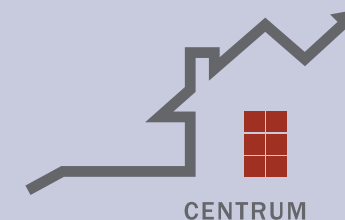


AMRON-SARFiN Report

on housing loans
and real estate transaction prices



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Report in numbers

2016		change 2016/ 2015
PLN 393.367 billion	total housing loans debt	5.16% ↗
2.057 million	number of active loan agreements	3.13% ↗
178 409	number of concluded agreements	1.61% ↘
PLN 39.496 billion	value of concluded agreements	0.45% ↗
PLN 220 306	average value of a housing loan	3.60% ↗
195.64 points	Housing Availability Index (HAI M3)	5.84 points ↘
45.35%	share of new housing loans with LtV above 80%	3.77 p.p. ↘
98.37%	share of new housing loans in PLN, by value	0.08 p.p. ↘
1.07%	share of new housing loans in EUR, by value	0.03 p.p. ↗
64.11%	share of new housing loans with lending period of 25-35 years	0.19 p.p. ↗
PLN 427 852	total average transaction price of housing unit in Warsaw	3.86% ↗
PLN 7 510	average transaction price per square meter of a dwelling in Warsaw	2.19% ↗

Report in numbers

Q4 2016		change Q4 2016 /Q3 2016
PLN 393.367 billion	total housing loans debt	1.94% ↗
2.057 million	number of active loan agreements	0.88% ↗
41 921	number of concluded agreements	1.67% ↘
PLN 9.780 billion	value of concluded agreements	1.07% ↗
PLN 233 282	average value of a housing loan	3.93% ↗
195.64 points	Housing Availability Index (HAI M3)	0.39 points ↘
45.34%	share of new housing loans with LtV above 80%	0.77 p.p. ↘
98.04%	share of new housing loans in PLN, by value	0.40 p.p. ↘
1.26%	share of new housing loans in EUR, by value	0.20 p.p. ↗
64.21%	share of new housing loans with lending period of 25-35 years	0.09 p.p. ↗
PLN 432 100	total average transaction price of housing unit in Warsaw	0.80% ↗
PLN 7 527	average transaction price per square meter of a dwelling in Warsaw	1.62% ↘

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Introduction – about the Report

– dr. Jacek Furga, Chairman of the Real Estate Finance Committee, Polish Banks Association and President of the Management Board of Centre of Banking Law and Information (Centrum Prawa Bankowego i Informacji Sp. z o.o.)*



Dear Readers,

It's already the thirtieth issue of the AMRON-SARFiN Report on mortgage loans and housing prices, published by Polish Banks Association. Every quarter, since November 2009, we have systematically provided you with information on development of mortgage market, as well as on market of residential investments and about changes of transaction prices of dwellings. In

November 2009, AMRON database accounted for 732 thousand data records. Today there are more than 2 million records more – AMRON database reached the level of 2 775 thousand records. In order to meet the expectations of the market, we have also started to collect data on residential rents. We believe that in the near future, we will be able to present you an analysis of rent changes on residential market.

In the current edition of the Report we present the results of fourth quarter and the whole 2016 with reference to the results from several previous quarters and data recorded in 2015. In 2016, there were no major changes recorded on the housing market in Poland. Sale of dwellings, especially on primary market, remained at a high level and in the largest Polish cities prices confirmed clearly a slight upward trend ongoing since 2013. According to our forecasts, despite historically low interest rates, banks' lending activity turned out to be weaker than in 2015. During the whole year 2016, 178 409 new housing loans of a total value of PLN 39.496 billion were granted, which meant a decrease by 1.61% in terms of volume and an increase by 0.45% in terms of value, comparing to the results recorded in 2015. The government actions were also not quite

conducive to the development of the housing loans market. So-called 'bank tax act' adopted in January 2016 resulted in increase in banks' charges and loan margins, which contributed to weaker banks' lending activity.

Purchasers withdrew their savings from the financial market and invested in dwellings for rent and therefore a significant increase in share of cash transactions on housing market was noted. This resulted in high developers' sales results, encouraging them to start new investments. In 2016, new record-breaking results were noted on housing market – 162 727 new dwellings were built, which was by 10% more than in 2015. Construction of 173 932 units was also started (3% more compared to the previous year) and permits for construction of 211 565 new dwellings were issued (12% more). These were the best results since 2008. Activity of developers still was concentrated in major cities, because there is the greatest demand. In smaller towns, individual building was dominated, because the plots were much cheaper and many people prefer to build a house than to buy a dwelling.

Profitability of lease – especially in Warsaw, reaching even 6% before taxation – is far higher than the returns offered by financial institutions and is one of the most significant factor that generated such a high demand on Warsaw primary market, financed both in cash and by housing loans. Also a higher sale of housing loans was recorded in Warsaw, which accounted for 41.37% of the total value of new loans, i.e. increased by 3.95 p.p. comparing to Q4 2015.

A new regulations on agricultural land trade, which entered into force in summer 2016, resulted in far-reaching consequences for both

housing market and mortgage market. Reducing the mortgage value to the market value of the property meant that banks were unable to establish an adequate collateral on agricultural property and therefore suspended lending activity in this segment of the market. These regulations constituted the main reason for tightening the banks policy in the mortgage lending activity observed last year and even the rushed amendment did not mitigate the negative impact on the market. New law generated a significant decrease in number of transactions on agricultural market and no rational conditions for any changes in that matter are observed.

The number of construction permits issued and started constructions guarantees an interesting offer in 2017. Unfortunately, after several months of interest rates on historically low level it is more than probable that interest rates will increase in 2017, what may reduce the potential borrowers' appetite. The projected increase in interest rates will result not only in a decline in the potential borrowers' creditworthiness, but also in a lower attractiveness of residential investment for rent. On the other hand, it can be an impulse for those, who consider housing purchase, to speed up the decision on creditworthiness verification at a low loan cost.

The solutions for CHF borrowers were still under discussion. The consequences of various solutions presented in public, could in the worst case bring not only significant increases in the costs of banking services, but also limit the ability of some banks to grant new loans.

