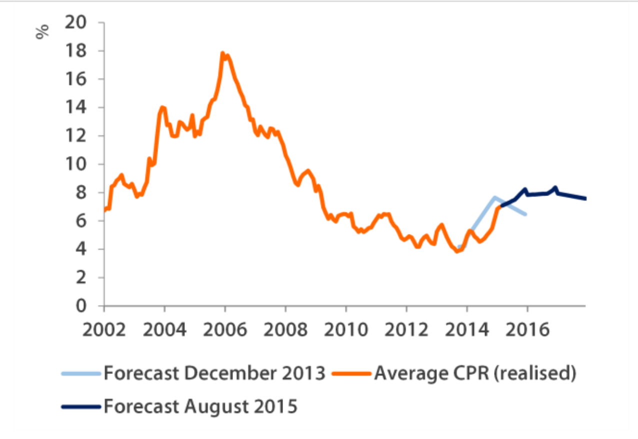
Update on prepayment rates Dutch RMBS

- In recent months, there has been a notable increase in prepayment rates of Dutch RMBS transactions. The constant prepayment rate (CPR), as reported by rating agencies, currently averages 7.1%. This level is clearly higher than the sub-5% levels witnessed in previous years.
- Main drivers behind this higher CPR are increased relocation activity and curtailments (partial repayments) of mortgage loans. More recently, also refinancing activity seems to have more attention.
- Refinancing activity is mainly driven by the interest rate gain borrowers could get from switching from their current mortgage into a new one. There are indications that this type of activity will rise going forward, resulting in a further increases in CPRs.
- We forecast an average CPR of around 8% in the next few years. As most Dutch RMBS transactions assume a CPR of 5%, the weighted average life (WAL) of some tranches might turn out to be shorter than expected.

Recent developments

Since the fourth quarter of last year, there has been a trend of higher prepayment rates in Dutch RMBS transactions. The average CPR, as reported in RMBS index reports of rating agencies (Standard & Poor's, Moody's and Fitch), currently equals 7.1%, and is clearly higher than the average of 4.7% recorded between April 2012 and September 2014.

Figure 1: Average CPR Dutch RMBS

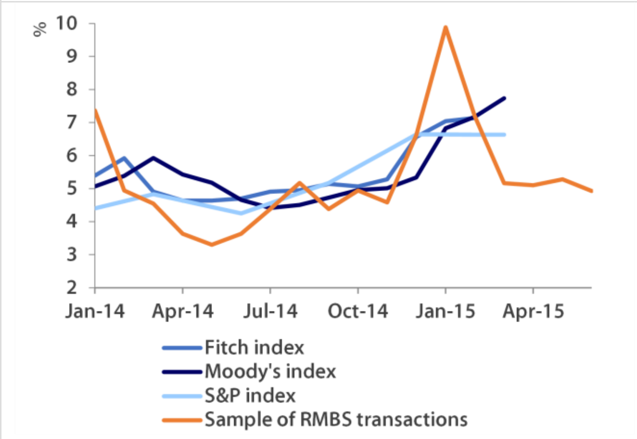


Sources: Rating agencies, Rabobank

The rating agency index reports are lagging slightly, however. More up-to-date information on CPRs, obtained from investor reports of a selected sample of Dutch RMBS transactions, shows that (monthly) CPRs have fallen modestly again in recent months. This is not directly a reason to worry, as the CPR development is prone to seasonal influences. Figure 3 shows the average CPR for each month (measured over the last 12 years) and clearly indicates that CPRs are higher in the months around the year change, i.e. the drop in CPRs in recent months seems not an abnormal deviation from the usual pattern.

