statistics for the average amount withdrawn by each external remortgagor who has extracted equity, thereby representing an intensive margin. In keeping with the other charts, all monthly percentage changes in a year are reported relative to January.

Two main results emerge from the evidence in Figure 8. First, the share of external remortgagors extracting equity has declined significantly during the pandemic, reaching a trough of -20% in the year-on-year percentage point change of May 2020, before recovering slightly to -15% in June. Furthermore, among those engaging in equity withdrawals, the amount extracted in 2020 Q2 has typically been around 10% smaller than it was during the same quarter of 2019, with some sign of a possible recovery starting in June 2020.

In summary, remortgaging activities do not seem to have been halted by the pandemic but the ability or willingness of households to extract equity has been reduced, both along the extensive margin of the number of mortgagors extracting equity and along the intensive margin of the withdrawn amount chosen by those refinancing their loan. While the information in our data does not allow us to distinguish whether this trend reflects an increased risk aversion by borrowers or lenders, the evidence in this section is suggestive that the component of aggregate household spending typically financed by housing equity extraction is likely to have been subdued during 2020 Q2.

6 Payment deferrals, arrears and repossessions

Another important indicator of the financial health of borrowers is their ability to keep up with mortgage payments, in the absence of which first arrears and eventually repossessions can be triggered. We explore those issues in Figure 9. The top row records the share of

mortgages entering payment suspensions, the middle row refers to the share of mortgagors entering arrears and the bottom row displays the absolute number of repossession orders. All values are monthly. The left column reports historical values since this type of data became available in the PSD. The right column compares the year on year percentage change (relative to January) in the first six months of 2020 to the interquartile range of the distribution of each variable across the years 2015-19, which is represented as a swathe.

The top row makes clear that, following the launch of the mortgage payment deferral scheme in March 2020, there was an unprecedented spike in payment suspensions. By the end of 2020 Q2, around 1 in 5 mortgages were subject to a mortgage payment holiday. The second row, however, reveals that despite the sharp increase in payment deferrals, April 2020 has recorded an increase in borrowers entering mortgage payment arrears. Whilst it is not possible to say conclusively what drives this spike without further investigation, it may reflect an initial lack of awareness of existing support schemes or slowness in the household response (as shown on the left panel, arrears are typically reported in June and December). By June 2020, however, the share of mortgage arrears seems to have reversed to values that are more in line with, if not below, those of June 2018 and 2019.

The last row of Figure 9 focuses on repossession orders. Since 2017, a ‘typical’ month has seen about 450 repossession orders. But following the guidance introduced by the FCA in March 2020, repossessions have plummeted to fewer than 40 a month by the end of 2020 Q2 (or more than a 70% decline relative to 2019 Q2). While the evidence in the bottom row is consistent with the view that the restrictions on repossessions have prevented more negative outcomes in the mortgage market, it also suggests that there are likely to be borrowers who would have struggled to repay their mortgage in the absence of the 2020 pandemic.

7 Property transactions and house prices

In this section, we report the major trends in the universe of housing market transactions as reported by HMRC. Therefore we cover house purchases made by both mortgagors and cash buyers up the latest available observations, namely July 2020. In the first row of Figure 10, we display the time series of property transactions on the left and the Nationwide house price index on the right (whose time series extends up to August 2020). In the other charts, we compare the conditions in the 2020 housing market to those prevailing in 2 other sample periods: the period from 2015 to 2019 (left column) and the

Great Recession of 2007-09 (right column). The second row refers to property transactions and the third row to house prices. As in previous charts, the monthly percentage changes are computed relative to the same month in the previous year (normalized to January in the year of interest). The swathe refers to the interquartile range of the distribution of the values of each variable across all years between 2015 and 2019. The horizontal axis in the right column is zero at the start of each crisis.

The main finding is that property transactions dropped by some 60% in April and May before the year-on-year fall reduced to -40% in June and -30% in July. These developments, which heavily depend on the suspension of physical valuations during lockdown, have proved significant relative to both the previous 5 years in the left column and the financial crisis in the right column. It is worth mentioning, however, that in a parallel to the results on mortgage originations in Figure 2, while the impact of the 2020 pandemic was initially larger, the rebound was also much faster. During the Great Recession of 2007-2009 the turning point for housing transactions was reached more than 18 months after the onset of the crisis. As a result of this persistence, and despite the smoother initial decline, the overall fall in property transactions that took place across 2008 and 2009 appears to have been more significant than the initial fall in property transactions seen so far in the 2020 crisis.

As for house prices, the significantly reduced number of transactions since May 2020 makes any index hard to interpret and any preliminary inference at this stage probably requires even more than the usual caution. Bearing in mind this important caveat, we note that the pattern of house prices in 2020 is so far similar to both the first months of the financial crisis and the second quarter of 2019, with the possible exception of a slight increase in April, May and August 2020. However, the transactions that took place in the Spring (and to a lesser extent in the Summer) are likely to reflect –at least partially– purchases and prices that have been agreed (or started to be negotiated) before the national lockdown of 23 March 2020.

8 Conclusions

In this paper, we have used the universe of regulated mortgage contracts offered and originated in the UK to construct a set of indicators that can be used to monitor and evaluate major developments in the mortgage market of any country. We illustrate our framework by looking at the evidence associated with the preliminary impact of the Covid-19 pandemic during 2020 and we compare this to the evidence from the financial

crisis of 2007-09. We find that, on impact, the immediate mortgage market disruptions of 2020 have been larger and more abrupt, but a rebound was visible much faster, starting already in the third month of the crisis, ie May 2020. In contrast, it took about 18 months for the UK mortgage market to begin the recovery after the Great Recession of 2007-09.

It is too early to draw firm conclusions from these initial data releases and interpretation must be made with considerable caution. Part of the rebound may be attributed to pent-up demand resulting from lockdown. Many current and potential borrowers are benefiting from the Coronavirus Job Retention Scheme and other temporary policy support, such as the mortgage payment deferral scheme. Whether and how the planned end of these measures will impact the mortgage market remains to be seen. Also, any comparison between 2020 and 2007-09 must be mindful of the profound transformations of the market over this period. The pre-2007 market was characterised by a significantly higher number of mortgage originations and a lower degree of regulatory intervention, which was reflected in, for example, more sub-prime originations, lower quality underwriting, and laxer income verification. Finally, market activity in the period before the pandemic may have been subdued already thanks to specific UK factors such as Brexit-related uncertainty.