Despite the low transaction prices and historically low interest rates, we anticipate further decline in banks' lending activity in 2017 to the level of 175 thousand housing loans of a total value not exceeding PLN 39 billion. However, it does not mean that access to mortgage loans

will be more difficult. At the beginning of 2017 the obligatory borrower' downpayment required by the Polish Financial Supervision Authority in Recommendation S has increased to the level of 20%, but formally most banks have already implemented this requirement, while offering insurance of the low downpayment to 10% of LtV ratio or accepting other mortgage collaterals. Therefore, banks' financial requirements to potential borrowers will not increase and borrowers can still apply for a housing loan with a 10% downpayment.

The effects of the 'Flat for Youth' Programme on housing loans market in 2017 are not even worth mentioning. Due to the great interest of customers in the Programme observed at the beginning of 2016, some banks suspended the acceptance of new applications for loans subsidised from the funds for the current year. Practical solutions of National Housing Construction Programme accepted at a governmental meeting by the end of September 2016 and announced with great fanfare are still unknown. By now, the announcement of its implementation had no significant influence on the situation on the housing market and we do not expect it to have it also in 2017.

Enjoy reading. Are you interested in AMRON detailed analyses of Polish real estate market, please do not hesitate to contact us. We will also appreciate your comments, which shall allow us to improve next issues of the Report.

Please send your questions and suggestions to the following e-mail address: raport@amron.pl

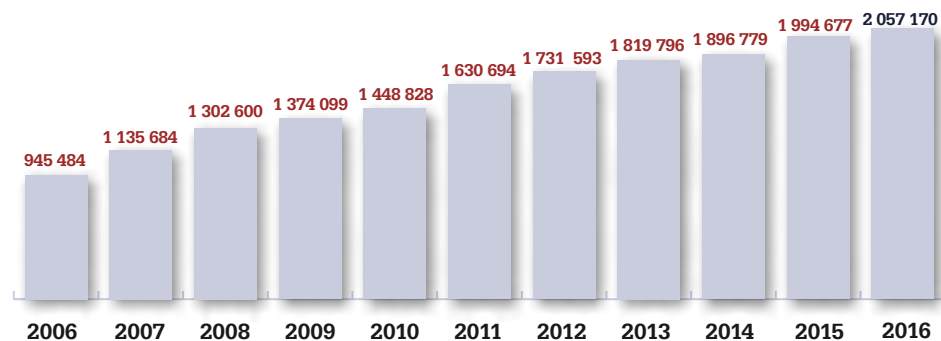
* AMRON Centre was established by Polish Banks Association to manage and develop the System for Analysis and Monitoring of Real Estate Market Transactions and it operates within the organizational structure of a limited-liability company Centre of Banking Law and Information.

Situation on housing loans market

Number of active housing loans

At the end of 2016 total number of active housing loans amounted to **2 057 170**, i.e. **0.88%** (nominally more by **17 868** agreements) more in comparison with the end of Q3 2016. On annual basis, total loan portfolio increased by **62 493** agreements (**3.13%**).

Chart 1. Total number of active housing loans in 2006 – 2016



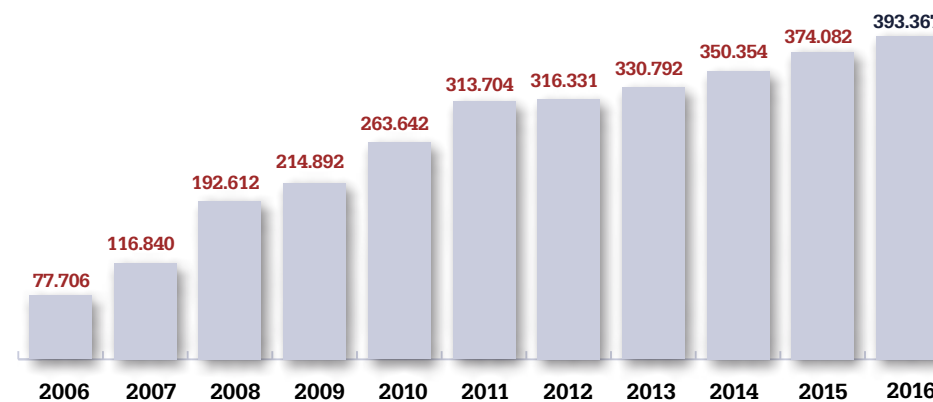
Source: Polish Banks Association – SARFiN

Total housing loans debt

In Q4 2016, total outstanding value of mortgage loans increased by **PLN 7.473 billion**, i.e. by **1.94%** comparing to the previous quarter and at the end of 2016 it amounted to **PLN 393.367 billion**. Comparing to the result recorded at the end of 2015 it was more by **5.16%** (nominally by **PLN 19.285 billion**).

Chart 2. presents changes in value of total housing loans debt (PLN billion) of Polish households since 2006.

Chart 2. Total debt from housing loans in 2006 – 2016 (PLN billion)



Source: Polish Banks Association – SARFiN, NBP

Number and value of new housing loans

In Q4 2016, a minimal decline in sales of housing loans in volume terms in comparison to the previous quarter was observed. In analysed period **41 921** new loans (**1.67%** less in comparison to Q3 2016) of a total value accounting for **PLN 9.780 billion** (more by **1.07%**) were granted.

In relation to the same period 2015, in Q4 2016 banks granted by **6 786** (**13.93%**) fewer housing loans, while their value was lower by **PLN 801 million** (**7.57%**).

During the whole year 2016, **178 409** new housing loans with a total value of **PLN 39.496 billion** were granted, which meant an increase by **0.45%** in terms of value and a decrease by **1.61%** in terms of volume, comparing to the results recorded in 2015.

The Monetary Policy Council has not decided to increase the base interest rates, what discouraged Poles to keep savings at banks at low interest deposits and upheld a high propensity to invest, among other things, in properties for rent, which is relatively safe. However, a lot of dwellings were purchased by cash or with low housing loan for full fit-out of the flat. Therefore, despite the high demand and very good developers' sales results last year, interest of housing loans remained at the level of 2015. Neither the exhaustion of funds available in the 'Flat for Youth' Programme (already in Q1 2016) nor the perspective of obligatory downpayment at the higher level of 20% from January 1, 2017 did not stimulate lending activity.