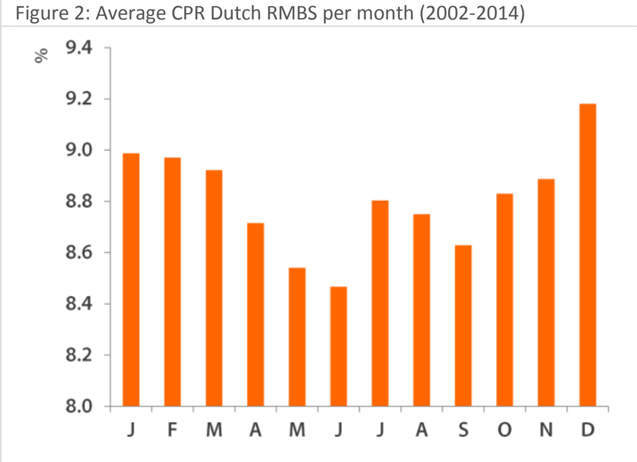
Higher prepayment rates are broadly in line with our expectations, although the increase in the CPR has taken longer to materialise than we had expected. In December 2013 (Focus on ABS: Negative equity constrains rise in Dutch CPRs), we laid out an expectation of a CPR between 6.5% and 7.6% in the subsequent years. This research note is an update to this previous study and reassesses the outlook for CPRs in Dutch RMBS transactions.

Figure 2: Average CPR Dutch RMBS



Source: Rating agencies, investor reports, Rabobank

Figure 2: Average CPR Dutch RMBS per month (2002-2014)



Source: Rating agencies, Rabobank

Credit Research
www.rabobank.com

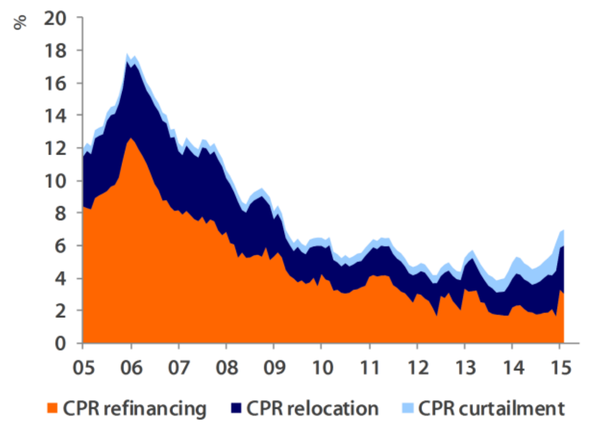
Ruben van Leeuwen
+31 30 21 69724

Splitting the CPR by cause

Like the previous research study, we have split the prepayment rate by the three main reasons why borrowers make unscheduled prepayments on their mortgage principal. First, we consider curtailments (partial prepayments), as this is one of the main reasons for the spike in CPRs in December 2014 and January this year. Second, we consider prepayments related to relocations. Third, prepayments are also caused by refinancing activity. We continue to ignore full repayments not related to relocation and/or refinancing, as this affects only a small fraction of the market. We also ignore the effects of substitution of loans in RMBS pools, though we note this factor is decreasing and could have been an additional reason why CPRs in some Dutch RMBS transactions have increased recently.

It must be stressed that there is no specific data available on Dutch CPRs by cause. Instead, we have made specific assumptions on the basis of housing sales, new mortgage inscriptions and press statements by Dutch banks, which enabled us to split the overall CPR by its three main causes.

Figure 4: CPR by cause (assumed)



Source: Rabobank

Curtailments

The incidence of curtailments is quite difficult to assess, as there is only limited information available on this specific reason for prepayment. Because the Dutch mortgage stock has shrunk in recent years, there is a strong suggestion that borrowers are increasingly paying off extra principal in order to reduce debt. Historically, curtailments have never been a sizeable factor in overall prepayments, but as indicated in our previous study on CPRs, the low (savings) rates environment in combination with the wealth tax in the Netherlands, have made curtailments more popular in recent years. Mortgage originators typically allow for a 10%-20% curtailment per year without imposing a prepayment penalty.

A new factor compared to our previous study on Dutch RMBS is the expiration of a temporary allowance in the Dutch gift tax framework, which enabled beneficiaries to receive a tax-free gift of up to EUR 100,000, on the condition that this money was used to purchase a house or to lower mortgage debt. This benefit expired on 1 January 2015, but it certainly resulted in a spike in prepayments around this date[1]. The magnitude of this effect is less clear, but on the basis of press statements by Dutch banks, the (annualised) CPR related to curtailments only could have been as high as 2.0% around the year change 2014-2015. As such, it seems curtailments have been an important driver of the increase in CPRs since the fourth quarter of last year.

