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Dutch mortgage prepayments bottoming out

Focus on ABS

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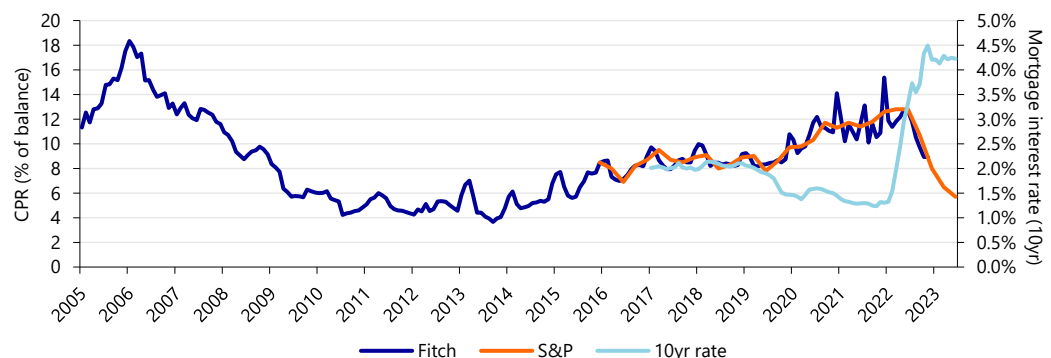
Summary

- Prepayment rates in Dutch Prime RMBS have more than halved from their peak as refinancing activity collapsed with much higher mortgage rates, and relocation activity declined
- RMBS prepayment data is in our view gross of ported mortgages with any potential impact of portability on net CPRs unclear. Overall, we believe it's more likely portability and its potential impact on CPRs is most relevant for whole loan investors, banks and other originators
- For the latter group, the impact on net prepayments can potentially be substantial as the majority of subsequent buyers are currently porting their old mortgages when moving house
- Relocation prepayments are set to continue their decline in the next year and a half as an expected further decline in home sales means constrained relocation activity
- Refinancing activity has collapsed as rates shot up and with the economic incentives to refinance early gone, we expect only minimal refinancing prepayments going forward
- For partial repayments, we are likely to see a structurally lower, albeit slightly, level of activity as economic incentives are lower than in the past
- Ultimately, we believe the bottom in total CPRs is in sight, and in the next year and a half we foresee the overall prepayment rate averaging between 4.75% and 5.5%
- In the medium-term, we expect prepayments to gradually increase again, with a ballpark estimate of prepayment rates in the 7-9% range reasonable in our view

Prepayments more than halved from their peak

The sharp rise in interest rates has had a significant impact on Dutch borrowers' prepayment behaviour. Looking back to 2022, prepayment rates observed in Dutch Prime RMBS transactions were in the low teens, marking a multi-year high and approaching levels last seen in 2007.

Figure 1: Dutch Prime RMBS prepayments and 10yr mortgage rates



Note: We no longer have access to Fitch data.
Source: Fitch, S&P

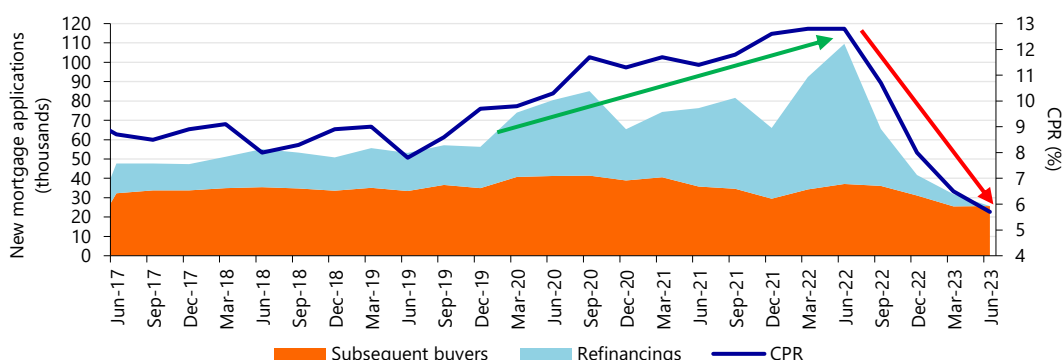
The low interest rate environment and a housing market that recovered rapidly following 2013 saw increased relocation and refinancing activity, driving Conditional Prepayment Rates (CPRs) higher for many years. However, rapidly rising swap and mortgage rates have since driven a sharp decline in prepayment levels with S&P data for Q2 23 recording an average CPR of 5.7%, well down from the 12.8% peak recorded in H1 22.

