

# The impact of Bank Rate rises on consumer finances in Scotland

Nathan Bourne, Mike Spencer, Isabella Deutsch, Jack Mackenzie

2024-09-25

## 1 Background

---

The Bank of England's official Bank Rate<sup>1</sup> determines interest rates for savings, loans and mortgages in the UK. The Bank Rate remained below 1 per cent from 2009 to 2022, but rose rapidly to 5.25 per cent between Dec 2021 and Aug 2023. This has resulted in a well-reported squeeze in living standards as the UK recovers from the COVID-19 pandemic and is now faced with the cost of living crisis.

Consumer banking data provides a unique insight into the impact of these challenging times on the finances of ordinary people. At Smart Data Foundry we provide access to secure, anonymised data on a sample of 5 million customers of NatWest Group (NWG) banks across Great Britain. This data is strictly licensed for research for social good.

## 2 Housing costs

---

One of the most direct impacts of interest rate changes is on mortgage repayments. In Figure 1 we plot the average committed housing costs of Scottish customers every four weeks between May 2019 and September 2023, alongside the changes in the Bank Rate during the same period. Customers are divided into groups of mortgagors and renters based on the categories of regular committed expenditure from their accounts.

Figure 1 indicates that average mortgage payments remained constant between 2019 and 2022, but rose steadily from early 2022 onwards, by an average of 20 per cent. In contrast, average housing costs for renters have remaining broadly unchanged since 2019, possibly due in part to the Scottish Government's rent cap.<sup>2</sup>

We also plot data for low-income subsets of each group, defined by customers with net annual income less than £20,600 (the first quartile of annual income). Mortgagors on low incomes may be more susceptible to changes in interest rates, since they saw a reduction in costs when the Bank Rate reduced in March 2020, and a steady rise from January 2022 through to late 2024 as the rate increased. This is more apparent when we look at housing costs as a percentage of income in Figure 2.

---

<sup>1</sup><https://www.bankofengland.co.uk/boeapps/database/Bank-Rate.asp>

<sup>2</sup><https://www.mygov.scot/rent-cap-landlords>

Between January 2022 and July 2024, mortgagors on average have seen a 3 point rise in housing costs as a percentage of income (from 13.5 to 16.5 per cent), while renters' costs remained steady at around 11 per cent of income. For mortgagors on low incomes, not only do housing costs represent a much larger fraction of their income in the first place, but this fraction also increased more rapidly over the same period, by 9 points (from 32 to 41 per cent of income; see Figure 2).