We do not expect a similar curtailment spike in following years, but the wealth-tax reason for making prepayments is still likely to prevail in this low-rates environment[2]. We forecast a structurally higher CPR related to curtailments of 1.0% in the next years, with some modestly higher spikes occurring near year-ends.

Relocation

Most, though not all mortgage contracts allow for penalty-free full repayment of the loan after the underlying property has been sold[3]. This implies that relocations from one house to another, are an important reason for prepayments. In the end of 2013, we projected a recovery in the housing market, which has turned out to be more powerful than we had anticipated.

As extensively discussed in our research coverage on the Dutch housing market, negative equity is constraining relocations and therefore also CPRs, but positive momentum in the number of transactions is clearly resulting in more prepayments currently. On an annual basis, there are roughly 165,000 homes being sold currently, which is clearly higher than the volume of approximately 110,000 in 2013. For the end of this year, our economists predict an annual sales volume between 170,000 and 185,000 units. For next year, between 180,000 and 190,000 homes sales are expected, which still indicates a decent transaction volume, but also a somewhat lower growth momentum.

This momentum (measured as the annual percentage change) shows a high correlation with the CPR related to relocation, which suggests that eventually this factor will be a somewhat lower driver for mortgage repayments. We assess the current CPR related to relocation at 3.0%. This is likely to decrease slightly to 2.5-3.0% in the coming years.

[1] There still exists a gift tax exemption for housing or education up to EUR 52.752.

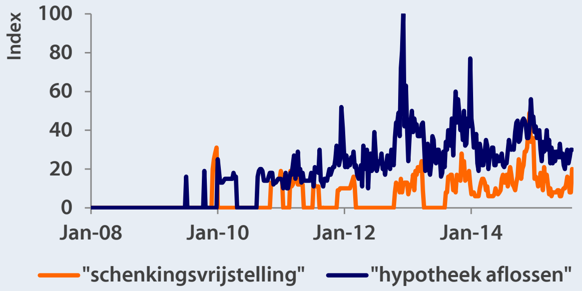
[2] Curtailments on grandfathered mortgage product structures, such as interest-only loans, result in a permanent termination of (unconditional) interest rate deductibility on the prepaid loan amount. In case the borrower wants to increase or take a new mortgage loan at a later stage, the tax system requires (full) annuity mortgage loans for tax deductibility reasons, i.e. by making prepayments, the borrower is giving up his grandfathered tax benefits. This tax element could act as a structural brake to making curtailments, but it currently seems of lesser importance for home owners which have more preference to reduce the length of their balance sheets.

[3] Also in case the borrower subsequently takes a new mortgage loan at a different originator.

Googling borrowers' behaviour

In the past, when a borrower had questions about his mortgage loan, he or she was very likely to call the bank or mortgage intermediary. Nowadays, the internet is more likely to be a first source for mortgage information. Google has powerful analytics on search behaviour, and some of this information is freely available from *Google Trends*. This tool plots a search index of specific terms over time, and gives an indication when something was popular on the web's main search engine. The search terms "aflossen hypotheek" (repayment mortgage) and "schenkingsvrijstelling" (gift allowance) show, as expected, clear popularity peaks near year-ends. Interestingly, the search terms only show up after 2008, whereas the popularity on the gift allowance saw a much higher peak in December 2014 compared to previous years. This is further evidence that curtailments related to this temporary benefit in the gift tax framework resulted in a spike in prepayments.

