

10 June, 2016

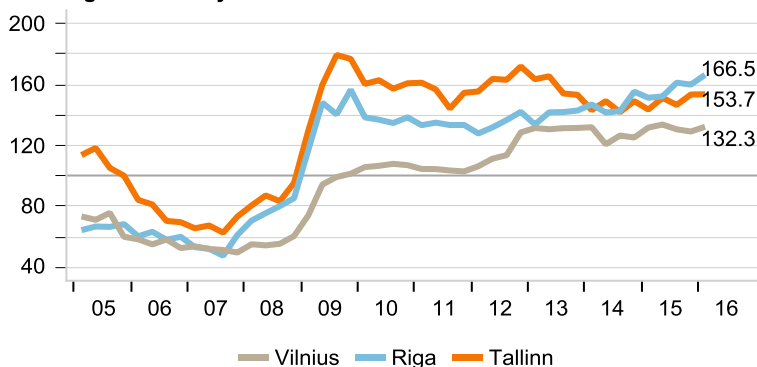
Baltic Housing Affordability Index

The housing affordability index (HAI) increased to 132.3 in Vilnius, 166.5 in Riga, and 153.7 in Tallinn

- In Tallinn, affordability rose by 10.1 points in the first quarter this year compared with the same period in 2015 due to an 8.5% rise in net wages and almost stable apartment prices.
- In Riga, the HAI increased by 15.1 points, due to a 4.6% drop in apartment prices.
- In Vilnius, the HAI rose a bit (by 0.5 point) because of 7.1% higher wages.
- The time needed to save for a down payment decreased by 2 months and 1 week in Tallinn, to 28.5 months, by 2 months and 2 weeks in Riga, to 23.5 months, and almost did not change in Vilnius (35.8).

The housing affordability index (HAI) is calculated for a family whose income is equal to 1.5 of average net wages with an average-sized apartment of 55 square meters. The HAI is 100 when households use 30% of their net wages for mortgage costs. When the HAI is at least 100, households can afford their housing, according to the established norm. The higher the number, the greater the affordability.

Housing affordability index



Sources: National statistical departments, Lithuanian Centre of Registers, Latvian State Land Service and National Real Estate Cadastre, Estonian Land Board and Swedbank



Vaiva Šečkutė
+370 2 582 156;
Vaiva.Seckute@swedbank.lt

Andrejs Semjonovs
+371 67 445 844;
Andrejs.Semjonovs@swedbank.lv

Siim Isküll
+372 8887925;
Siim.Iskull@swedbank.ee

Components of HAI: apartment prices, interest rates, and wages

Apartment prices and real estate market developments

Apartment prices, which had been increasing rapidly last year, almost did not change in Tallinn at the beginning of this year. Price growth accelerated in Vilnius, at least partly due to strong demand, but it fell in Riga.

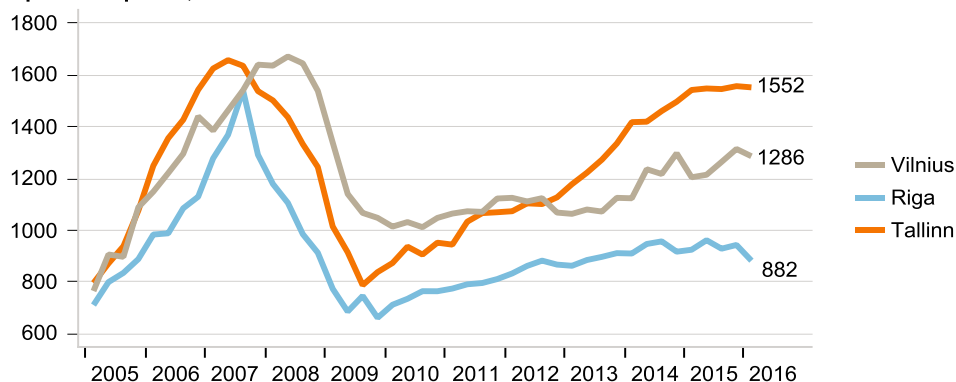
Annual growth, 1st quarter, %

Tallinn: 0.6

Riga: -4.6

Vilnius: 6.7

Apartment prices, EUR/m²



Source: Estonian Land Board, Latvian State Lands Service, Lithuanian Centre of Registers