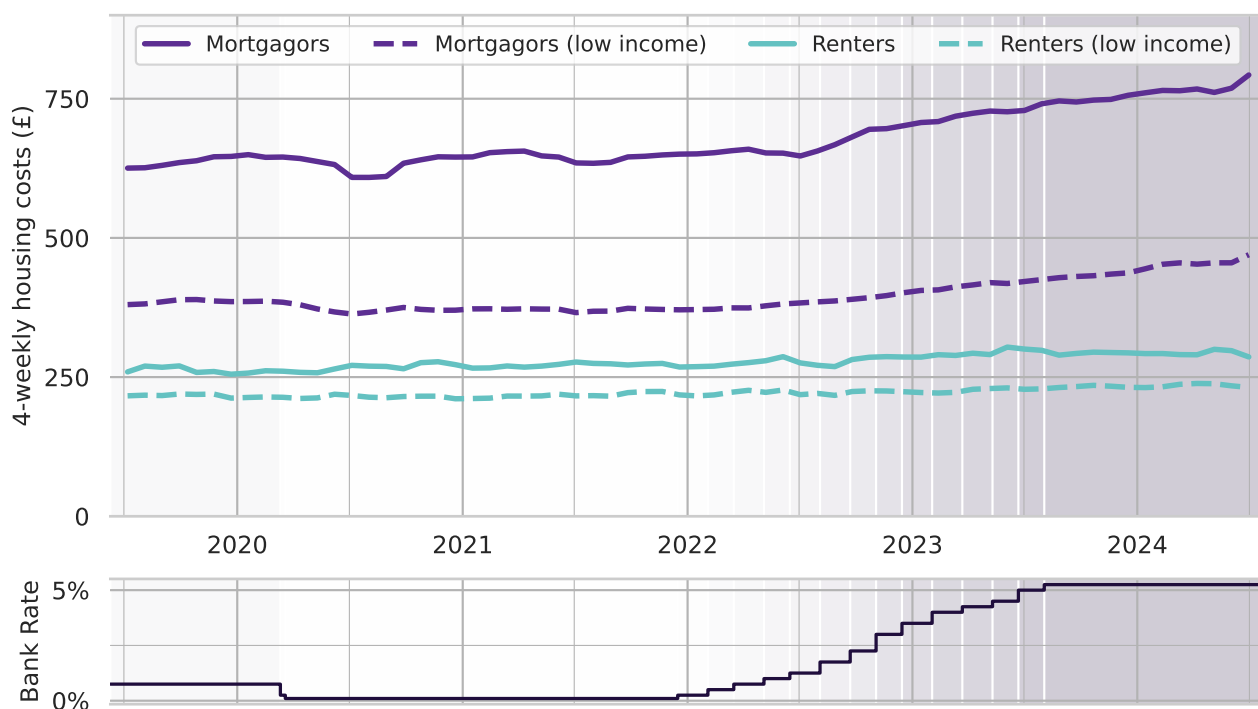


Figure 1: Comparison between Bank Rate and average housing costs of NWG customers in Scotland. Darker background shading indicates a higher Bank Rate.

### 3 Discretionary spending

Increased housing costs lead to increased pressure on people's finances and therefore limit their capacity for non-essential spending. At the same time, high inflation means that consumers are faced with increasing costs (the Consumer Prices Index was between 6 and 11 per cent between February 2022 and Sept 2023<sup>3</sup>), and those who cannot meet the rising cost of living are at risk of falling into poverty.

Figure 3 shows the average discretionary expenditure as a percentage of income for the groups previously defined. Discretionary spending is naturally more variable than housing costs, but the data shows a general increase in spending over time, while the impacts of Scotland's national lockdowns (26 Mar - 29 May 2020; 5 Jan - 26 Apr 2021<sup>4</sup>) are clearly visible as a temporary drop in spending.

The spending habits of mortgagors and renters are broadly the same on average (solid lines in Figure 3), but differences are seen in the low-income subset (dashed lines). In 2019, low-income mortgagors and renters

<sup>3</sup><https://www.ons.gov.uk/economy/inflationandpriceindices/bulletins/consumerpriceinflation/march2024>