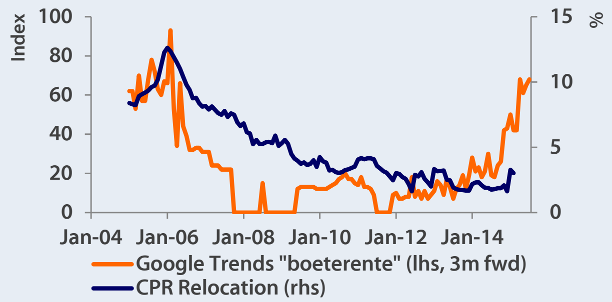
Figure 5: Web search popularity



Source: Google

We have also used Google Trends to assess mortgage refinancing activity. The Dutch term for refinancing ("oversluiten hypotheek") gave some interesting results, but is more likely to reflect earlier thoughts by borrowers rather than concrete action. The search term "boeterente" (prepayment penalty) is in our view more related to the (future) refinancing activity itself, and indeed, we found some correlation between this search term and the CPR related to refinancing. The recent spike in googling on this term suggests more mortgage refinancing activity going forward.

Figure 6: Web search popularity "boeterente"



Source: Google

Refinancing

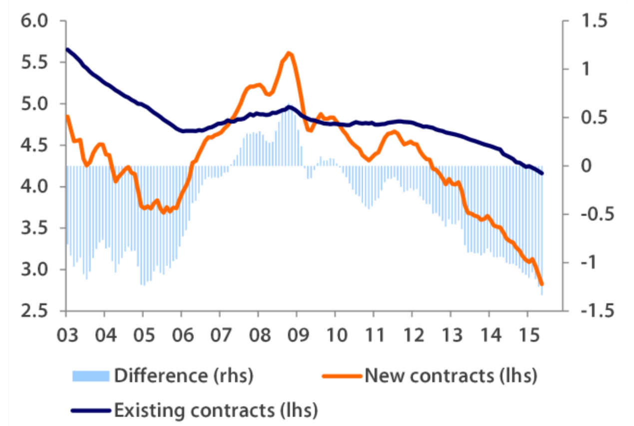
Refinancing activity used to be a major reason for prepayments in 2005 and 2006. The interest rate differential between new mortgage production and the existing mortgage stock has historically shown a big correlation with the CPR related to refinancing, as this potential gain could trigger borrowers to refinance even when there is a prepayment penalty involved (prepaying the full mortgage loan at the interest-rate reset date does not involve a penalty).

As extensively discussed in the previous research note on Dutch CPRs, negative equity is a severe constraint to refinancing, and is particularly relevant because a relatively high proportion of the active mortgage loan "shoppers" of the past are currently in this situation. In addition, there are now explicit origination and advising fees involved when taking a new mortgage. Although this development is positive from a transparency point of view, the borrower has to make an investment when switching originators, and this acts as an extra hurdle. Largely for these reasons refinancing activity has lagged our expectations, although very recently there seems to be more focus on this.

Increased competition in the Dutch mortgage market is important to consider here, as mortgage interest rates have declined substantially in recent years and the interest differential between old and new production is now wider than ever before. Even when incorporating a substantial brake functioning of negative equity, it is likely that CPRs related to refinancing activity will increase going forward. Moreover, a relatively large wave of longer-term interest rate term fixings from the heydays of the mortgage market (2005-2007) will be reset in the coming period, which makes penalty-free refinancing possible.

We assess that the CPR related to refinancing will gradually increase to 4.0-4.5% over the next years, from a level of 3.0% currently.

Figure 7: Interest rate differential (%)



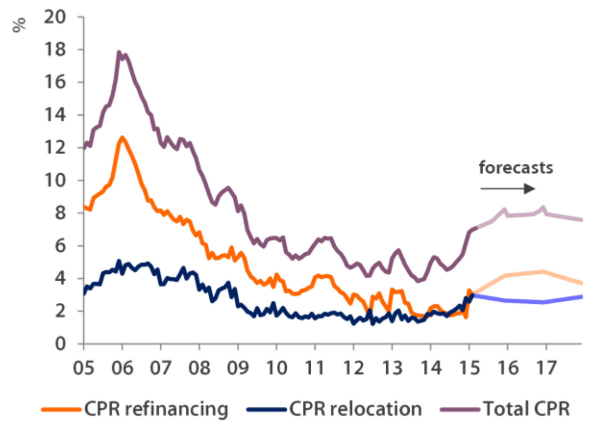
Sources: DNB, Rabobank

CPR outlook

We have added the three sub-CPRs together in order to construct an outlook for the overall CPR. The result is plotted in Figure 8 below. We expect that the CPR will increase to 8% by the end of the year, mainly on the back higher refinancing activity. For the end of 2016, we forecast a similar rate. Refinancing activity is likely to increase slightly further, whereas the CPR related to relocation is expected to be slightly lower. On balance, we have pencilled a stabilisation of the CPR in 2017.