The activity in the residential real estate market in **Riga** was stable in the first quarter of this year – as in the previous quarter, it remained largely at the average level of 2013-2014. The total number of transactions was up sharply, by 29% annually, due to a base effect – i.e., reflecting the lows of the first quarter of 2015 that followed the temporary introduction of a nonrecourse clause for mortgage loans. The activity remained resident driven, while nonresident demand was still rather weak. The resident activity was to a larger extent supported by the state-guaranteed mortgage loan programme for families with children – about 15% of the resident deals were with a state guarantee in the first quarter of 2016, compared with 7-8% in 2015. The increased demand for loans with a state guarantee was at least partly explained by even more favourable programme conditions – since mid-November, the fee for securing property rights [it's ok] in the land register under the programme was reduced to 0.5% of property value (instead of the usual 2%). The additional funding allocated for the programme in March is running out, though; thus uncertainty about the continuation of the programme in the following quarters persists. New mortgage lending surged by 77% annually in the first quarter, largely due to a base effect. Household mortgage credit stock, however, was still shrinking, by 4.5% annually.

The average apartment price fell by 4.6% on an annual basis, mostly due to lower prices in the new project segment. Compared with a year ago, apartment prices of the new projects fell by 5% and 10% in suburbs and the city centre, respectively. Since the overall number of deals has remained small, the average price fall in suburbs was to a large extent explained by a new, cheaper project becoming available. Excluding this effect, the new projects' prices remained largely unchanged. On the contrary, price growth of Soviet-era apartments in the suburbs, which form the majority of the resident deals, accelerated somewhat, to 8% annually. Although the price increase reflects a steady demand for economy-segment apartments, the supply and demand of apartments remain largely balanced in this segment – the stock of existing apartments and apartments under renovation still equals around two years of sales. The price growth, thus is expected to remain moderate.

In **Tallinn**, the real estate market has cooled. First-quarter data for 2016 indicate that annual growth in apartment prices has almost come to a halt, having decelerated to 0.6%. The slowdown also includes market activity, where annual growth in the number of deals dropped to 7%. Moreover, preliminary data suggest that in April and May fewer transactions were made than a year ago. In the city centre, the beginning of the year showed some price recovery, but annual growth has been negative since November (except February). This is being compensated for by stronger growth (1-7% in May) in other major regions of the city.

The supply of newly constructed apartments remains high. Currently, there are about 100 active apartment building development projects in Tallinn: some are completed, with few unsold apartments, whereas others have just started advance sales. The number of issued building permits for apartments has gradually been decreasing for three quarters in a row, but remains higher than the long-term average. In each of the last four quarters, on average, the construction of about 600 apartments was physically started. Meanwhile, the price gap between newer and older apartments has been narrowing for a year, making newer apartments more attractive than older ones.

On the other hand, consumer confidence to purchase or build a home within the next 12 months has dropped for three quarters in a row. In the first quarter of 2016, annual growth in the turnover of housing loans slowed to 5%. Despite strong wage growth--8% in the first quarter--and low interest rates, the turnover of housing loans in March and April was less than a year ago, -4% and -7% respectively. The overall loan portfolio is still increasing at a modest pace, 4.2% a year.

The supply of new apartments will remain high in the near future, whereas consumer confidence to purchase a home shows some signs of hesitation. This will keep apartment prices under pressure and price corrections more likely for older apartments with higher maintenance costs.

In **Vilnius**, activity recovered somewhat at the beginning of the year. The number of apartments sold increased by 10% in the first four months of this year compared with the same period a year ago. However, this was due to a low base effect, and the number of deals was still 17.9% lower if compared with the beginning of 2014. Activity increased much more in the newly built apartment segment, where the number of apartments sold rose by 17.8%, compared with 7.7% in the old-apartment segment.