Relative importance of the prepayment drivers

With no split in CPRs available, it's unfortunately a guessing game as to how much each prepayment driver — *relocations*, *refinancings* and *curtailments* — contributes to the overall CPR level, and how this changes over time. However, the split between new mortgage applications (lagged 1 quarter) for subsequent buyers' house purchases (proxying relocations) and for refinancings can provide a rough idea.

Prior to 2020, applications for both categories were relatively stable, and so were CPRs. Then, from late 2019 onwards refinancing activity accelerated and remained high for the next two years whilst subsequent buyers gradually became somewhat less active. Hence, we largely attribute the increase in CPRs from ~10% at the end of 2019 to ~13% in mid-2022 to the massive refinancing wave in that timeframe. It's no surprise then that **the collapse in refinancing activity, following an initial boom after rates shot up, has been the key driver of prepayment rates tanking in our view**. At the same time, subsequent buyers also moved house less, but that decrease has been relatively limited and thus probably contributed (much) less to the decline in CPRs.

Figure 2: Collapse in refinancing activity has driven prepayment rates lower



Source: HDN, S&P, Rabobank

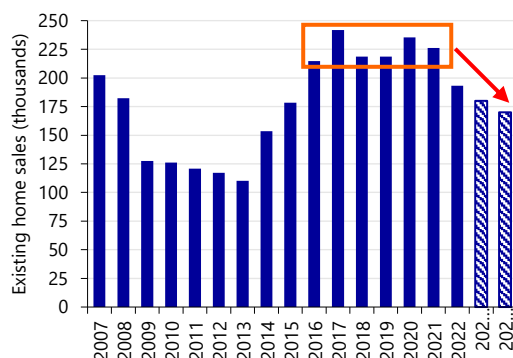
Given the sharp drop in prepayments and the very different interest rate and housing market dynamics nowadays, **the question arises where prepayment levels are headed. Our answer is that the bottom in CPRs is in sight but they will remain at low levels in the near-term**. In this publication we outline our thinking by looking at all the individual drivers of prepayments, namely relocations, refinancings and curtailments (partial prepayments) before combining them into an overall forecast.

Relocations: pressure from fewer home sales

Prepayments as a result of moving are an in our view relatively stable part of overall prepayments, at least in the last few years. They are related to the **number of home sales** in a given year combined with the **share of subsequent buyers** in said sales (as there is no prepayment for a first-time buyer). **Both factors have in our view contributed to a decline in relocation prepayments in the last two years**. First and foremost, existing home sales have been on a steady trend downwards since mid-2021, with 2022 in particular seeing a sharp drop of 14.6% YoY

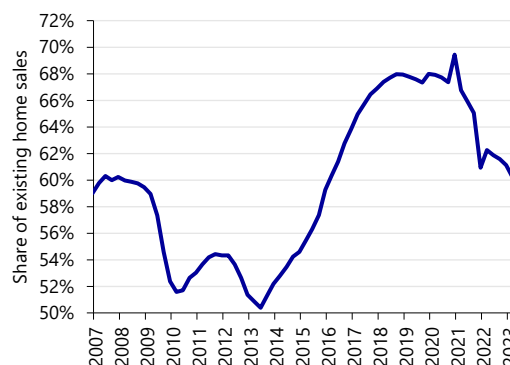
to 193,103 transactions.¹ That marked a sharp turnaround from years of existing home sales easily in excess of 210,000 per annum.