As indicated in Figure 1 on the front page, this CPR outlook is slightly different from our previous scenario. The main difference is that the recovery in the housing market is stronger than we had anticipated by then, but also the decline in mortgage interest rates has exceeded our expectations.

Figure 8: CPR outlook



Source: Rabobank

Double-digit CPRs are still unlikely, but if the low rate environment prevails for a longer period, and mortgage interest rates would decline, this could fuel both the housing market (resulting in more relocations) and refinancing activity further.

Dispersion option for prepayment penalty

In the Dutch press and politics, there has been increasing attention on how borrowers could benefit more from the low rates environment. Prepayment penalties, which are calculated on a NPV basis until the next interest reset date, are often a hurdle for borrowers not to engage in this. Yet, some originators offer (existing borrowers) the option to disperse the penalty fee over time, i.e. the borrower could switch to a lower interest rate, but the penalty fee is spread as an interest rate add-on over a longer time period. In our understanding, such a loan conversion does not constitute a prepayment of principal. Instead, only the loan's interest rate changes, which is a risk that in any case exists, but is now brought forward.

Impact on Dutch RMBS transactions

Most Dutch RMBS transactions incorporate a CPR assumption of 5%. This conservative assessment is in line with market developments in recent years, but our outlook suggests a higher CPR going forward. This implies that some tranches could have a shorter WAL than is indicated in standard models. For all public RMBS deals in recent years, we have overwritten the standard CPR assumptions with our own CPR factor in the Bloomberg model. The results of this exercise are included in the table on the next page.

Two developments are noteworthy. First, some transactions have much higher CPRs than others. In particular the Cartesian 1 deal (sold by Venn Partners) shows a fairly high level of prepayments currently. The structure is backed by mortgages to private banking customers, which are in general more driven by prepayments related to (wealth) tax optimisation. Moreover, the originator in the Cartesian portfolio is no longer active, making refinancing at another originator often an attractive alternative for the borrowers in the pool.

A second observation is that the average life of some slow-paying tranches could also be shorter than expected. As margins on fast and slow paying tranches are not that different anymore, sellers increasingly prefer to offer only one single senior tranche to investors. Obvion sold a single senior tranche in its Storm 2015-1 transactions, whilst ING Bank did the same in its Orange Lion 2015-12. The main difference between these tranches and a standard A2 tranche is that amortisation kicks in immediately after launch. Although the first optional redemption date (FORD) is still the major determinant of the WAL of these tranches, a higher CPR shaves also some expected life off. Despite that the curve is very flat these days, the spread on these specific instruments might be relatively attractive on the back of a higher CPR outlook.