Due to strong demand, prices during the first four months this year compared with the same period a year ago increased by 8% - slightly higher than wages in the first quarter. Price growth was mainly driven by rising prices of old apartments, which increased by 9.9% in a year, while prices of newly built apartments (not more than two years old) rose by only 3.9%. The slower growth of newly built apartments can be at least partly attributed to a high base effect, as prices rose rapidly at the beginning of 2015.

According to the survey of real estate market participants by the Bank of Lithuania, the supply of newly built apartments might be at around 3,200, which is more than one year of sales. This means that pressure for apartment prices to rise will remain due to strong demand, but the supply, which is also rising, should not allow prices to grow faster than wages. Demand will continue to be supported by high affordability and rent yield, which remain above the long-term average, and low interest rates. Moreover, almost half of households expect rising real estate prices, and only less than 10% thinks that real estate prices might decline during the next year. The value of new loans increased by one-third in the first four months this year, compared with the same period a year ago.

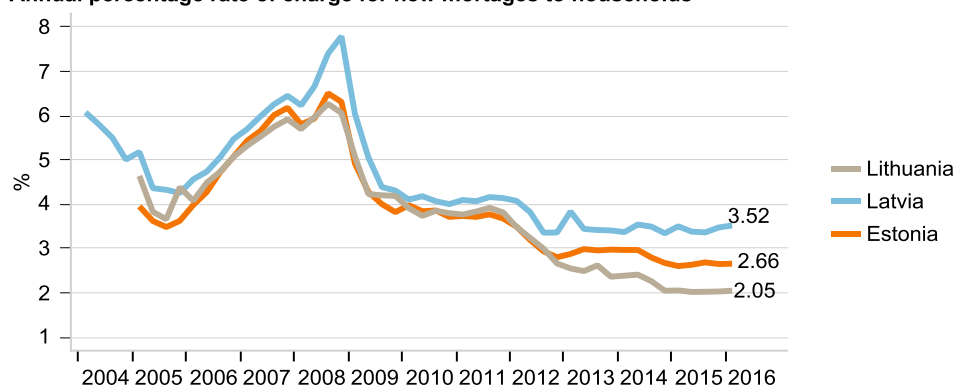
Interest rates on mortgages

Mortgage interest rates almost did not change in a year. The six-month euro interbank offered rate (Euribor), which is most commonly used for mortgage interest rates, decreased from 0.12% in the first quarter of 2015 to -0.10% in the first quarter of this year.

Annual growth, 1st quarter, basis points

Estonia: 5
Latvia: 2
Lithuania: -1

Annual percentage rate of charge for new mortgages to households



Source: European Central Bank

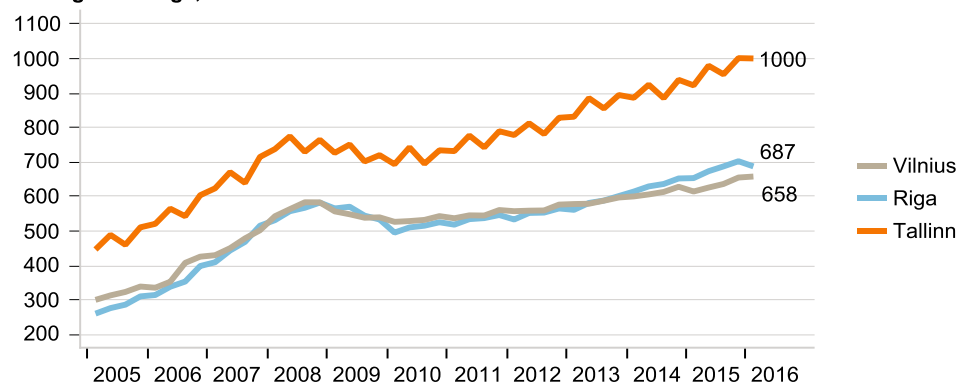
Average net wages

Annual wage growth remained rapid in Tallinn and accelerated significantly in Vilnius, but slowed in Riga.