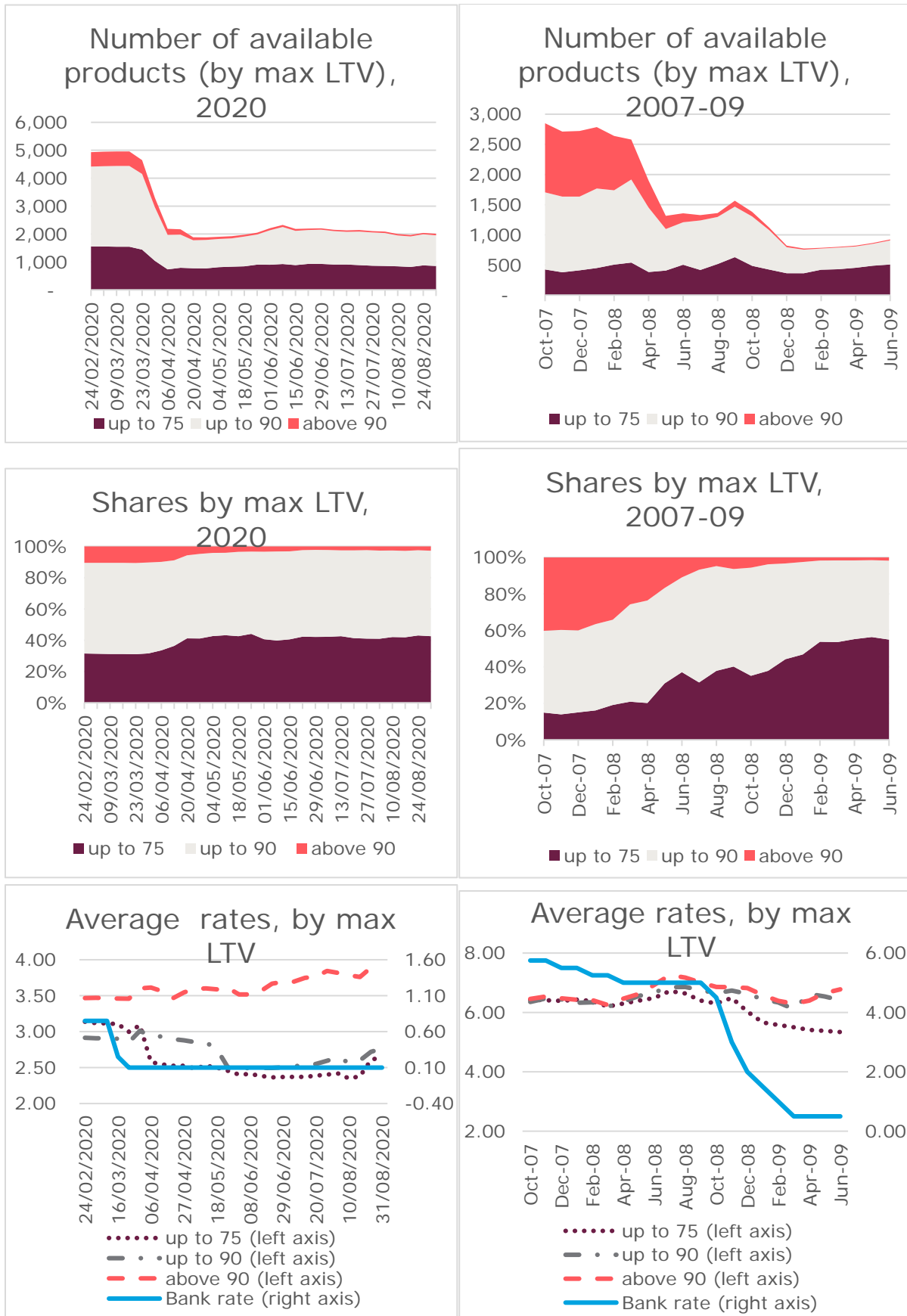
Future work should investigate in more detail the different segments of the mortgage market and characterise their specific dynamics. For instance, young first-time buyers who rely on high-LTV mortgages are likely to be particularly affected by changes in the availability of mortgage products. Funding costs for mortgage lenders should also be monitored. While, at the moment, these costs do not appear to have changed significantly, they might play a role over the next months, driving a wedge between the lenders that finance themselves mostly through retail deposits and those who depend on wholesale financial markets.

More evidence on both the supply and the demand of mortgage loans is clearly needed to paint a more complete picture and draw more robust inference about the longer-term consequences of the pandemic on the mortgage market. Still, the analysis in this paper highlights a number of interesting differences and similarities that have already emerged between the 2020 health crisis and the 2007-09 financial crisis. We will continue to monitor these developments as soon as more data on originations and offered products become available. More broadly, it would be desirable to extend our set of indicators to other countries, especially those that have experienced a different set of policies and face a mortgage market with different characteristics. We hope our paper can stimulate interest in such a comparative analysis.