<sup>4</sup><https://data.gov.scot/coronavirus-covid-19/>



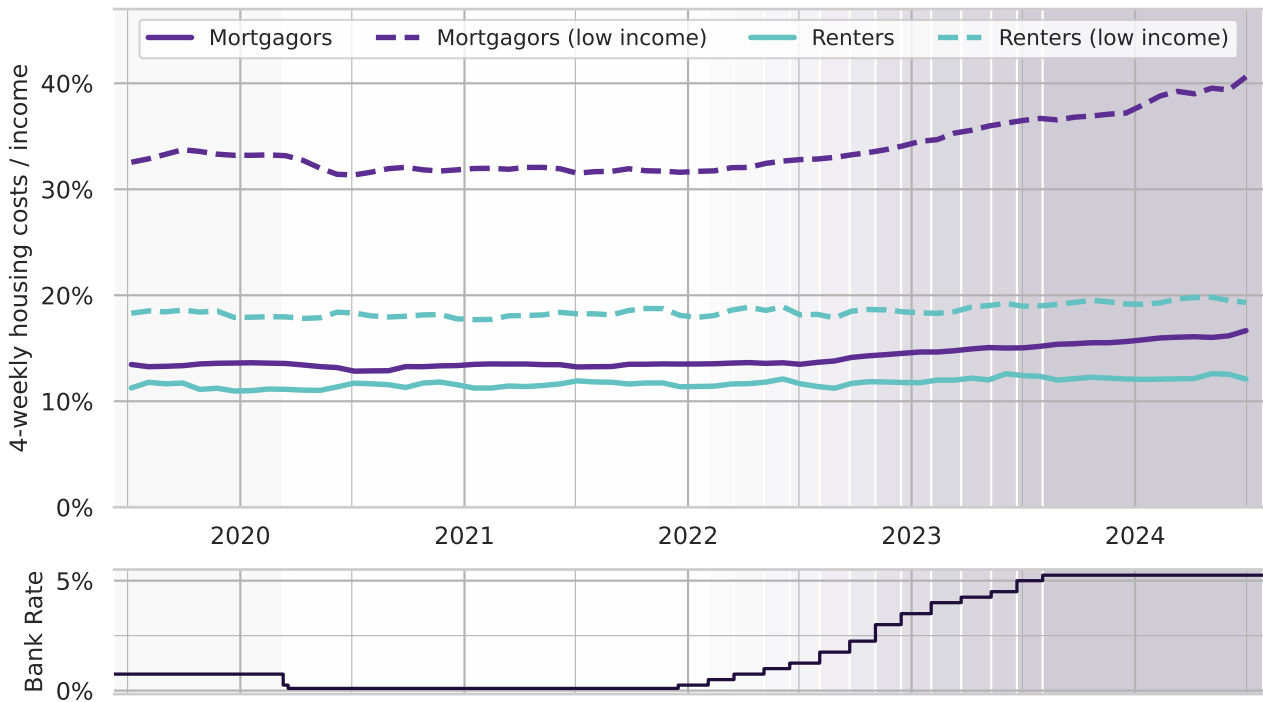


Figure 2: Comparison between Bank Rate and average housing costs as a percentage of income, for NWG customers in Scotland. Darker background shading indicates a higher Bank Rate.

had similar discretionary spending patterns, but these diverged in 2020 and 2021, with low-income renters increasing their spending roughly in line with the trend for average renters and mortgagors, while low-income mortgagors were somewhat left behind. This gap closed gradually between the beginning of 2022 and the middle of 2024.

## 4 Conclusions

Rising interest rates directly impact housing costs, and thus contribute to the cost of living. This sample of NWG current account data allows us to quantify the impacts on different sections of society, showing that mortgagors on low incomes are particularly susceptible to changes in rates, and had restricted discretionary spending power during and after the COVID-19 pandemic.

This analysis could be extended to compare across additional demographics such as age and location within the UK. The large sample size and richness of the data would also allow us to compare finer-grained income bands, and to group by income source (such as the proportion of income from benefits or pensions).

This analysis demonstrates how consumer banking data provides a unique insight into the real-world impacts of financial pressures on consumers, while fully protecting the privacy and security of individual customers.