Figure 3: Less home sales means less relocations



Source: Kadaster, Rabobank

Figure 4: Less subsequent buyers active



Source: Kadaster, Rabobank

Secondly, in addition to the overall decline in relocation activity, subsequent buyers have pulled back on the housing market, to the benefit of first-time buyers. Data from the land registry Kadaster highlights a relatively sharp decline in homes purchased by subsequent buyers relative to first-time buyers. Their market share (based on a 4-quarter rolling average) peaked at nearly 70% at the end of 2020. However, since then, activity has fallen off and subsequent buyers averaged only around 59% of home sales at the end of H1 2023. **Less subsequent buyers for a given level of housing transactions means somewhat lower prepayments all else being equal.**

Detour: portability and its complicated impact on prepayments

The portability option generally seen for Dutch mortgages represents an additional dimension to consider when it comes to relocation prepayments. **The portability option allows borrowers to effectively take their old mortgage and its conditions (e.g. interest rate, fixed-rate period) with them when buying a new house rather than repaying and getting a completely new mortgage with new conditions.** This option is currently very attractive as mortgage rates are much higher so it's generally favourable for borrowers to be able to take their current low mortgage rate with them. As we understand it, in practice the existing mortgage loan is paid off (though timing can differ depending on when the old house is sold) and a new mortgage loan (with or without a further advance against prevailing mortgage rates) is taken out for the new property. Hence, **the prepayment related to porting is not a 'real' prepayment in the sense that the cash flow is ultimately used to fund the 'new' mortgage loan.**

However, a distinction has to be made here between RMBS and whole loan mortgage portfolios. **In our understanding, the RMBS CPRs reported by the rating agencies (which are based on investor reports) are gross CPRs, which simply reflect prepayments irrespective of whether or not the loan gets ported.** Hence, they are not 'corrected' for portability. Moreover, it's unclear if portability could result in lower net CPRs for Dutch Prime RMBS deals (e.g. the 'new' ported loan enters the pool), and this is near impossible to determine.² From the RMBS documentation it's not fully clear for which deals portability could have an impact and most outstanding transactions don't even mention anything about ported loans. This makes sense as in the years prior to 2022, almost no borrowers ported their mortgage. Secondly, for deals that do include language about portability and thus where there could potentially be an impact, it is generally not clear from

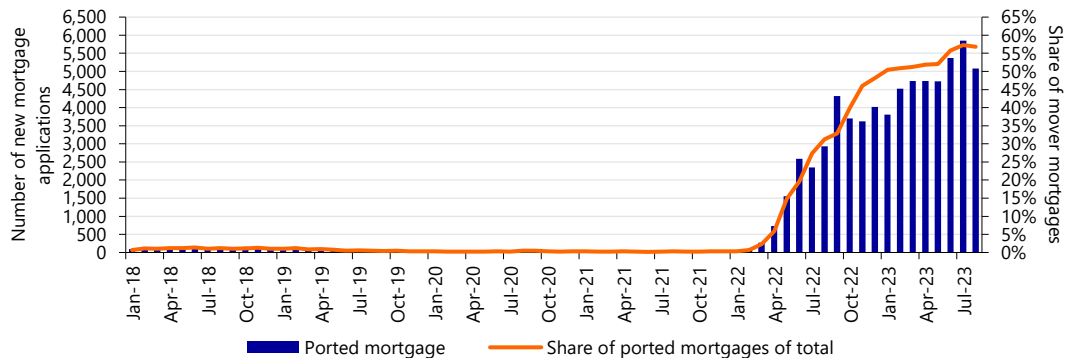
¹ For simplicity we are abstracting from new build home sales, which also result in relocation activity.

² We note that for revolving transactions portability doesn't matter anyways as the prepaid loans get replenished, i.e. the net CPR is zero.

investor reports *if* and *how much* porting could be going on, making it impossible to gauge prepayments corrected for porting (net CPRs) for Dutch Prime RMBS. Overall though, **we believe it's more likely that portability and its potential impact is most relevant** for whole loan investors, banks and other mortgage originators, broadly speaking.

For the latter group, the impact can potentially be substantial. **The majority of subsequent buyers are currently making use of the portability option and porting their old mortgages when moving house.** In the past five years, this option was barely, if at all, used by subsequent buyers as ever declining mortgage rates meant it was much more favourable to prepay penalty-free upon selling the house and get a new mortgage with a (much) lower rate.