References

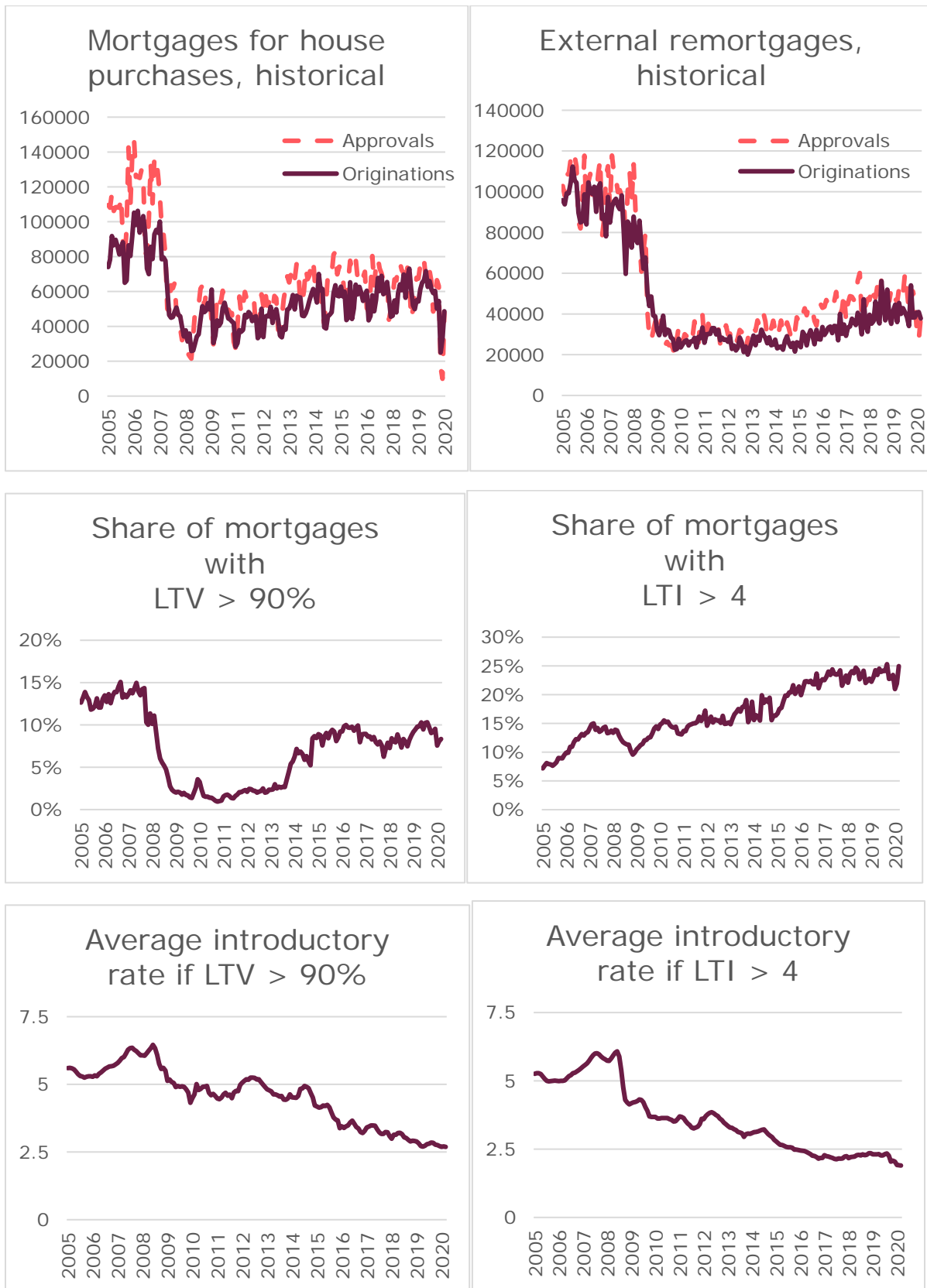
- Andersen, Asger Lau, Emil Toft Hansen, Niels Johannesen, and Adam Sheridan. 2020. ‘Pandemic, Shutdown and Consumer Spending: Lessons from Scandinavian Policy Responses to COVID-19.’
- Bahaj, Saleem, Angus Foulis and Gabor Pinter. 2020. ‘Home Values and Firm Behaviour’, *American Economic Review*, vol. 110, pp. 2225-2270.
- Belgibayeva, Adiya, Teresa Bono, Philippe Bracke, Joao Cocco and Tommaso Majer, 2020. ‘When Discounted Rates End: The Cost of Taking Action in the Mortgage Market,’ *FCA Occasional Paper 54*.
- Benetton, Matteo, Alessandro Gavazza and Paolo Surico, 2020. ‘Mortgage Pricing and Monetary Policy’, *mimeo, Berkeley HAAS, LSE and LBS*.
- Besley, Timothy, Neil Meads and Paolo Surico, 2013. ‘Risk Heterogeneity and Credit Supply: Evidence from the Mortgage Market,’ *NBER Macroeconomics Annual*, vol. 27, pp. 375-419.
- Bounie, David, Youssouf Camara, Fize, John W. Galbraith, Camille Landais, Pazem and Savatier. 2020. ‘Consumers’ Mobility, Expenditure and Online-Offline Substitution Response to COVID-19: Evidence from French Transaction Data.’ *CIRANO WP 2020s-28*.
- Carvalho, Vasco M., Juan R. Garcia, Stephen Hansen, Álvaro Ortiz, Tomasa Rodrigo, José V. Rodríguez Mora, and José Ruiz. 2020. ‘Tracking the COVID-19 Crisis with High-Resolution Transaction Data.’ *Cambridge University CWPE2030*.
- Cloyne, James, Kilian Huber, Ethan Ilzetzki, and Henrik Kleven. 2019. ‘The Effect of House Prices on Household Borrowing: A New Approach.’ *American Economic Review*, vol. 109, pp. 2104-36.
- Cox, Natalie, P. Ganong, P. Noel, J. Vavra, A. Wong, D. Farrell, and F. Greig. 2020. ‘Initial Impacts of the Pandemic on Consumer Behavior: Evidence from Linked Income, Spending, and Savings Data.’ *Brookings Papers of Economic Activity*.
- Defusco, Anthony, Stephanie Johnson, John Mondragon. 2020. ‘Regulating Household Leverage.’ *The Review of Economic Studies*, vol 87, pp. 914–958
- Hacioglu-Hoke, Sinem, Diego Känzig, and Paolo Surico. 2020. ‘The Distributional Impact of the Pandemic.’ *CEPR discussion paper 15101*.
- Mian, Atif, Kamallesh Rao, Amir Sufi. 2013. ‘Household Balance Sheets, Consumption, and the Economic Slump’, *The Quarterly Journal of Economics*, Volume 128, Issue 4, November 2013, Pages 1687–1726.
- Piazzesi, Monika and Martin Schneider. 2016. ‘Housing and Macroeconomics’, *Handbook of Macroeconomics*, Chapter 19, p. 1547-1640.