Table 1. Value and number of new housing loans in Q4 2012 – Q4 2016

quarter	value (PLN Mio)	change/previous quarter	number	change/previous quarter
Q4 2012	8.843	11.76%↓	47 523	6.25%↓
Q1 2013	8.017	9.34%↓	41 599	12.46%↓
Q2 2013	9.160	14.25%↑	44 079	5.96%↑
Q3 2013	9.531	4.05%↑	45 773	3.84%↑
Q4 2013	9.767	2.48%↑	45 414	0.78%↓
Q1 2014	8.854	9.35%↓	41 942	7.65%↓
Q2 2014	9.577	8.17%↑	45 499	8.48%↑
Q3 2014	9.232	3.61%↓	43 653	4.06%↓
Q4 2014	9.161	0.77%↓	42 993	1.51%↓
Q1 2015	8.978	1.99%↓	42 169	1.92%↓
Q2 2015	10.058	12.03%↑	46 504	10.28%↑
Q3 2015	9.704	3.52%↓	43 945	5.50%↓
Q4 2015	10.580	9.03%↑	48 707	10.84%↑
Q1 2016	9.433	10.85%↓	44 735	8.15%↓
Q2 2016	10.607	12.45%↑	49 118	9.80%↑
Q3 2016	9.676	8.78%↓	42 635	13.20%↓
Q4 2016	9.780	1.07%↑	41 921	1.67%↓

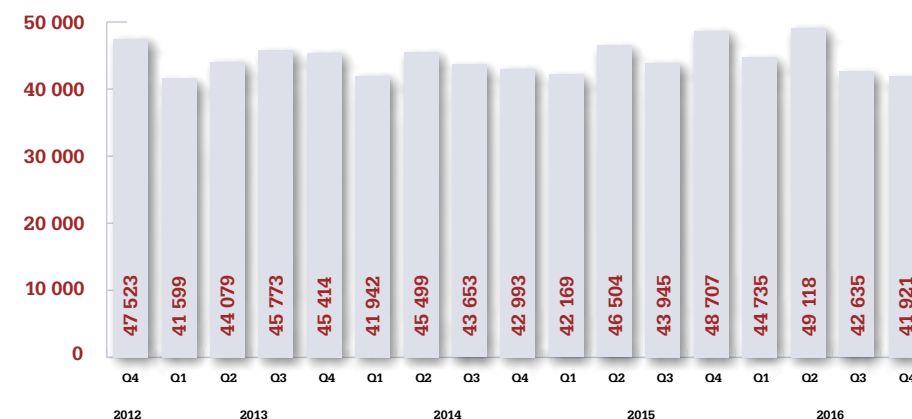
Source: Polish Banks Association – SARFiN

Table 2. Value and number of new housing loans in 2012 – 2016

year	value (PLN billion)	change /previous period	number	change /previous period
2012	39.108	20.53%↓	196 557	14.97%↓
2013	36.475	6.73%↓	176 866	10.02%↓
2014	36.824	0.96%↑	174 087	1.57%↓
2015	39.320	6.78%↑	181 325	4.16%↑
2016	39.496	0.45%↑	178 409	1.61%↓

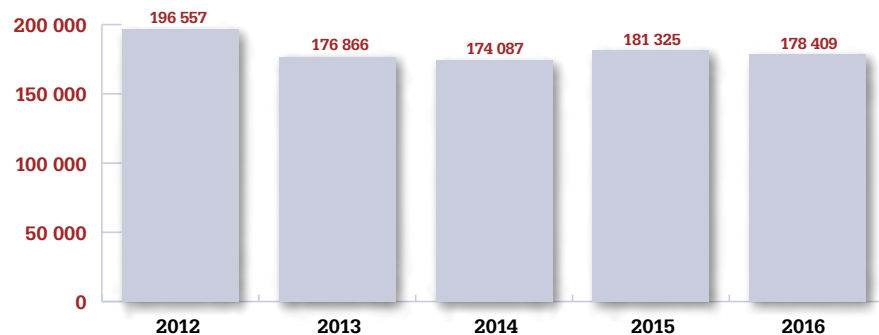
Source: Polish Banks Association – SARFiN

Chart 3. Number of new loan agreements in Q4 2012 – Q4 2016



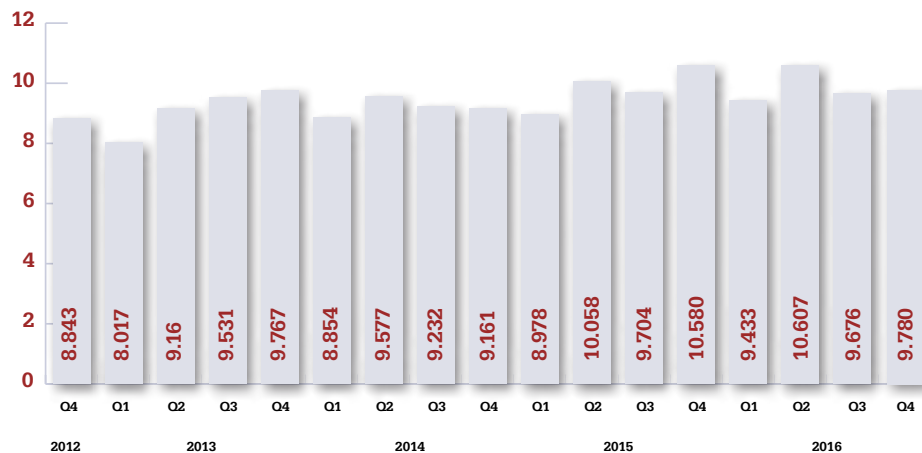
Source: Polish Banks Association – SARFiN