Figure 5: Rapid increase in ported mortgages

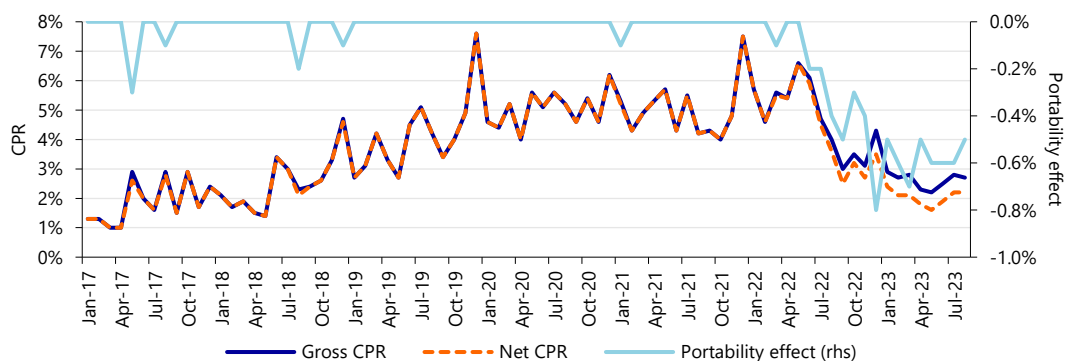


Source: HDN, Rabobank

How times have changed! **In the first half of 2023, 53% of all subsequent buyer mortgage applications were for ported mortgages**, rising to ~57% in July and August. As explained previously, for these ported mortgages there is no prepayment from the perspective of a mortgage originator or whole loan investor. **Hence, for a given level of relocations there are (much) fewer prepayments on a macro level.** However, on a micro level there can be large differences between portfolios, so we cannot stress enough how portfolio-specific any impact is.

Having said that, DMPM (a mortgage investment manager) provides some insight here. For their mortgage portfolio they are reporting gross CPRs and net CPRs corrected for ported loans. From mid-2022 onwards the two started to diverge as mortgages began to be ported more frequently, resulting in a net CPR below the gross figures. **The portability effect has since ranged between 0.2% and 0.8%, with August's reading coming in at 0.5%.** The latter is clearly noticeable on a gross CPR of 2.7%. Moreover, according to the originator, their portfolio is relatively young, resulting in fewer ported loans compared to a more seasoned portfolio. Hence, for seasoned portfolios, the effect can in our view easily be greater than observed in this example.

Figure 6: Example of impact of portability on CPRs



Source: DMPM

As **the portability effect is highly dependent on portfolio characteristics**, the question arises which borrower and/or mortgage loan characteristics can lead to increased porting? Well, the potential impact of ported mortgages on CPRs depends on many factors and is highly specific for each mortgage portfolio. It's **a function of how many borrowers will move house, and whether they subsequently can and want to port their mortgage**.

Regarding relocations, many factors can impact this decision on a micro level. However, loan seasoning, age of the borrower and property type may for instance give some indication as to the probability of the borrower moving. But overall, this is likely difficult to predict.

As for the decision to port one's mortgage, there are in our view two key factors at play. Firstly, **the mortgage rate on the existing loan is clearly the most important factor in whether or not a borrower even wants to port their mortgage loan**. Given the prevailing interest rates, most borrowers are probably quite keen to port.

Secondly, porting may however not always be possible or desirable. One of the crucial factors in this respect is the remaining fixed-rate period(s) of the outstanding loan (parts). Porting your mortgage requires a new affordability test and if there are loan parts with a remaining fixed-rate period of less than 10 years, they will be stressed with a 5% interest rate. Hence, that can reduce maximum borrowing capacity, potentially making porting unattractive for subsequent buyers who generally tend to 'upgrade' and purchase a larger, more expensive property.

In conclusion, portfolio composition matters. For instance, a mortgage portfolio predominantly comprised of mortgages with sub-2% interest rates and 20yr+ fixed-rate periods can be clearly be expected to see a high share of ported mortgages (out of all borrowers moving). In contrast, a portfolio of loans with rates of for instance 3.5%+ interest rates and sub-10yr remaining fixed-rate periods is likely to see fewer ported loans.

Will porting your mortgage become less popular?