Figure 1: Supply of mortgage products by max LTV



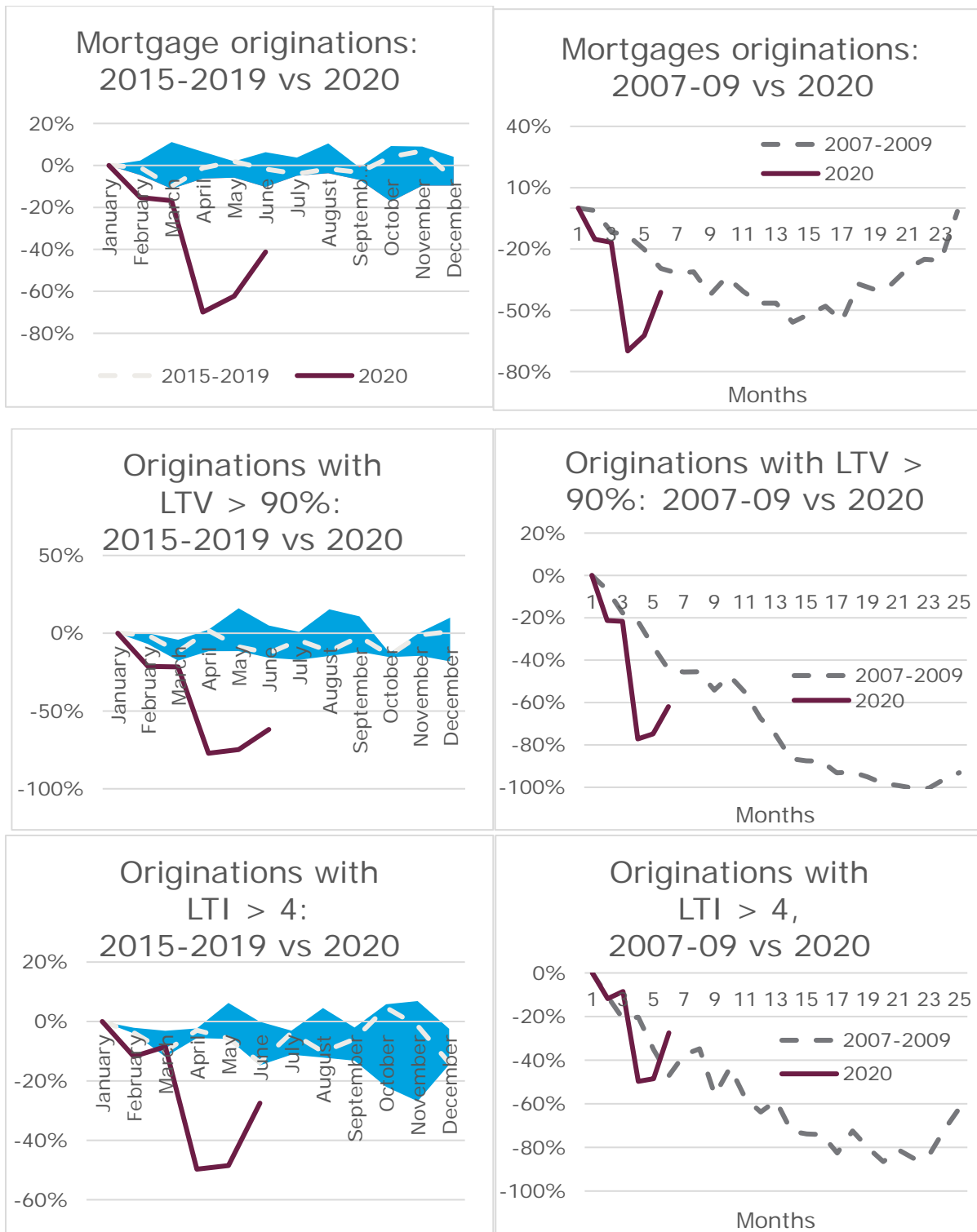
Source: MoneyFacts

Figure 2: Originations, market shares and interest rates



Source: PSD001 (originations) and Bank of England (approvals)

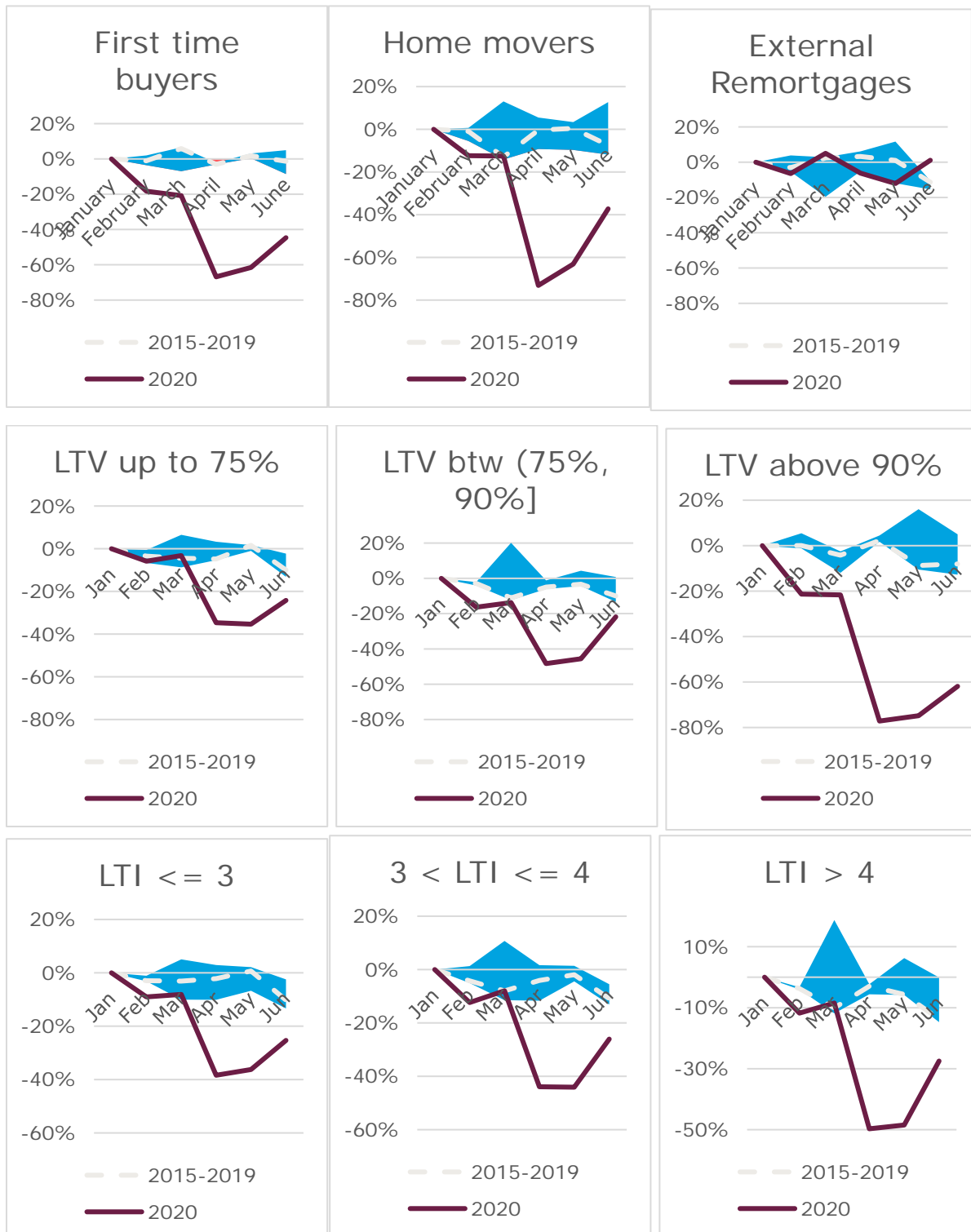
Figure 3: Mortgage originations in historical perspective



Source: PSD001

Notes: solid lines represent monthly year-on-year changes, normalised to the change recorded in the first month of the relevant period. The dashed line represents the median monthly year-on-year change recorded in 2015-2019; the swathe reports the interquartile range of the year-on-year changes for the same period.