Chart 4. Number of new loan agreements in 2012 – 2016



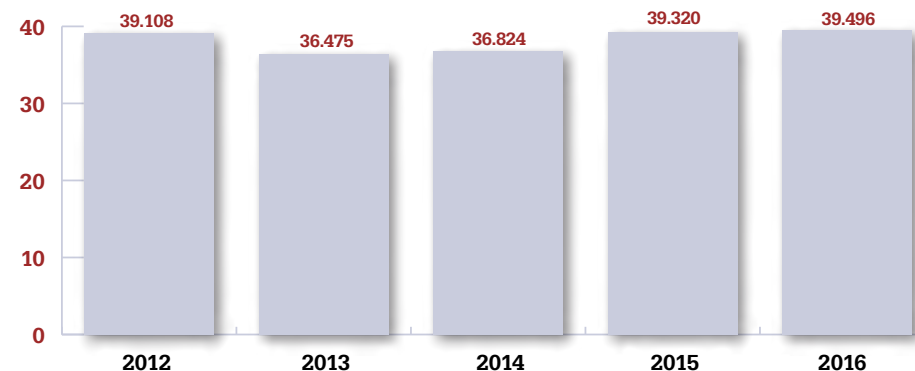
Source: Polish Banks Association – SARFiN

Chart 5. Value of new loan agreements in Q4 2012 – Q4 2016 (PLN billion)



Source: Polish Banks Association – SARFiN

Chart 6. Value of new loan agreements in 2012 – 2016 (PLN billion)



Source: Polish Banks Association – SARFiN

Loan currency

In the currency structure of housing loans granted in Q4 2016 in terms of value, minimal changes were recorded. The share of PLN loans amounted to **98.04%**, which was less by **0.40 p.p.** in comparison to the previous quarter. Loans denominated in EUR accounted for **1.26%** of all new mortgages and housing loans in CHF – **0.09%**.

Also, comparing to Q4 2015 a slight decrease in the share of new PLN loans was recorded – by **0.59 p.p.** The share of housing loans in EUR increased by **0.20 p.p.**, the share of loans denominated in other foreign currencies increased by **0.15 p.p.**, while the share of loans denominated in CHF has not changed.

Table 3. Currency structure of the value of new loans in Q4 2012 – Q4 2016

quarter	PLN	CHF	EUR	other
Q4 2012	98.70%	0.02%	1.25%	0.04%
Q1 2013	98.83%	0.01%	1.11%	0.06%
Q2 2013	99.05%	0.01%	0.89%	0.05%
Q3 2013	99.35%	0.00%	0.61%	0.04%
Q4 2013	99.07%	0.01%	0.91%	0.02%
Q1 2014	99.48%	0.00%	0.51%	0.01%
Q2 2014	99.69%	0.00%	0.28%	0.03%
Q3 2014	99.13%	0.01%	0.67%	0.19%
Q4 2014	98.81%	0.02%	0.81%	0.36%
Q1 2015	97.88%	0.08%	1.49%	0.55%
Q2 2015	98.75%	0.02%	0.84%	0.39%
Q3 2015	98.45%	0.03%	1.01%	0.51%
Q4 2015	98.63%	0.09%	0.87%	0.41%
Q1 2016	98.44%	0.03%	0.97%	0.56%
Q2 2016	98.56%	0.04%	0.98%	0.42%
Q3 2016	98.44%	0.04%	1.06%	0.46%
Q4 2016	98.04%	0.09%	1.26%	0.61%

Source: Polish Banks Association – SARFiN

Throughout 2016, PLN loans accounted for **98.37%** of all new housing loans. The share of loans denominated in foreign currencies amounted to **1.63%** of the portfolio of new loan agreements – the largest part (**1.07%**) were loans in EUR.

Table 4. Currency structure of the value of new loans in 2012 – 2016

year	PLN	CHF	EUR	other
2012	93.72%	0.34%	5.88%	0.06%
2013	99.07%	0.01%	0.88%	0.04%
2014	99.28%	0.01%	0.57%	0.15%
2015	98.45%	0.05%	1.04%	0.46%
2016	98.37%	0.05%	1.07%	0.51%

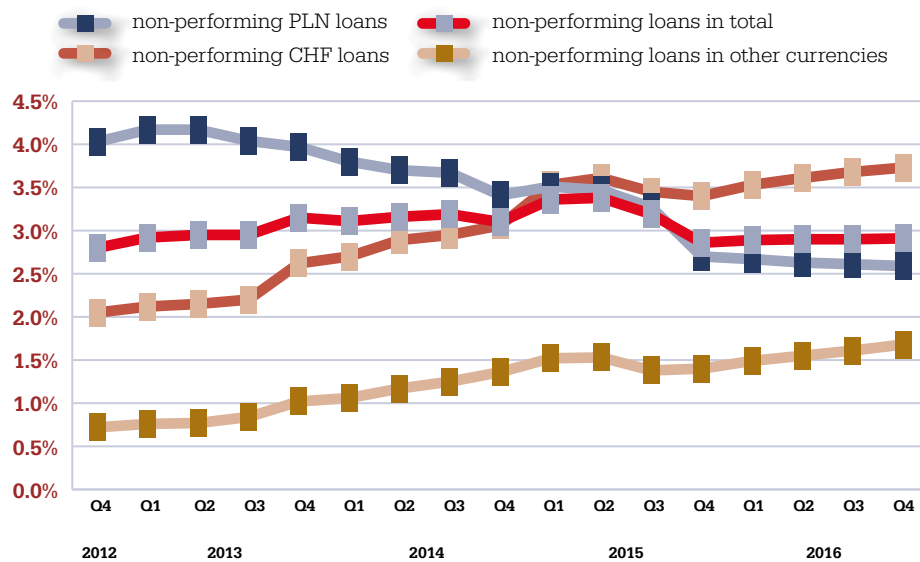
Source: Polish Banks Association – SARFiN

Quality structure of mortgage loans portfolio

The quality of housing loans in PLN in Q4 2016 has not changed in comparison to the previous quarter – at the end of 2016 the share of such loans with default on payments amounted to **2.59%**. At the same time, the quality of housing loans in foreign currencies were slightly worse in comparison to Q3 2016, i.e. the share of non-performing CHF loans accounted for **3.73%** (**0.05 p.p.** more) and the share of non-performing loans in other foreign currencies amounted to **1.68%** (by **0.07 p.p.** more). However, due to the high share of PLN loans in the overall structure of value, an increase in the number of non-performing loans in foreign currencies did not change share of non-performing housing loans in total mortgage portfolio, which in Q4 2016 amounted to **2.91%**.