One may question for just how long ported mortgages will remain commonplace. The share of ported mortgages in all new mortgage applications by subsequent buyers has been consistently above 50% in H1 and has even risen further to 57% in July and August. The reason why it is not even higher is the fact that it may not be possible in practice to port one's mortgage or it may not be (that) attractive if the remaining interest rate fixing is for less than 10 years. As for a medium-term outlook, there are conflicting factors at play. On the one hand, it's reasonable to expect the share of ported mortgages will decline. The pool of borrowers able and/or wanting to port their mortgage is likely to decline gradually over time as more and more borrowers see their remaining interest rate fixings fall below the 10-year mark. On the other hand, borrowers that bought a house in the last few years and likely locked in very low rates for at least 20 years may want to move house in the coming years, increasing the pool of potential 'porters'.

However, mortgage interest rate developments will also be important. A material decline would significantly reduce the benefits of porting whilst continued high mortgage rates would result in borrowers continuing to port their mortgage loans. **On the whole, we probably are near the 'top' in terms of portability use**, with a further substantial increase in the share of ported mortgages unlikely. **But where the 'bottom' lies is unknown, so whilst a reduction in ported mortgages in the medium-term is likely, we don't think it will drop to zero anytime soon.**

Relocation prepayments outlook

In terms of formulating our forecast for Dutch Prime RMBS prepayments, mortgage portability is not relevant as we are forecasting gross CPRs. Hence, **for the relocation prepayments component we only take into account the number of relocations**, which is a function of housing transactions involving subsequent buyers.

Firstly, **in terms of home sales, we expect a further fall** as subsequent buyers are holding off, leading to less supply, and a sharp decline in new construction wrecks havoc on the 'housing ladder train'. The latter refers to the fact that someone moving into a newly constructed property will leave behind their old home, which stimulates further relocation activity. Overall, **our housing economists forecast 180,000 existing home sales in 2023 (-6.7% YoY) and 170,000 in 2024 (-5.5% YoY).**

Secondly, the **other relevant factor is the market share of subsequent buyers in home sales**, which has declined quite considerably in the last three years. However, we expect **activity from subsequent buyers to gradually normalise** once house prices bottom out this year and they become less reluctant to relocate. Indeed, this is what we saw after the market bottomed out in 2013, when the recovery on the housing market went hand in hand with a steady increase in the market share of subsequent buyers (see Figure 5).

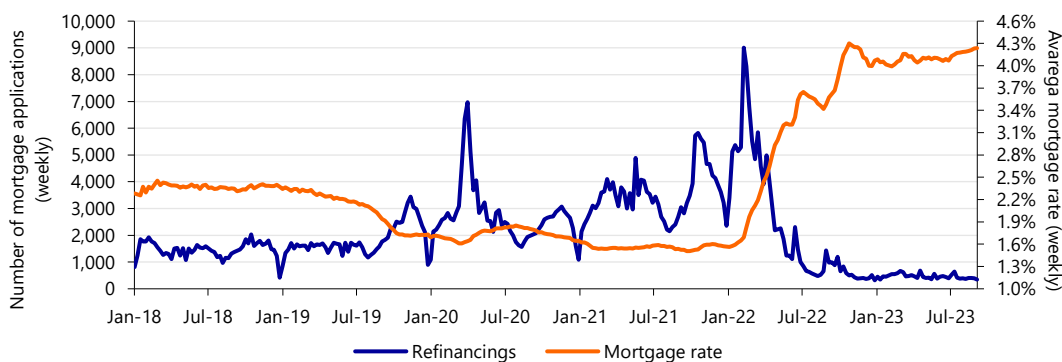
Overall, relocation CPRs are set to decline further in the next year and a half as additional declines in home sales mean constrained relocation activity. A gradual normalisation of subsequent buyers' market share will in our view *not* be sufficient to compensate for this in the near-term.