Annual growth, 1st quarter, %

Tallinn: 8.5
Riga: 5.2
Vilnius: 7.1

Average net wage, EUR



Sources: National statistical departments

The HAI value of 153.7 in Tallinn means that household net wages in this city are 53.7% higher than required to afford an apartment, according to our norm (mortgage costs account for 30% of net wages of a household that earns 1.5 of the average net wage). In Riga, meanwhile, household net wages are 66.5% higher – and, in Vilnius, 32.3% higher - than required to fulfil this norm.

Months to save for the down payment

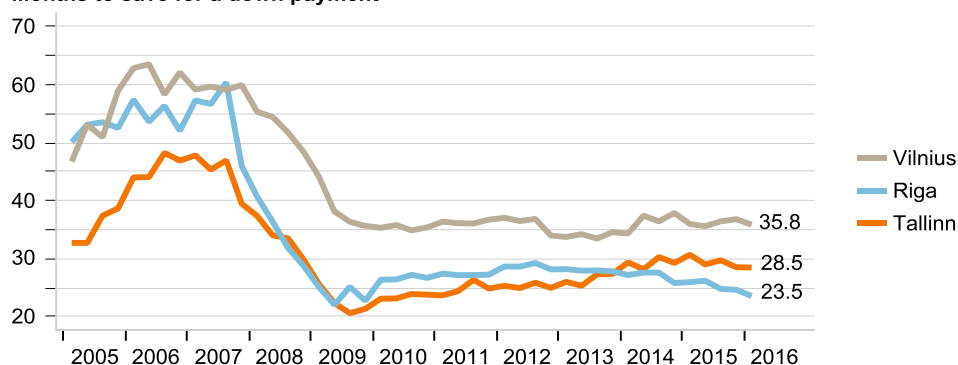
Over the past year, the number of months needed to save for a down payment, which equals 15% of an apartment price, decreased by 2 months and 1 week in Tallinn, by 2 months and 2 weeks in Riga, and almost did not change in Vilnius.

It is assumed that a household saves 30% of its net wages every month for a down payment.

Annual growth, 1st quarter, months

Tallinn: -2.2
Riga: -2.4
Vilnius: -0.1

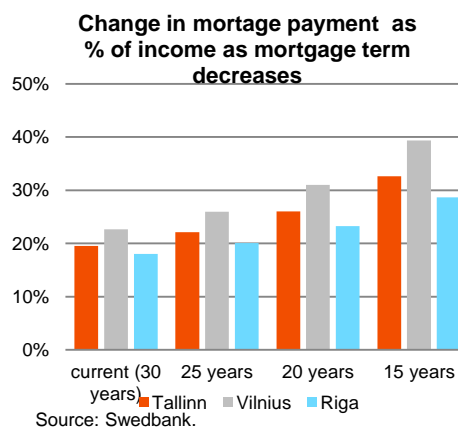
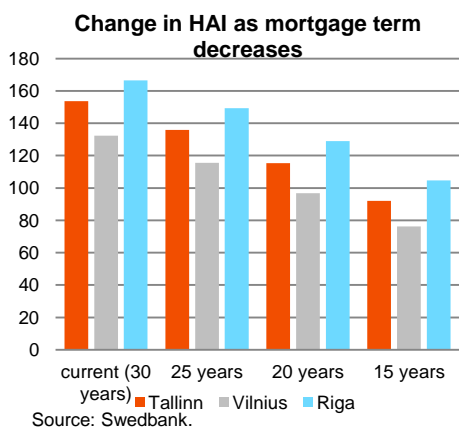
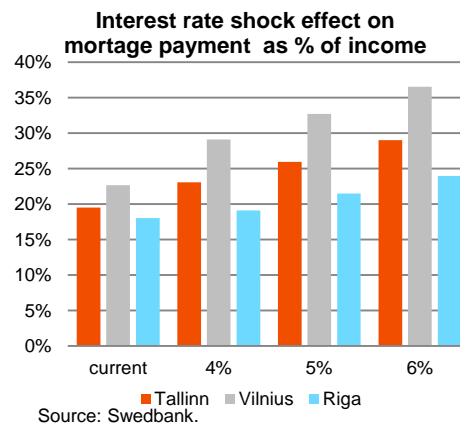
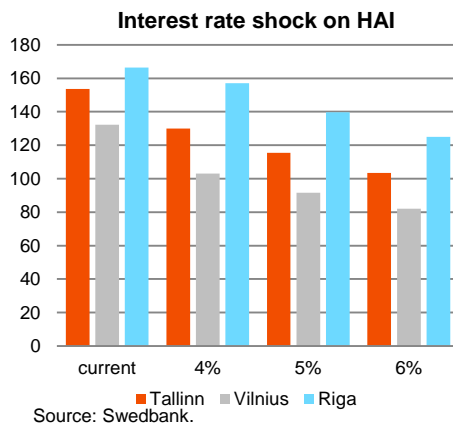
Months to save for a down payment