In relation to Q4 2015, a slight decline in the share of PLN housing loans with default on payments (by **0.11 p.p.**), an increase in the share of non-performing CHF loans (by **0.32 p.p.**) and loans in other foreign currencies (by **0.27 p.p.**) were recorded. In view of minor scale of changes in the structure of portfolio quality, it can be considered that the share of non-performing loans in the portfolio of housing loans in total did not change comparing to the same period previous year.

Chart 7. Share of non – performing loans in total mortgage portfolio in Q4 2012 – Q4 2016



Source: National Bank of Poland

Table 5. Share of non – performing loans in total mortgage portfolio in Q4 2012 – Q4 2016

period	non-performing loans in total	non-performing PLN loans	non-performing CHF loans	non-performing loans in other currencies
Q4 2012	2.80%	4.03%	2.05%	0.72%
Q1 2013	2.92%	4.17%	2.12%	0.76%
Q2 2013	2.95%	4.17%	2.15%	0.77%
Q3 2013	2.95%	4.04%	2.20%	0.84%
Q4 2013	3.15%	3.97%	2.62%	1.02%
Q1 2014	3.11%	3.80%	2.70%	1.06%
Q2 2014	3.16%	3.70%	2.89%	1.17%
Q3 2014	3.19%	3.67%	2.95%	1.25%
Q4 2014	3.10%	3.41%	3.05%	1.35%
Q1 2015	3.36%	3.51%	3.53%	1.52%
Q2 2015	3.38%	3.47%	3.61%	1.53%
Q3 2015	3.19%	3.27%	3.45%	1.38%
Q4 2015	2.85%	2.69%	3.40%	1.40%
Q1 2016	2.89%	2.67%	3.53%	1.49%
Q2 2016	2.90%	2.63%	3.61%	1.55%
Q3 2016	2.90%	2.61%	3.68%	1.61%
Q4 2016	2.91%	2.59%	3.73%	1.68%

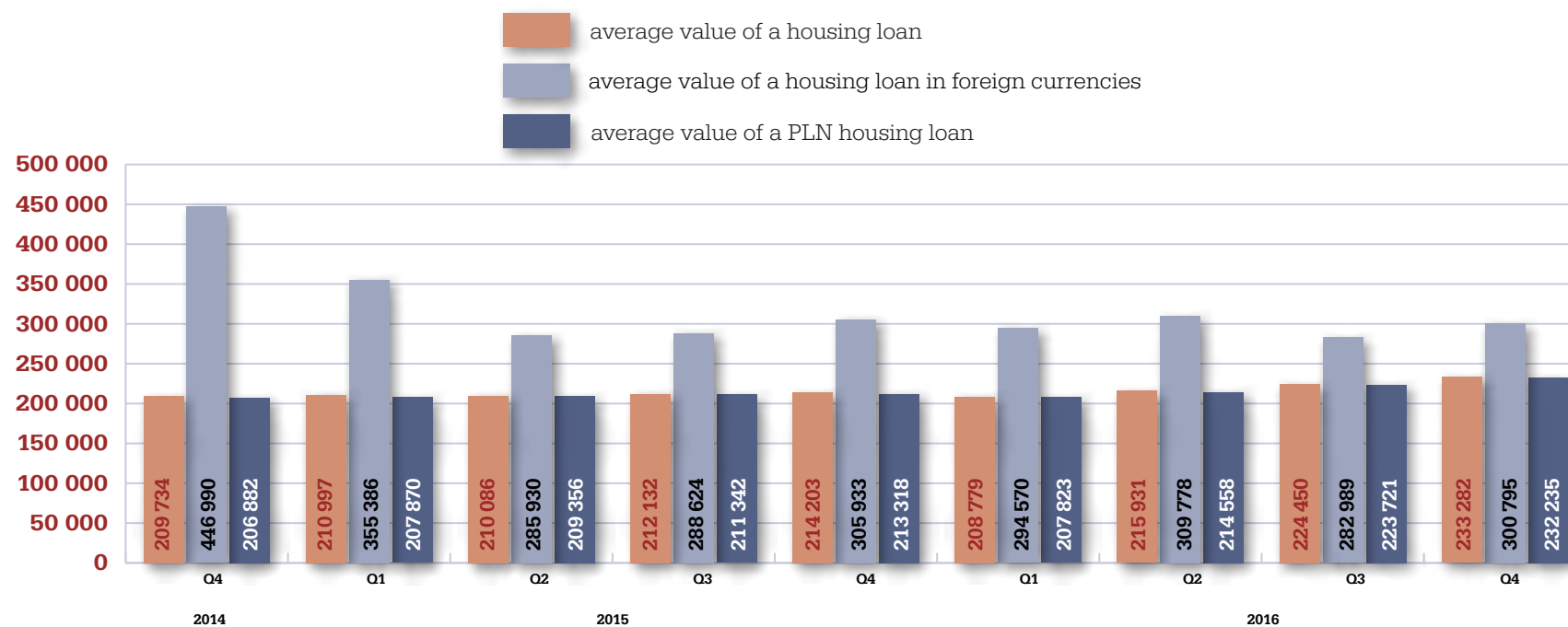
Source: National Bank of Poland

Average value of a loan

In quarterly terms, in the analysed period an increase in both the average value of PLN loan (by **3.81%**) and the average value of loan denominated in foreign currencies (by **6.29%**) was recorded, which amounted to **PLN 232 235** and **PLN 300 795** respectively. In Q4 2016, the average aggregated value of a housing loan amounted to **PLN 233 282**, which meant an increase by **3.93%** (nominally by **PLN 8 832**) comparing to the previous quarter.

In relation to Q4 2015, the average value of newly granted housing loans in PLN increased by **8.87%**, while the average value of loans denominated in foreign currencies decreased by **1.68%**. In the analysed quarter, the average value of a mortgage loan increased by **8.91%** in relation to the same period previous year.