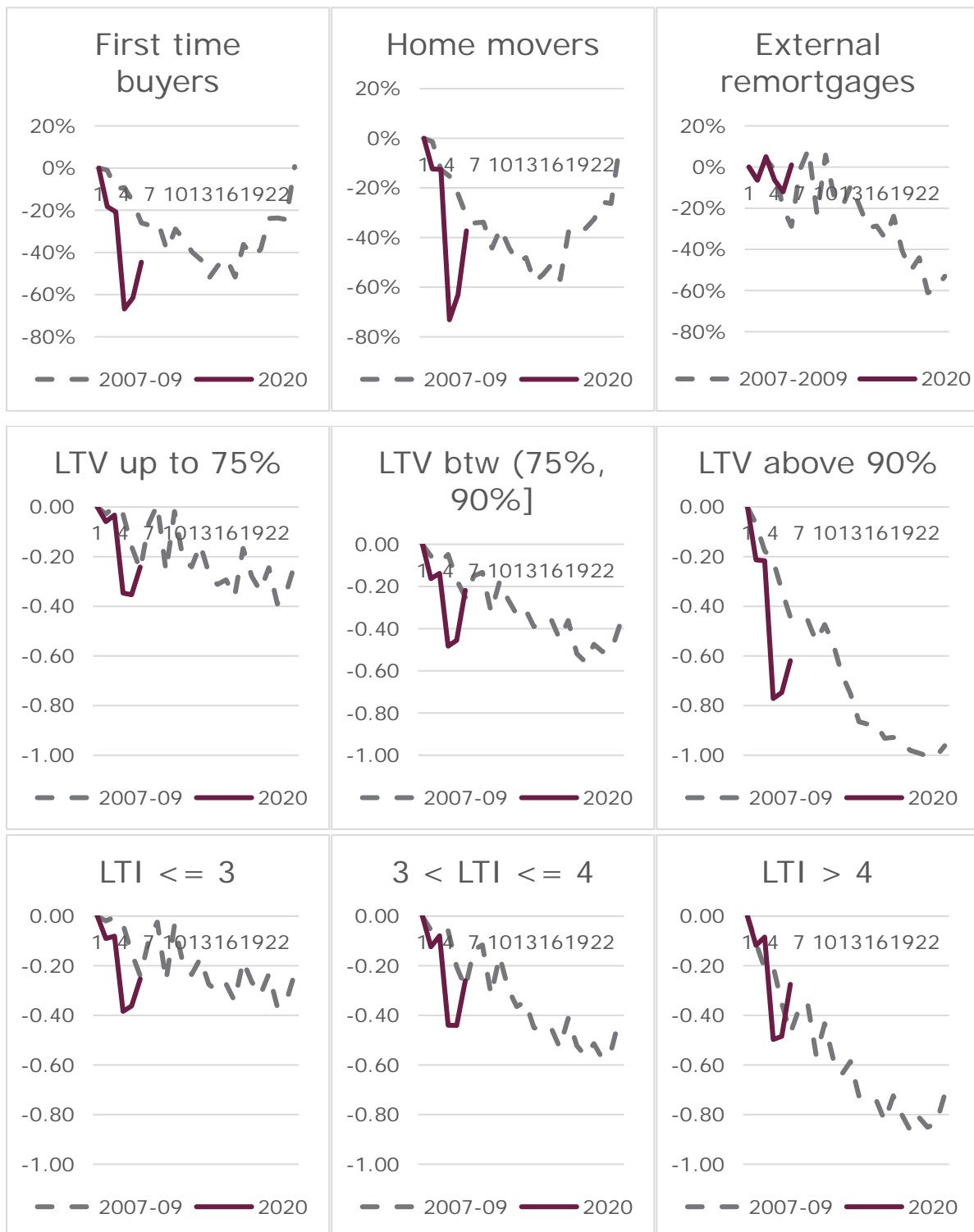
Figure 4: Mortgage originations by LTV or LTI band: 2015-19 versus 2020



Source: PSD001

Notes: solid lines represent monthly year-on-year changes, normalised to the change recorded in January of that year. The dashed line represents the median monthly year-on-year change recorded in 2015-2019; the swathe reports the interquartile range of the year-on-year changes for the same period.

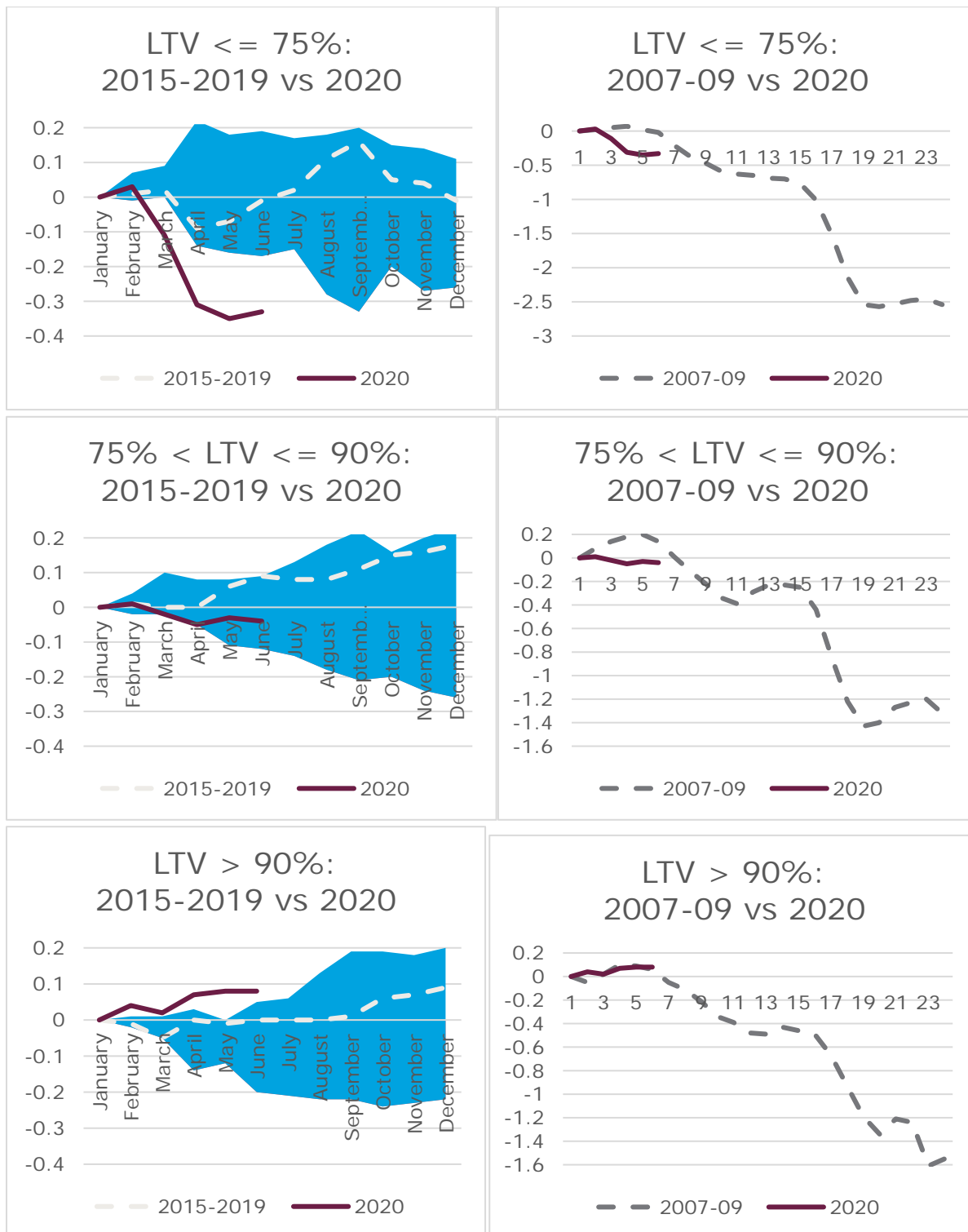
Figure 5: Mortgage originations by LTV or LTI band: 2007-09 versus 2020



Source: PSD001

Notes: lines represent monthly year-on-year changes, normalised to the change recorded in the first month of the relevant period. The solid line represents the year-on-year change recorded in 2020; the dashed line represents the year-on-year change recorded in 2007-09.