Sources: National statistical departments, Lithuanian Centre of Registers, Latvian State Land Service and National Real Estate Cadastre, Estonian Land Board and Swedbank

Sensitivity analysis

Sensitivity analysis shows that, if interest rates rose to 4% or the mortgage term decreased to 25 years, apartments would remain affordable in all three cities; however, apartments would be unaffordable if interest rates rose to more than 4.3% or the mortgage term decreased by more than 9 years in Vilnius. In Riga, apartments would still be affordable if the mortgage term decreased by 15 years; however our average household would then have to pay almost 30% of its income as a monthly mortgage payment. In Tallinn, an apartment would still be affordable if interest rates increased to 6%, but it would become unaffordable if the mortgage term decreased by more than 13 years.



Housing affordability index: method

Purpose Measure changes in household buying power, primarily as this relates to apartment purchases, but also act as an indicator for existing housing.

Norm Household mortgage costs, according to our definition, should not exceed 30% of net wages of a household.

Definition of housing affordability index Actual income in relation to income required to meet the "norm," where mortgage costs account for 30% of net wages of a household. If the index = 100, households are using 30% of their net wages. If the index > 100, household buying power exceeds the norm. And if the index < 100, household buying power is below the norm. The index is calculated according to the following formula:

$$HAI = \frac{AverageINC}{NINC} * 100$$

where

$$NINC = \frac{PMT}{30\%}$$

HAI – housing affordability index
AverageINC – 1.5 of average monthly net wages
NINC – net wages that would satisfy the "norm"
PMT – monthly mortgage payment

Variables

- Three-month average prices of apartments of average size (55 sq. m.) in capital cities.
- Average net wages of a household, equal to 1.5 of average monthly net wages in capital cities.
- Three-month average interest rates and other related charges (or annual percentage rate of charge - a rate that comprises an interest component and a component of other charges) for new housing loans to households issued in euros -- produce the monthly mortgage cost, assuming a 15% down payment and 30-year term.

Limits The housing affordability index includes mortgage costs but excludes taxes and subsidies, including property tax and interest deductions. The index provides an indication of the situation for households composed of one or two working people who, combined, earn one-and-a-half times the average monthly wage; however, it does not reflect conditions for individual households. The index does not provide any direct guidance for business decisions, including lending and interest rate decisions. It reflects household buying power, based on apartment purchases that have been made, but says nothing about opportunities for apartment sales.

The housing affordability index is of an informative nature and reflects macroeconomic developments, rather than banks' decisions and lending policies or possible decisions made by individual households.