Chart 8. Average value of a housing loan, aggregated and by currency in Q4 2014 – Q4 2016



Source: Polish Banks Association – SARFiN

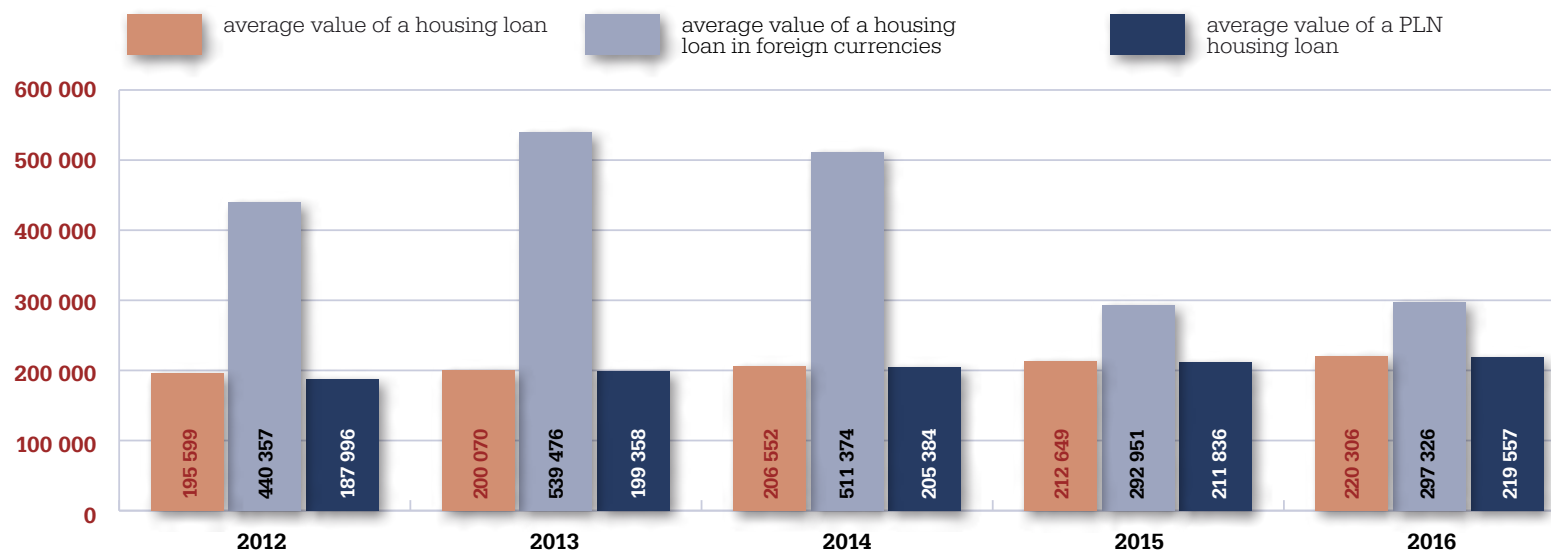
Table 6. Average value of a loan, aggregated and by currency in Q4 2014 – Q4 2016

quarter	average value of a housing loan	average value of a housing loan in foreign currencies	average value of a PLN housing loan
Q4 2014	209 734	446 990	206 882
Q1 2015	210 997	355 386	207 870
Q2 2015	210 086	285 930	209 356
Q3 2015	212 132	288 624	211 342
Q4 2015	214 203	305 933	213 318
Q1 2016	208 779	294 570	207 823
Q2 2016	215 931	309 778	214 558
Q3 2016	224 450	282 989	223 721
Q4 2016	233 282	300 795	232 235

Source: Polish Banks Association – SARFiN

On an annual basis (2016/2015), the average value of newly granted PLN loan increased by **3.64% (PLN 7 721)**, and loan in foreign currencies – by **1.49% (PLN 4 375)**. Thus, in 2016 the average value of housing loan in total also increased – by **3.60% (PLN 7 657)** in relation to the previous year and it amounted to **PLN 220 306**.

Chart 9. Average value of a housing loan, aggregated and by currency in 2012 – 2016



Source: Polish Banks Association – SARFiN

Table 7. Average value of a loan, aggregated and by currency in 2012 – 2016

year	average value of a housing loan	average value of a housing loan in foreign currencies	average value of a PLN housing loan
2012	195 599	440 357	187 996
2013	200 070	539 476	199 358
2014	206 552	511 374	205 384
2015	212 649	292 951	211 836
2016	220 306	297 326	219 557

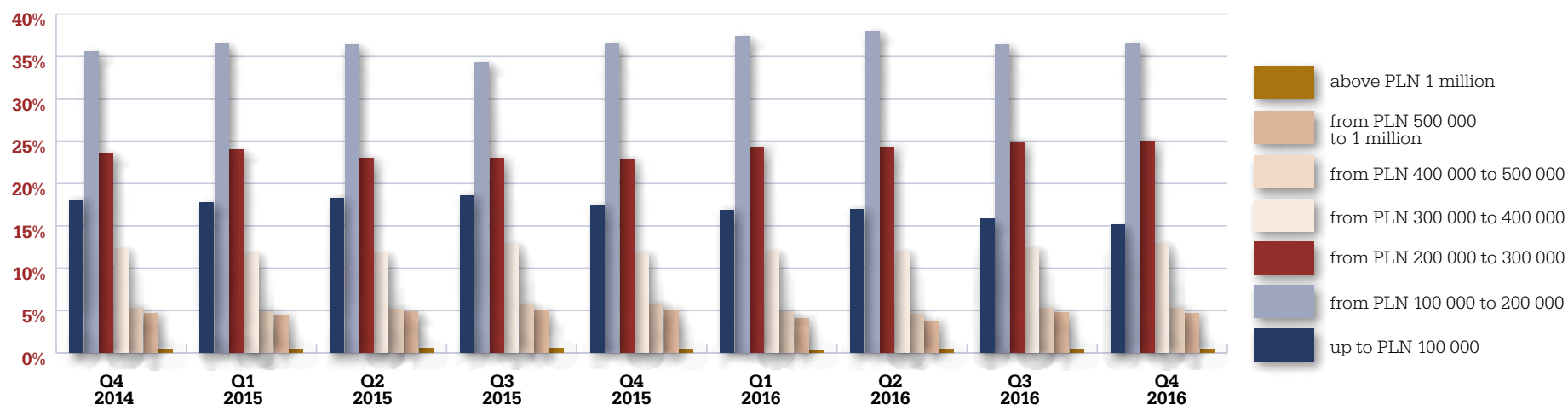
Source: Polish Banks Association – SARFiN

Structure of new loans, by amount

In Q4 2016, changes in the structure of new loans in terms of value were minimal. In relation to Q3 2016, a decline by **0.67 p.p.** was recorded only in category of loans granted for amount up to PLN 100 thousand. The share of loans with a value between PLN 300 and 400 thousand increased by **0.52 p.p.** and the share of other categories remained unchanged.