Figure 6: Average introductory rate by LTV band

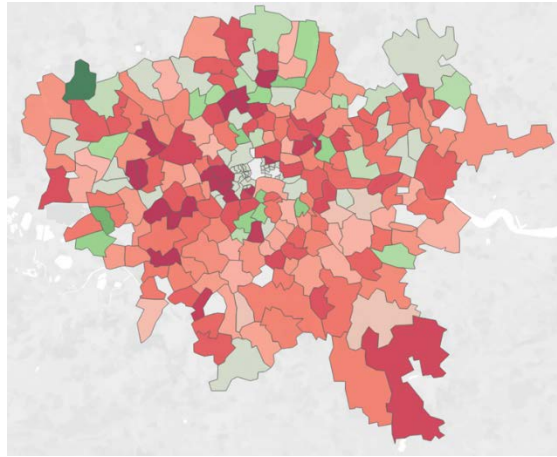
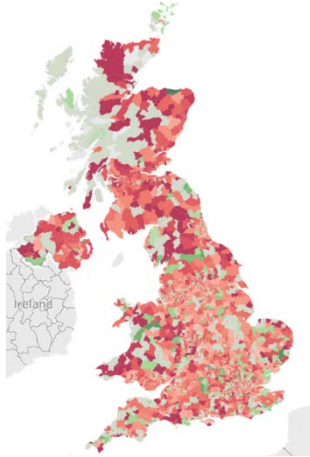


Source: PSD001

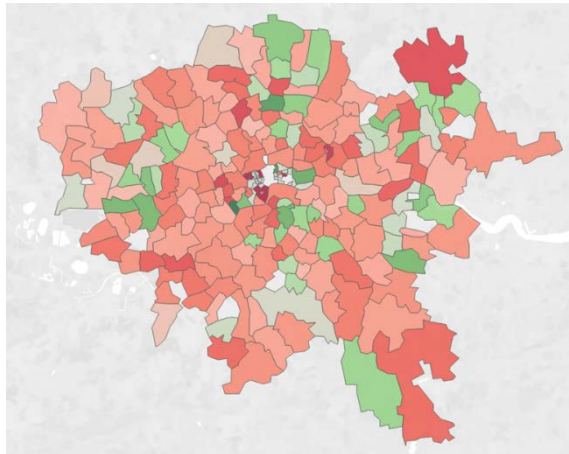
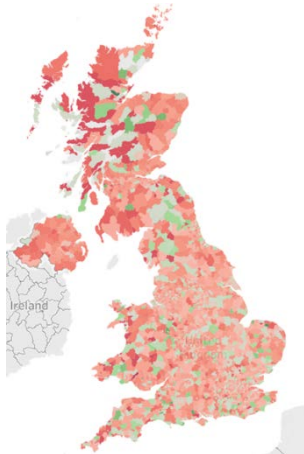
Notes: lines represent monthly year-on-year changes, normalised to the change recorded in the first month of the relevant period. The solid lines represent the year-on-year change recorded in 2020. In the left-side charts, the dashed line represents the median monthly year-on-year change recorded in 2015-2019; the swathe reports the interquartile range of the year-on-year changes for the same period. In the right-side charts, the dashed line represents the year-on-year change recorded in 2007-09, starting in July 2007.

Figure 7: Mortgage originations percentage decline in 2020q2 relative to 2019q2 by UK and Greater London postcode districts

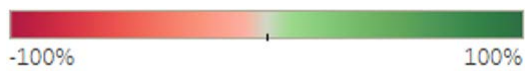
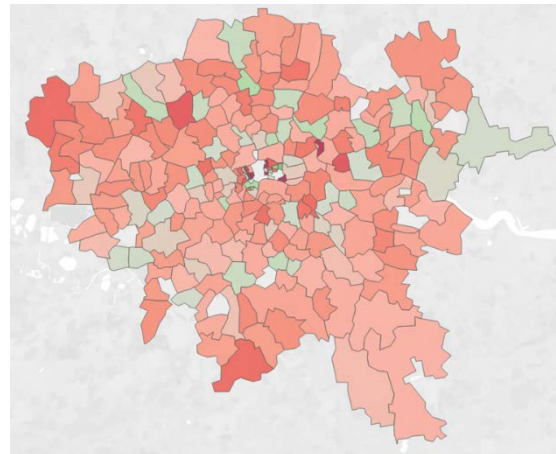
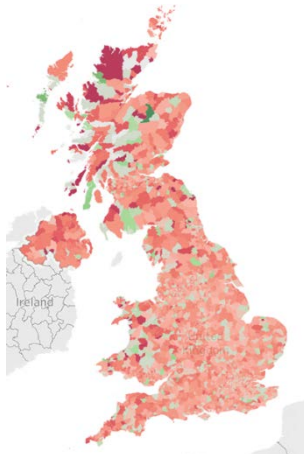
LTV above 90%