Periodicity Quarterly

Geography Vilnius, Riga, Tallinn

Appendix 1

	Housing affordability index			Months to save for the down payment		
	Tallinn	Riga	Vilnius	Tallinn	Riga	Vilnius
2005 Q1	113.7	64.3	73.3	32.7	50.1	46.7
2005 Q2	118.4	66.7	71.1	32.7	53.1	53.1
2005 Q3	105.2	66.4	75.6	37.4	53.5	50.9
2005 Q4	100.1	68.3	59.9	38.6	52.5	58.9
2006 Q1	84.2	60.2	58.3	44.0	57.4	62.8
2006 Q2	81.2	63.2	54.9	44.0	53.6	63.5
2006 Q3	70.4	57.9	58.1	48.2	56.3	58.3
2006 Q4	69.5	59.9	52.5	46.9	52.0	62.1
2007 Q1	65.5	53.1	53.6	47.8	57.3	59.1
2007 Q2	67.4	52.0	51.9	45.3	56.6	59.6
2007 Q3	62.6	47.4	51.2	46.9	60.4	59.1
2007 Q4	73.2	61.1	49.6	39.5	46.0	59.9
2008 Q1	80.5	70.6	55.0	37.3	40.7	55.3
2008 Q2	87.1	75.5	54.3	34.0	36.4	54.4
2008 Q3	83.3	80.1	55.3	33.5	31.8	51.7
2008 Q4	95.4	85.3	60.4	29.8	28.8	48.4
2009 Q1	129.6	116.8	73.9	25.6	25.1	44.1
2009 Q2	160.0	148.2	94.3	22.3	22.0	38.1
2009 Q3	179.5	140.4	99.3	20.6	25.1	36.3
2009 Q4	176.9	156.6	101.4	21.3	22.7	35.6
2010 Q1	160.5	138.5	105.8	23.1	26.4	35.3
2010 Q2	162.9	136.9	106.6	23.1	26.4	35.8
2010 Q3	157.3	134.8	107.9	23.9	27.2	34.9
2010 Q4	160.9	138.5	107.1	23.8	26.7	35.4
2011 Q1	161.3	133.3	104.6	23.7	27.4	36.4
2011 Q2	156.9	135.0	104.5	24.4	27.1	36.1
2011 Q3	144.3	133.4	103.5	26.3	27.2	36.0
2011 Q4	154.7	133.5	102.9	24.8	27.2	36.7
2012 Q1	155.5	127.9	106.3	25.3	28.6	37.0
2012 Q2	163.8	131.9	111.3	24.9	28.6	36.5
2012 Q3	163.2	136.8	113.6	25.8	29.2	36.8
2012 Q4	172.0	142.1	128.6	24.9	28.1	34.0
2013 Q1	163.6	133.8	131.5	26.0	28.2	33.7
2013 Q2	165.5	141.8	130.7	25.3	27.9	34.2
2013 Q3	154.2	142.0	131.4	27.3	28.0	33.4
2013 Q4	153.4	143.0	131.5	27.4	27.8	34.6
2014 Q1	143.2	147.0	132.0	29.3	27.2	34.3
2014 Q2	149.2	141.7	120.8	28.2	27.6	37.4
2014 Q3	141.9	142.6	126.5	30.3	27.6	36.4
2014 Q4	149.2	155.4	125.2	29.3	25.8	37.9
2015 Q1	143.6	151.4	131.8	30.7	25.9	36.0
2015 Q2	151.3	152.3	133.8	29.0	26.2	35.6
2015 Q3	146.7	161.3	130.6	29.7	24.8	36.4
2015 Q4	153.5	160.1	129.2	28.5	24.6	36.8
2016 Q1	153.7	166.5	132.3	28.5	23.5	35.8
High	179.5	166.5	133.8	48.2	60.4	63.5
Low	62.6	47.4	49.6	20.6	22.0	33.4
Average	130.8	114.6	95.4	30.9	34.6	43.4

Sources: National central banks, National statistical departments, Lithuanian Centre of Registers, Latvian State Land Service and National Real Estate Cadastre, Estonian Land Board, Swedbank

General disclaimer

This research report has been prepared by analysts of Swedbank Large Corporates & Institutions' Macro Research department. The Macro Research department consists of research units in Estonia, Latvia, Lithuania, Norway and Sweden, and is responsible for preparing reports on global and home market economic developments.