Table 1: Overview of Dutch RMBS tranches

Tranche	Closing date	CPR		Seasoning	Weighted average life (yrs)			
		Assumed	Latest (3m)	(yrs)	Original	Current	Vector	Difference
ARENA 2011-1 A1	Jan-11	5.0	4.2	4.6	1.9	0.1	0.1	0.0
ARENA 2011-1 A2	Jan-11	5.0	4.2	4.6	4.9	0.3	0.3	0.0
ARENA 2012-1 A1	Dec-12	5.0	5.7	2.7	2.0	0.7	0.5	-0.2
ARENA 2012-1 A2	Dec-12	5.0	5.7	2.7	4.9	2.2	2.1	-0.1
ARENA 2014-2NHG A1	Nov-14	5.0	4.9	0.7	2.0	1.6	1.0	-0.6
ARENA 2014-2NHG A2	Nov-14	5.0	4.9	0.7	5.4	4.6	4.2	-0.4
ARENA 2014-2NHG A3	Nov-14	5.0	4.9	0.7	5.5	4.6	4.2	-0.4
CATSN 1 A	Mar-14	6.0	15.5	1.4	4.3	3.2	3.1	-0.2
DMPL VIII A2	Nov-10	8.0	7.5	4.8	4.9	0.2	0.2	0.0
DMPL IX A1	Jul-11	8.0	8.6	4.1	1.9	0.4	0.4	0.0
DMPL IX A2	Jul-11	8.0	8.6	4.1	4.9	0.9	0.9	0.0
DMPL X A1	Jul-12	5.0	6.0	3.1	2.0	0.4	0.3	-0.1
DMPL X A2	Jul-12	5.0	6.0	3.1	5.0	1.8	1.8	-0.1
DRMP 1 A1	May-15	5.0	3.7	0.2	1.2	1.3	0.9	-0.4
DRMP 1 A2	May-15	5.0	3.7	0.2	4.6	4.7	4.0	-0.6
DRMP 1 A3	May-15	5.0	3.7	0.2	4.9	4.7	4.0	-0.6
DUTCH 2011-16 A2	Jun-11	7.0	7.8	4.2	5.0	0.7	0.7	0.0
DUTCH 2013-18 A1	Feb-13	7.0	9.0	2.5	2.0	0.5	0.4	-0.1
DUTCH 2013-18 A2	Feb-13	7.0	9.0	2.5	5.0	2.4	2.3	0.0
HERME 18 A1	Oct-12	5.0	6.0	2.9	1.9	0.2	0.2	-0.1
HERME 18 A2	Oct-12	5.0	6.0	2.9	4.9	2.0	1.9	-0.1
HYPEN 3 A1	Apr-15	5.0	4.9	0.4	2.0	1.6	0.9	-0.6
HYPEN 3 A2	Apr-15	5.0	4.9	0.4	5.2	4.8	4.5	-0.3
LUNET 2013-1 A2	Nov-13	6.0	8.3	1.8	1.9	3.2	3.0	-0.1
LUNET 2013-1 A1	Nov-13	6.0	8.3	1.8	5.1	0.6	0.5	-0.1
ORANL 2015-11 A	Jun-15	5.0	3.0	0.2	5.8	5.5	4.9	-0.6
PHEHY 2013-1 A2	Jun-13	5.0	4.5	2.1	5.0	3.0	2.8	-0.1
SAEC 9 A2	Sep-10	0.0	6.2	4.9	5.4	0.6	0.6	0.0
SAEC 10 A2	Apr-11	6.0	4.5	4.4	4.9	0.5	0.5	0.0
SAEC 12 A2	Dec-12	5.0	4.7	2.7	4.9	2.2	2.1	-0.1
SAEC 12 A1	Dec-12	5.0	4.7	2.7	1.9	0.8	0.6	-0.3
SAEC 14 A1	Mar-14	5.0	3.4	1.4	2.0	1.4	0.9	-0.5
SAEC 14 A2	Mar-14	5.0	3.4	1.4	4.9	3.4	3.3	-0.1
SAEC 15 A1	Oct-14	5.0	1.8	0.8	2.0	1.7	1.2	-0.5
SAEC 15 A2	Oct-14	5.0	1.8	0.8	5.3	4.4	4.2	-0.2
STORM 2010-3 A1	Sep-10	5.0	4.7	4.9	2.0	0.1	0.1	0.0
STORM 2010-3 A2	Sep-10	5.0	4.7	4.9	5.0	0.1	0.1	0.0
STORM 2011-3 A1	Apr-11	5.0	3.4	4.3	2.0	0.4	0.3	-0.1
STORM 2011-3 A2	Apr-11	5.0	3.4	4.3	5.0	0.7	0.7	0.0
STORM 2011-4 A1	Nov-11	5.0	3.5	3.8	2.0	0.5	0.3	-0.2
STORM 2011-4 A2	Nov-11	5.0	3.5	3.8	4.9	1.2	1.2	0.0
STORM 2012-1 A1	Feb-12	5.0	4.4	3.5	2.0	0.5	0.3	-0.2
STORM 2012-1 A2	Feb-12	5.0	4.4	3.5	4.9	1.4	1.4	0.0
STORM 2012-3 A1	Jun-12	5.0	5.7	3.2	2.0	0.5	0.3	-0.2
STORM 2012-3 A2	Jun-12	5.0	5.7	3.2	4.9	1.7	1.7	0.0
STORM 2012-4 A1	Sep-12	5.0	5.1	2.9	2.0	0.6	0.4	-0.3
STORM 2012-4 A2	Sep-12	5.0	5.1	2.9	4.9	2.0	1.9	-0.1
STORM 2013-1 A1	Jan-13	5.0	4.9	2.5	2.0	0.9	0.6	-0.3
STORM 2013-1 A2	Jan-13	5.0	4.9	2.5	4.9	2.4	2.3	-0.1
STORM 2013-2 A1	Apr-13	5.0	4.7	2.3	2.0	0.7	0.5	-0.3
STORM 2013-2 A2	Apr-13	5.0	4.7	2.3	4.8	2.5	2.4	-0.1
STORM 2013-4 A1	Sep-13	5.0	4.5	1.9	2.0	1.0	0.7	-0.4
STORM 2013-4 A2	Sep-13	5.0	4.5	1.9	4.8	2.9	2.8	-0.1
STORM 2014-2 A1	Jun-14	5.0	4.1	1.1	1.9	1.3	0.9	-0.5
STORM 2014-2 A2	Jun-14	5.0	4.1	1.1	5.0	3.8	3.6	-0.2
STORM 2014-3 A1	Oct-14	5.0	4.7	0.8	1.9	1.4	0.9	-0.5
STORM 2014-3 A2	Oct-14	5.0	4.7	0.8	5.0	4.2	4.0	-0.2
STORM 2015-1 A	Mar-15	5.0	4.6	0.4	5.2	4.8	4.4	-0.4