LTV between 75% and 90%

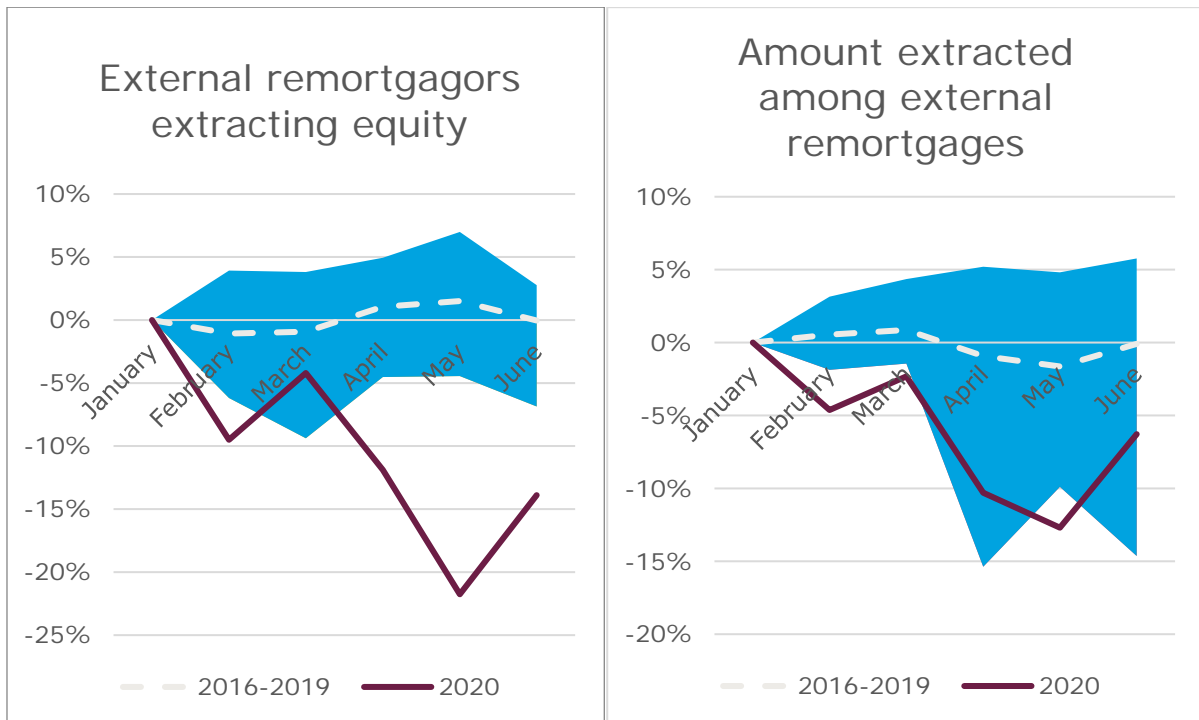


LTV below 75%



Source: PSD001

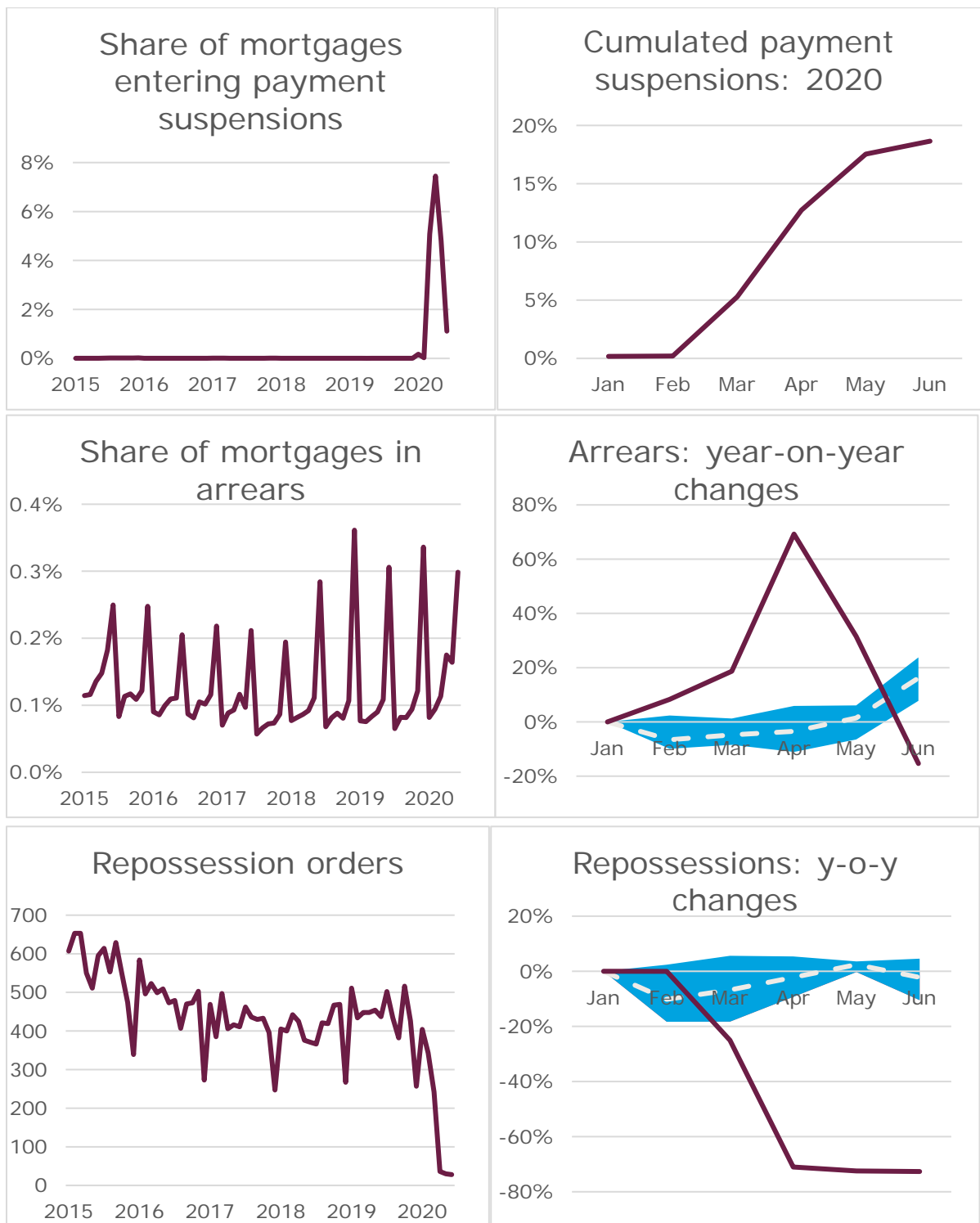
Figure 8: Equity extraction, 2016-2019 vs 2020



Source: PSD001 (external remortgages)

Notes: Solid lines represent monthly year-on-year changes, normalised to the change recorded in January of each year. Dashed lines represent the median year-on-year change recorded in 2016-2019 (data on equity extraction is not available before 2015). Swathes report the interquartile range of year-on-year changes for the same period.