Analyst's certification

The analyst(s) responsible for the content of this report hereby confirm that notwithstanding the existence of any such potential conflicts of interest referred to herein, the views expressed in this report accurately reflect their personal and professional views.

Research reports are independent and based solely on publicly available information.

Issuer, distribution & recipients

This report by Swedbank Large Corporates & Institutions Macro Research department is issued by the Swedbank Large Corporates & Institutions business area within Swedbank AB (publ) ("Swedbank"). Swedbank is under the supervision of the Swedish Financial Supervisory Authority (Finansinspektionen).

In no instance is this report altered by the distributor before distribution.

In Finland this report is distributed by Swedbank's branch in Helsinki, which is under the supervision of the Finnish Financial Supervisory Authority (Finanssivalvonta).

In Norway this report is distributed by Swedbank's branch in Oslo, which is under the supervision of the Financial Supervisory Authority of Norway (Finanstilsynet).

In Estonia this report is distributed by Swedbank AS, which is under the supervision of the Estonian Financial Supervisory Authority (Finantsinspeksioon).

In Lithuania this report is distributed by "Swedbank" AB, which is under the supervision of the Central Bank of the Republic of Lithuania (Lietuvos bankas).

In Latvia this report is distributed by Swedbank AS, which is under the supervision of The Financial and Capital Market Commission (Finanšu un kapitāla tirgus komisija).

In the United States this report is distributed by Swedbank First Securities LLC ('Swedbank First'), which accepts responsibility for its contents. This report is for distribution only to institutional investors. Any United States institutional investor receiving the report, who wishes to effect a transaction in any security based on the view in this document, should do so only through Swedbank First. Swedbank First is a U.S. broker-dealer, registered with the Securities and Exchange Commission, and is a member of the Financial Industry Regulatory Authority. Swedbank First is part of Swedbank Group.

For important U.S. disclosures, please reference: <http://www.swedbankfs.com/disclaimer/index.htm>

In the United Kingdom this communication is for distribution only to and directed only at "relevant persons". This communication must not be acted on – or relied on – by persons who are not "relevant persons". Any investment or investment activity to which this document relates is available only to "relevant persons" and will be

engaged in only with "relevant persons". By "relevant persons" we mean persons who:

- Have professional experience in matters relating to investments falling within Article 19(5) of the Financial Promotions Order.
- Are persons falling within Article 49(2)(a) to (d) of the Financial Promotion Order ("high net worth companies, unincorporated associations etc").
- Are persons to whom an invitation or inducement to engage in investment activity (within the meaning of section 21 of the Financial Services and Markets Act 2000) – in connection with the issue or sale of any securities – may otherwise lawfully be communicated or caused to be communicated.

Limitation of liability

All information, including statements of fact, contained in this research report has been obtained and compiled in good faith from sources believed to be reliable. However, no representation or warranty, express or implied, is made by Swedbank with respect to the completeness or accuracy of its contents, and it is not to be relied upon as authoritative and should not be taken in substitution for the exercise of reasoned, independent judgment by you.

Opinions contained in the report represent the analyst's present opinion only and may be subject to change. In the event that the analyst's opinion should change or a new analyst with a different opinion becomes responsible for our coverage, we shall endeavour (but do not undertake) to disseminate any such change, within the constraints of any regulations, applicable laws, internal procedures within Swedbank, or other circumstances.

Swedbank is not advising nor soliciting any action based upon this report. This report is not, and should not be construed as, an offer to sell or as a solicitation of an offer to buy any securities.

To the extent permitted by applicable law, no liability whatsoever is accepted by Swedbank for any direct or consequential loss arising from the use of this report.

Reproduction & dissemination

This material may not be reproduced without permission from Swedbank Large Corporates & Institutions. This report is not intended for physical or legal persons who are citizens of, or have domicile in, a country in which dissemination is not permitted according to applicable legislation or other decisions.

Produced by Swedbank Large Corporates & Institutions.

Address

Swedbank LC&I, Swedbank AB (publ), SE-105 34 Stockholm.

Visiting address: Landsvägen 42, Sundbyberg