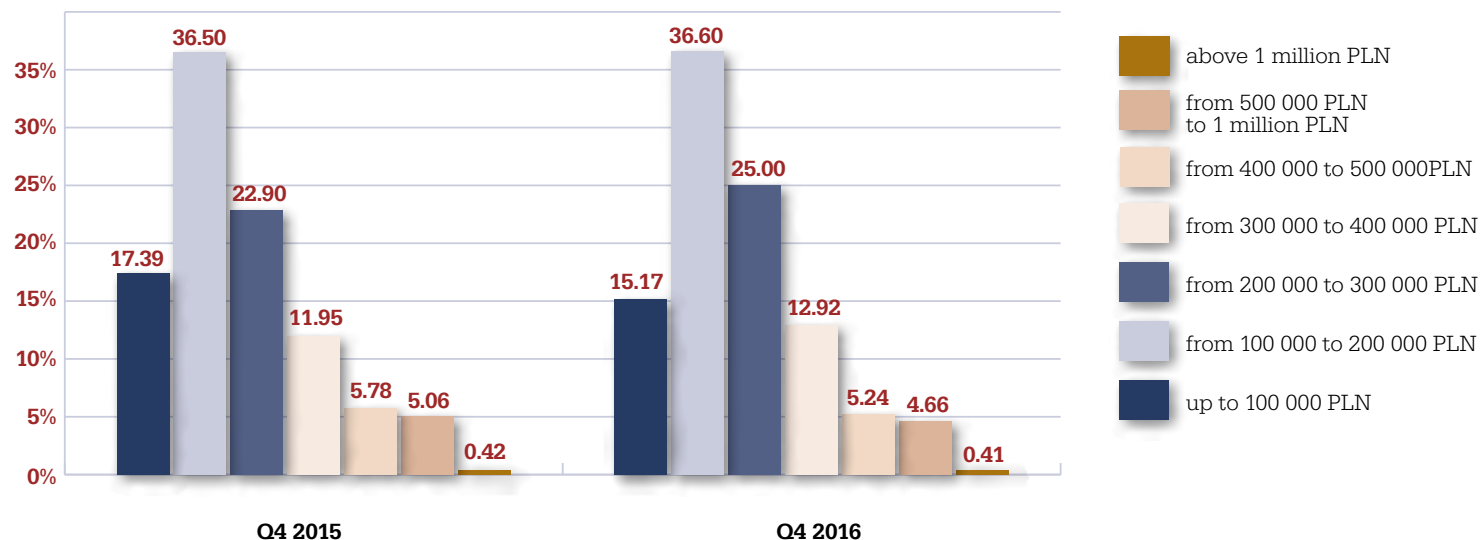
Also, in relation to Q4 2015 a decline in the share of loans in category of loans up to PLN 100 thousand was noted – by **2.23 p.p.** A slight decrease was also recorded in share of amount category between PLN 400 and 500 thousand (by **0.54 p.p.**) and from PLN 500 thousand to PLN 1 million (by **0.40 p.p.**), while popularity of loans with a value in the range from PLN 200 to 300 thousand and from PLM 300 to 400 thousand increased – the share of those loans was higher by **2.10 p.p.** and **0.96 p.p.** respectively.

Chart 10. Structure of the new loans amount in Q4 2014 – Q4 2016



Source: Polish Banks Association – SARFiN

Chart 11. Structure of the new loans amount – comparison of Q4 2015 and Q4 2016



Source: Polish Banks Association – SARFiN

Table 8. Structure of the new loans amount in Q4 2014 – Q4 2016

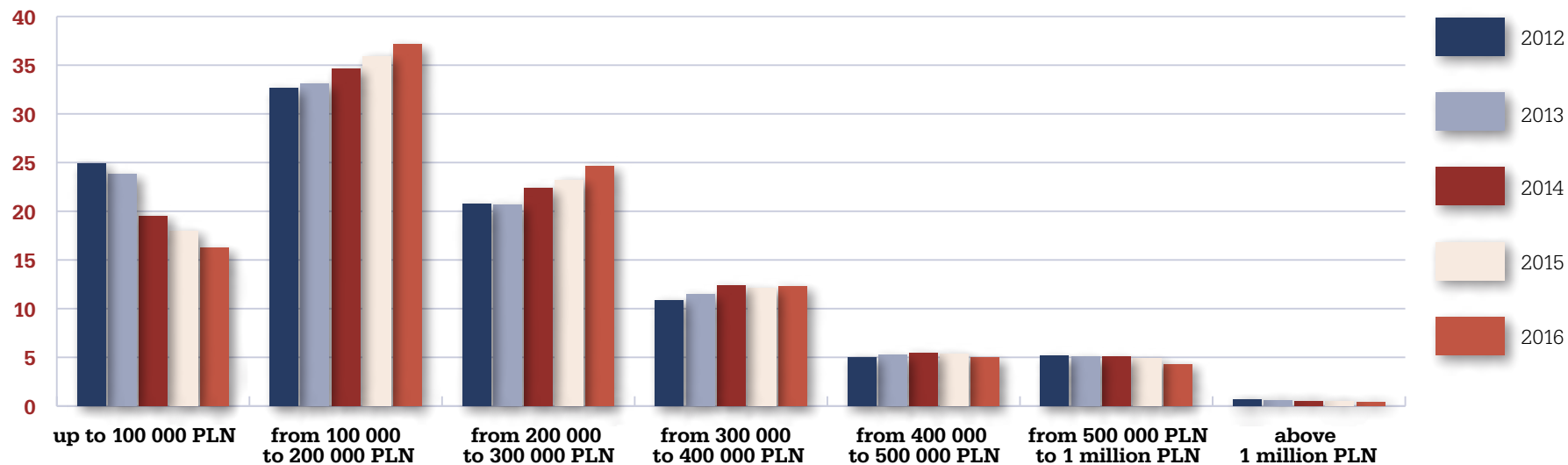
	Q4 2014	Q1 2015	Q2 2015	Q3 2015	Q4 2015	Q1 2016	Q2 2016	Q3 2016	Q4 2016
up to PLN 100 000	18.11%	17.80%	18.29%	18.59%	17.39%	16.84%	16.98%	15.84%	15.17%
from PLN 100 000 to 200 000	35.60%	36.47%	36.35%	34.28%	36.50%	37.40%	37.96%	36.40%	36.60%
from PLN 200 000 to 300 000	23.56%	24.04%	23.00%	23.03%	22.90%	24.28%	24.31%	24.91%	25.00%
from PLN 300 000 to 400 000	12.36%	11.86%	11.81%	12.89%	11.95%	12.07%	12.02%	12.39%	12.92%
from PLN 400 000 to 500 000	5.27%	4.93%	5.14%	5.64%	5.78%	4.89%	4.56%	5.29%	5.24%
from PLN 500 000 to 1 million	4.64%	4.46%	4.89%	5.02%	5.06%	4.12%	3.76%	4.75%	4.66%
above PLN 1 million	0.46%	0.44%	0.52%	0.55%	0.42%	0.40%	0.41%	0.42%	0.41%