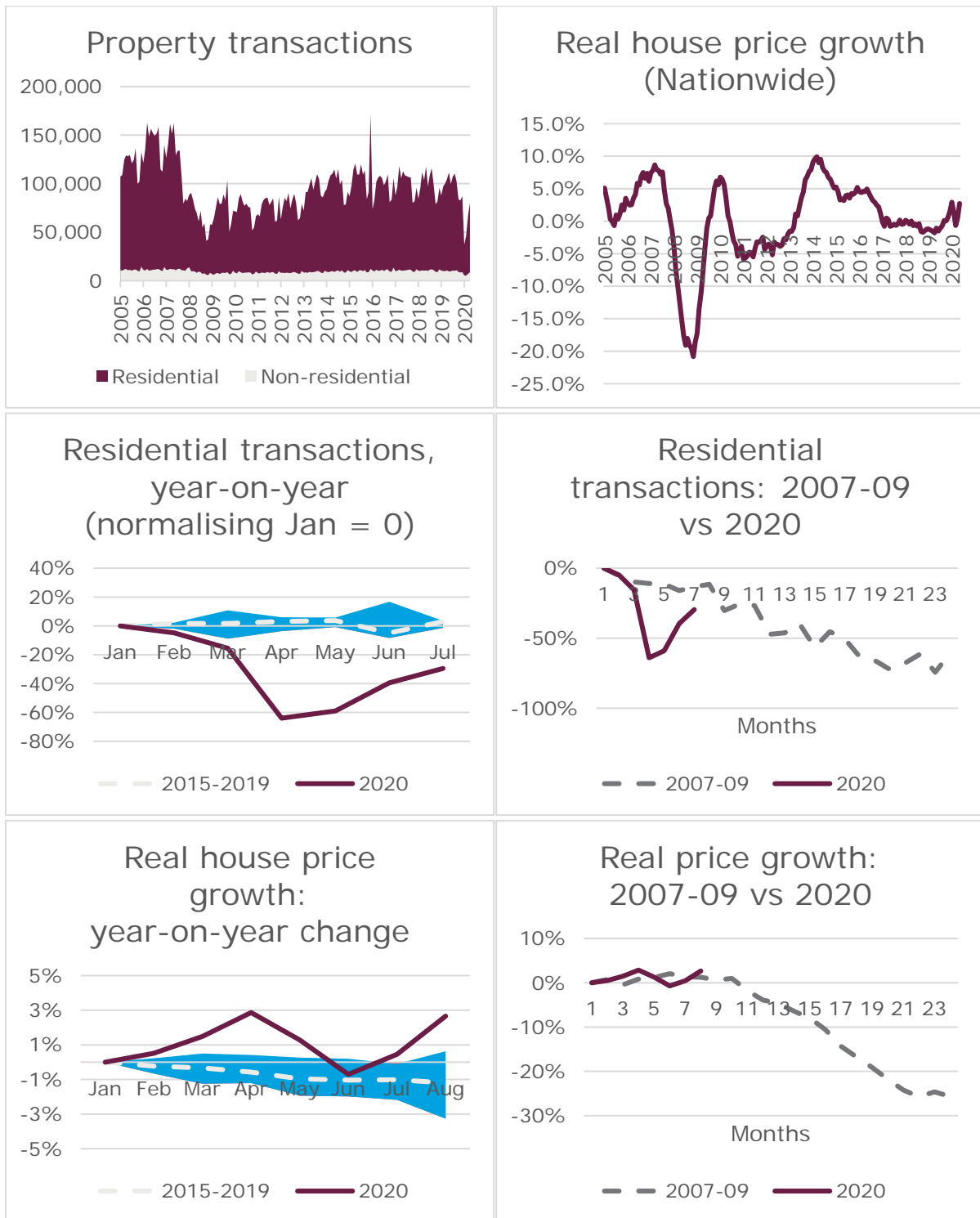
Figure 9: Performance of the mortgage stock



Source: PSD007

Notes: Payment suspensions as a form of forbearance have always been reported in PSD007, but in very low numbers. In 2020 half of reporting firms entered mortgages using the payment deferral scheme in that category. The top two charts refer to that subsample of firms (representing 52% of the stock of mortgages). The other charts refer to the whole sample. In the mid- and bottom-right charts, lines represent monthly year-on-year changes, normalised to the change recorded in January of that year. The dashed orange line represents the median monthly year-on-year change recorded in 2016-2019; the swathe reports the interquartile range of the year-on-year changes for the same period.

Figure 10: Property transactions and house prices



Source: HMRC and Nationwide

Notes: While the other figures of the note refer to the market for owner-occupied mortgages, this figure shows data on the whole UK housing market. On top of mortgage-funded owner-occupied transactions, the numbers also include cash-funded and investment purchases. Lines represent monthly year-on-year changes, normalised to the change recorded in January of that year. The dashed orange line represents the median monthly year-on-year change recorded in 2015-2019; the swathe reports the interquartile range of the year-on-year changes for the same period.

Table 1: Regional contributions to decline in originations

Panel A: Originations with LTV > 90%

<i>Region or country</i>	<i>share home value 2015-2019</i>	<i>share originations (2015-2019)</i>	<i>contribution to decline (2019q2- 2020q2)</i>	<i>Easing of housing market lockdown</i>
Central & Greater London	28.9	14.9	12.1	13-May
East Midlands	5.3	7.7	7.2	13-May
Eastern	12.7	11.6	11.0	13-May
North East	1.7	3.1	3.3	13-May
North West	6.2	9.5	9.6	13-May
Northern Ireland	0.9	1.8	3.6	15-Jun
Scotland	4.3	7.0	9.2	29-Jun
South East	14.8	11.9	10.9	13-May
South West	13.1	13.9	14.0	13-May
Wales	2.1	3.4	3.8	22-Jun
West Midlands	5.5	7.7	8.7	13-May
Yorkshire and The Humber	4.6	7.4	6.5	13-May

Panel B: Originations with LTV > 75% and LTV <= 90%

<i>Region or country</i>	<i>share home value 2015-2019</i>	<i>share originations (2015-2019)</i>	<i>contribution to decline (2019q2- 2020q2)</i>	<i>Easing of housing market lockdown</i>
Central & Greater London	28.9	14.9	12.1	13-May
East Midlands	5.3	7.7	7.2	13-May
Eastern	12.7	11.6	11.0	13-May
North East	1.7	3.1	3.3	13-May
North West	6.2	9.5	9.6	13-May
Northern Ireland	0.9	1.8	3.6	15-Jun
Scotland	4.3	7.0	9.2	29-Jun
South East	14.8	11.9	10.9	13-May
South West	13.1	13.9	14.0	13-May
Wales	2.1	3.4	3.8	22-Jun
West Midlands	5.5	7.7	8.7	13-May
Yorkshire and The Humber	4.6	7.4	6.5	13-May

Panel C: Originations with LTV <= 75%

<i>Region or country</i>	<i>share home value 2015-2019</i>	<i>share originations (2015-2019)</i>	<i>contribution to decline (2019q2- 2020q2)</i>	<i>Easing of housing market lockdown</i>
Central & Greater London	28.9	14.9	12.1	13-May
East Midlands	5.3	7.7	7.2	13-May
Eastern	12.7	11.6	11.0	13-May
North East	1.7	3.1	3.3	13-May
North West	6.2	9.5	9.6	13-May
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Source: PSD001