Sources: Bloomberg, investor reports, Rabobank

Financial Markets Research

Head

Jan Lambregts		+44 20 7664 9669	Jan.Lambregts@Rabobank.com

Macro

Elwin de Groot	EMU	+31 30 216 9012	Elwin.de.Groot@Rabobank.com
Emile Cardon	EMU, Switzerland	+31 30 216 9013	Emile.Cardon@Rabobank.com
Bas van Geffen	EMU	+31 30 216 9722	Bas.van.Geffen@Rabobank.com
Philip Marey	US	+31 30 216 9721	Philip.Marey@Rabobank.com
Michael Every	Asia	+852 2103 2612	Michael.Every@Rabobank.com
Jane Foley	UK	+44 20 7809 4776	Jane.Foley@Rabobank.com

Foreign exchange

Jane Foley	G10	+44 20 7809 4776	Jane.Foley@Rabobank.com
Christian Lawrence	LatAm	+1 212 808 6923	Christian.Lawrence@Rabobank.com
Piotr Matys	CEE	+44 20 7664 9774	Piotr.Matys@Rabobank.com

Fixed income

Richard McGuire		+44 20 7664 9730	Richard.McGuire@Rabobank.com
Lyn Graham-Taylor		+44 20 7664 9732	Lyn.Graham-Taylor@Rabobank.com
Matt Cairns	SSA	+44 20 7664 9502	Matt.Cairns@Rabobank.com

Credit markets

Eddie Clarke	Corporates	+44 20 7664 9842	Eddie.Clarke@Rabobank.com
Stephen Queah	Corporates	+44 20 7664 9895	Stephen.Queah@Rabobank.com
Ruben van Leeuwen	ABS, Covered Bonds	+31 30 216 9724	Ruben.van.Leeuwen@Rabobank.com
Claire McNicol	Banks, Insurers	+44 20 7664 9874	Claire.McNicol@Rabobank.com

Agri Commodity markets – Food & Agribusiness Research and Advisory (FAR)

Stefan Vogel	Head	+44 20 7664 9523	Stefan.Vogel@Rabobank.com
Tracey Allen		+44 20 7664 9514	Tracey.Allen@Rabobank.com
Carlos Mera		+44 20 7664 9512	Carlos.Mera@Rabobank.com