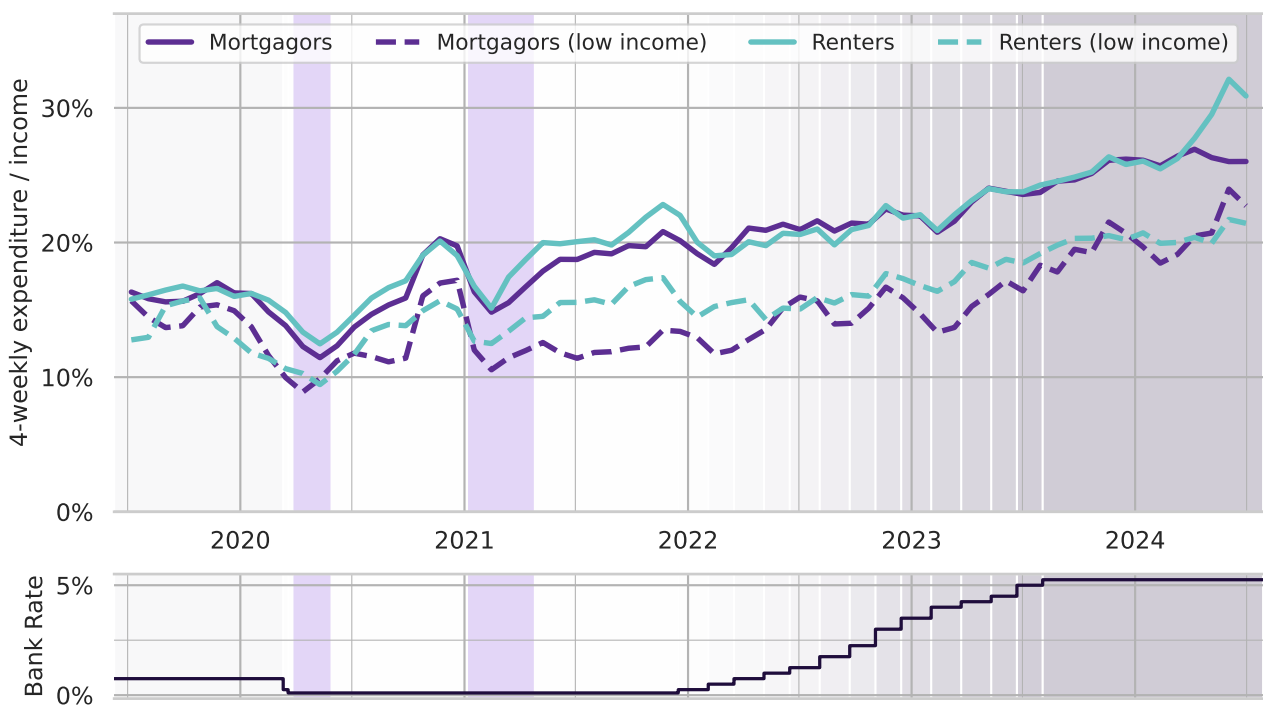


Figure 3: Comparison between Bank Rate and average discretionary spending as a percentage of income, for NWG customers in Scotland. Darker background shading indicates a higher Bank Rate, while light purple shading indicates the dates of Scotland’s national lockdowns.



## 5 Methods, sample size and limitations

---

The results are derived from a sample of anonymised consumer banking data from NWG, comprising weekly aggregated transactions in a number of categories of expenditure and income for each customer. We selected customers in Scotland based on their postcode district, and classified customers as mortgagors or renters based on the presence of regular committed payments categorised as either mortgage or rent. We excluded any customers with an annual income less than £5,000 in order to exclude any accounts which are inactive or are not used as the customer's main current account. We aggregated each customer's expenditure for mortgage and rent over 4-week periods, and took the average over all customers in each group and each period. Discretionary expenditure is aggregated in a similar way. Expenditure as a fraction of income is derived using the average annual income of each customer divided by 13, to give the average income in a 4-week period. A low-income group is created by selecting customers in the first quartile of annual income (i.e. annual income between £5,000 and £20,600).

The mortgagors sample comprises approximately 15,000 customers, representing 11 per cent of customers in Scotland within the dataset, while the renters comprise approximately 1,500, or 1 per cent of customers in Scotland. The fraction of adults with mortgages in Scotland is estimated to be 17 per cent,<sup>5</sup> so the share of 11 per cent in the NWG dataset is likely to be representative. However, the fraction of adults paying rent in Scotland is estimated to be around 37.5 per cent, and renters are clearly under-represented in the NWG sample. It is likely that many rent payments are mis-classified in the NWG dataset due to the greater difficulty of identifying rent payments compared with mortgage payments. However, although it is clearly incomplete, we expect the renters sample to be clean.

## 6 Attribution

---

Please cite this work as:

Bourne, N., Spencer, M., Deutsch, I., Mackenzie, J. 2024. "The Impact of Bank Rate Rises on Consumer Finances in Scotland." September 24, 2024. <https://doi.org/10.5281/zenodo.13832379>.

BibTeX citation:

```
@online{bourne2024,  
  author = {{Bourne, Nathan}, {Spencer, Mike}, {Deutsch, Isabella},  
           {Mackenzie, Jack}},  
  title = {The Impact of {Bank} {Rate} Rises on Consumer Finances in  
          {Scotland}},  
  date = {2024-09-24},  
  doi = {10.5281/zenodo.13832379},  
  langid = {en}  
}
```

---

<sup>5</sup>Estimated using data from the Scottish Survey Core Questions, Household Estimates and Population Estimates from [statistics.gov.scot](https://statistics.gov.scot).