Lastly, for whole loan investors, banks and other mortgage originators (assuming they are funding ported loans), mortgage portability can clearly have a significant impact on prepayments and portfolio developments. Not only will the fall in relocation activity reduce prepayments, frequent use of mortgage portability will result in a further drop in CPRs as for a given level of relocations there will be less prepayments on a net basis. In conclusion, **the combined effect of these two factors means low gross and net relocation CPRs in the near-term for whole loan investors, banks and other mortgage originators.**

Refinancings: minimal activity at higher rates

Prepayments due to (early) mortgage refinancings are in our view the most volatile and unpredictable component of CPRs as they clearly relate to mortgage interest rate developments as well as human behaviour and psychological effects. The low rate environment of the past years was a clear driver pushing CPRs higher, 2020 and 2021 in particular were characterised by significant refinancing activity. Then, the rapid increase in mortgage rates in 2022 saw a 'last round' effect take place, namely a boom in refinancing activity in Q1 as borrowers rushed to lock in rates before they increased even further. However, **the number of mortgage applications for refinancings has since collapsed as the economic incentive to refinance has been erased.**

Figure 7: Refinancings have collapsed as rates shot up



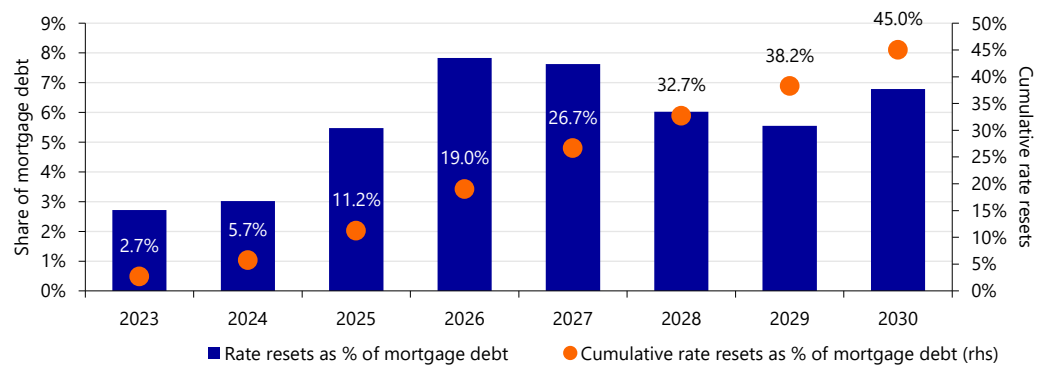
Source: HDN, Rabobank

Refinancing prepayments outlook

For simplicity, we assume stable mortgage rates going forward, though the story holds in case of a limited decline in rates. Working from this assumption, the economic incentives to refinance early, i.e. lowering one's mortgage rate, are negligible. As a result, refinancings will be predominantly comprised of mortgages approaching the end of their fixed-rate period, i.e. rate resets. **However, we expect only minimal refinancing prepayments** on the back of this due to two reasons. Firstly, only 5.7% of the mortgage stock is estimated to face a rate reset in 2023/24, and secondly, **borrowers are more likely than before to stay with their current mortgage lender, thus not prepaying and refinancing elsewhere.** Indeed, shopping around may yield limited benefits when taking into account various costs associated with refinancing at a different originator, e.g. fees for financial advice, appraisal costs and notary expenses. Hence, unless there are significant cost savings by switching, borrowers are likely to sit tight.

Overall, **refinancing activity will be similar to the current low levels in the near-term**, resulting in a minimal level of refinancing prepayments in our view. However, this also means there will be **no renewed downward pressure on CPRs** due to this factor.

Figure 8: Rate resets for the Dutch mortgage stock are low in the near-term

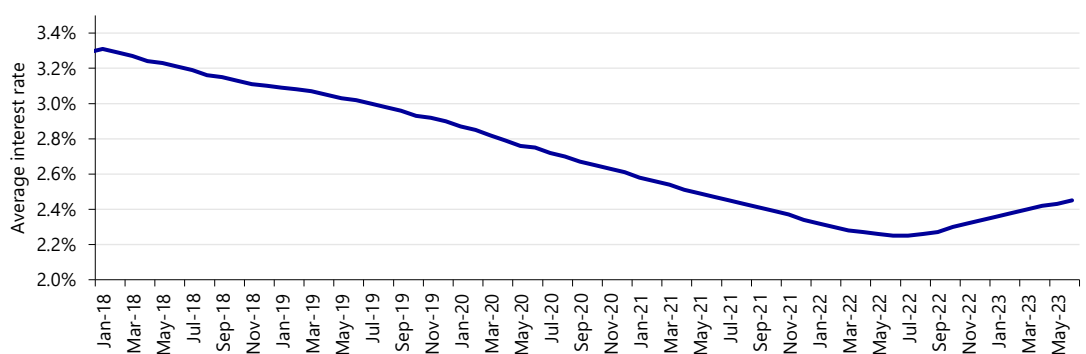


Source: DNB

What about the medium-term perspective?

In the medium-term, refinancing activity may still be (more) subdued, even in a scenario of declining mortgage rates. Given significant refinancing activity in the very low interest rate years of 2019-2022 and the coinciding dominance of very long fixed-rate periods of 20-30 years, **there are many borrowers sitting on rock-bottom interest rates with no incentive to refinance.**

Figure 9: Average mortgage rate on outstanding stock remains very low



Source: DNB

Indeed, the average interest rate on the Dutch mortgage stock remains very low at 2.5%, with generally long fixings limiting the pace of repricing. Hence, even if interest rates were to decline from their current levels of ~4.25%-4.75% to let's say 3%, that will still be higher than the interest

rates paid by a probably not insignificant group of borrowers. **Overall, the pool of potential early refiners is likely to remain limited in the foreseeable future, constraining refinancing prepayments down the line in our view.** Moreover, whilst the number of mortgages seeing their rate reset will increase from 2025 onwards, rising to a cumulative 45% by 2030, it may well be common for borrowers to prefer to stay with their current lender, i.e. no prepayment.

Curtailments: structurally lower in the future

What we believe to be the most stable component of prepayments are curtailments or partial prepayments. It's a steady but not insignificant part of prepayments and a rough estimate is that it averages between 1.5% and 2.25% per annum. **However, going forward, we are likely to see a structurally lower level of curtailment activity, albeit slightly.** One incentive for households to partially prepay is to optimise their balance sheet for tax purposes, so using 'spare' cash to prepay the mortgage loan before year-end and avoid having to pay wealth taxes for the coming tax year. However, such **curtailment incentives are lower than in the past due to several tax code changes.**

Firstly, a court ruling in 2021 forced the government to change the wealth tax system ('Box 3'). A temporary system is in place for now, which means savings are now taxed (much) more favourably compared to before. Moreover, the tax-exempt amount of wealth ('Box 3') has been increased to €57,000 (€114,000 for couples) for 2023, thus somewhat reducing the need to manage cash balances to optimise taxes. On the other hand, the wealth tax percentage will be gradually increased from 32% in 2023 to 34% in 2025.

Finally, the ECB's aggressive monetary policy tightening has driven banks' deposit rates higher, though they have lagged behind the ECB's policy rate of 3.75%. In the Netherlands, deposit rates on savings accounts are (as of writing) between 1.25%-1.5% for the three biggest banks and up to 3% for some (European) challenger banks. **Higher deposit rates reduce the economic incentive to partially prepay.** That's especially the case because many borrowers are sitting on low interest rates, and some may even be receiving more on deposits than what they are paying on their mortgage, so for these households the *economic incentive* to prepay is not present. In other cases, a smaller gap between the rate received on deposits and the rate paid on a mortgage still reduces the economic incentives. However, most people, except for the most financially savvy, are probably not thinking about this kind of financial trade-off too much, likely limiting the effect.

Finally, high inflation may further reduce the incentive for borrowers to partially prepay their mortgage loan as the debt gets eroded in real terms.

Overall, there are reasons to believe curtailments might be somewhat lower than in previous years but not significantly so in our view.

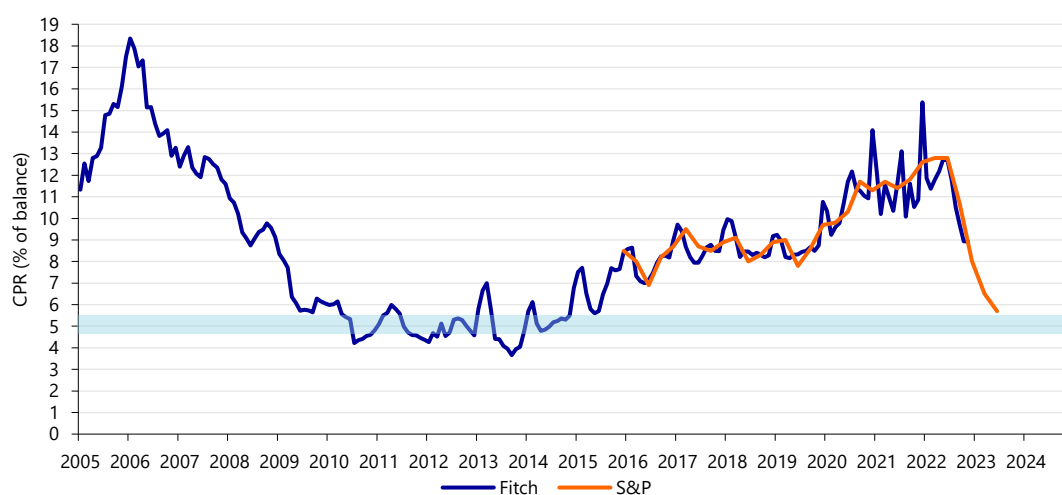
Prepayments outlook: putting it all together

Taking a bottom-up approach, we combine our outlooks for the different prepayment components to form a view on overall CPR levels. **Ultimately, we believe the bottom in CPRs is in sight.** The collapse in refinancing activity has in our view been the primary driver behind the decline in prepayments so far, followed by a decrease in relocation prepayments.

In the shorter-term, an expected further decline in relocation activity will drive relocation prepayments down a bit more whilst stable but minimal refinancing activity keeps refinancing prepayments very low. In the next year and a half, we foresee the **overall prepayment rate averaging between 4.75% and 5.5%** (see Figure 11), which is similar to the lows seen in the aftermath of the GFC. However, we don't expect prepayment rates to drop below those levels as homes sales and thus relocation activity will not be as depressed as back then.

In the medium-term, we expect prepayments to gradually increase again. In 2025 and beyond (with risks skewed to upside, so it could be sooner) it's reasonable to expect a further recovery on the housing market, with existing home sales and thus relocation activity on the rise. Moreover, subsequent buyers are likely to regain some market share as well. **However, a limiting factor with regard to the *speed and extent* of an increase in prepayments down the line will in our view be refinancings.** Even in a scenario of a limited decline in mortgage rates, the pool of potential early refinancers is likely more subdued. Hence, in our view, it's unlikely we will see a significant new wave of refinancing activity materialise unless we see a sharp and persistent decline in mortgage rates. **Overall, a ballpark estimate suggests prepayment rates in the 7-9% range are reasonable.** Sustained 10%+ CPRs are unlikely unless mortgage rates decline to significantly lower levels than currently, resulting in a spike in refinancing activity.

Figure 10: CPRs to settle in low range due to noticeably fewer relocations, minimal refinancings



Source: Rabobank, Fitch, S&P

Finally, we do note again that the above gross CPR forecasts are not taking into account the portability effect. Hence, for whole loan mortgage portfolios, net CPRs can be even lower, reflecting a (potentially substantial) portability effect. That said, the impact will be highly portfolio specific. As such, the broader trends are more important than the actual level of CPRs shown here as they may or may not be representative of a whole loan portfolio.

Impact of low(er) CPRs for whole loan investors vs. RMBS

The impact of low(er) prepayments for investors can differ depending on the type of investment, e.g. RMBS versus a whole loan investor. Given the WALs of RMBS tranches are typically constrained by the optional redemption date, low(er) CPRs have a less severe impact on WALs relative to a whole loan portfolio. Hence, low prepayment rates in the foreseeable future are somewhat less of a concern for RMBS investors in our view.

For whole loan portfolios, low(er) prepayment rates may be more of a concern as the 'life' of the mortgage portfolio is extended more significantly. Moreover, in the face of higher interest rates, the reduction in prepayments means less money that's able to be put to work in higher yielding assets than would otherwise have been the case, an issue by and large avoided by RMBS investors receiving floating-rate payments. Finally, **the portability option may result in net prepayments (significantly) below gross prepayments**, exacerbating the aforementioned impact.

Overall, in the next year and a half, whole loan portfolios will in our view have to contend with continued low prepayment levels (gross 4.75%-5.5%), and even in the medium-term we expect only a gradual increase in prepayments (gross 7%-9%) so no quick return to the high CPR levels we saw in 2020/21.

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