Source: Polish Banks Association – SARFiN

In relation to 2015, the popularity of loans with a value below PLN 100 thousand decreased in 2016 and the share of those loans in portfolio of new housing loans was lower by **1.76 p.p.** and amounted to **16.25%**. The share of loans in the amount category between PLN 100

and 200 thousand and between PLN 200 and 300 thousand increased by **1.21 p.p.** and **1.39 p.p.** respectively. In other categories, only minor changes were recorded.

Chart 12. Structure of new loans amount in 2012 – 2016



Source: Polish Banks Association

Table 9. Structure of the new loans amount in 2012 – 2016

	2012	2013	2014	2015	2016
up to PLN 100 000	24.90%	23.82%	19.53%	18.01%	16.25%
PLN 100000 – 200000	32.64%	33.10%	34.66%	35.91%	37.12%
PLN 200000 – 300000	20.74%	20.72%	22.35%	23.22%	24.61%
PLN 300000 – 400000	10.89%	11.48%	12.39%	12.12%	12.33%
PLN 400000 – 500000	5.04%	5.25%	5.47%	5.39%	4.98%
PLN 500000 – 1 000000	5.14%	5.07%	5.06%	4.87%	4.30%
above PLN 1 000 000	0.64%	0.56%	0.54%	0.48%	0.41%

Source: Polish Banks Association

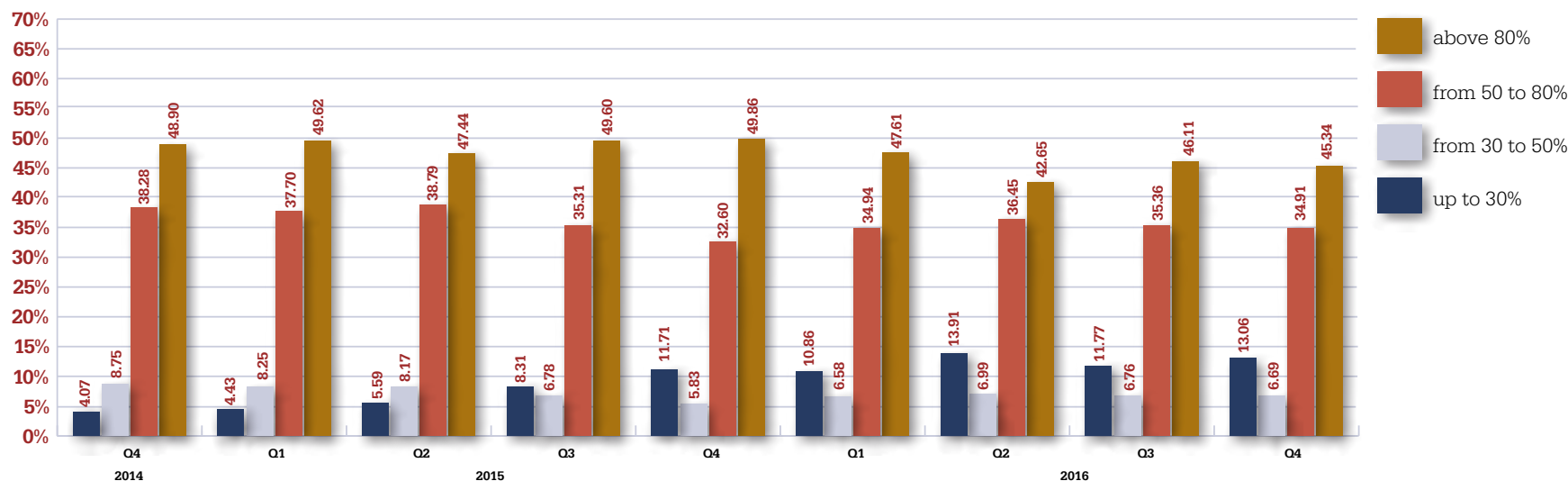
Structure of the LtV ratio

The most popular loans in Poland are constantly those with LtV level above 80%. In the period from October to December 2016, the share of those loans amounted to **45.34%** of the portfolio of new loans, which meant a decrease by **0.77 p.p.** comparing to Q3 2016. The share of loans with LtV ratio from 50 to 80% also diminished – by **0.45 p.p.** At the same time, popularity of loans with own contribution above 70% increased

– the share of those loans in Q4 2016 amounted to **13.06%**, which was more by **1.29 p.p.** in relation to the previous quarter.

In comparison to Q4 2015, the share of loans with the highest LtV (above 80%) diminished by **4.52 p.p.** In other categories of LtV ratio, increases were recorded – the largest (by **2.31 p.p.**) in case of loans with LtV between 50 and 80%.

Chart 13. Structure of LtV ratio of newly granted loans in Q4 2014 – Q4 2016, in terms of value



Source: Polish Banks Association – SARFiN

Table 10. Structure of LtV ratio of newly granted loans in Q4 2014 – Q4 2016

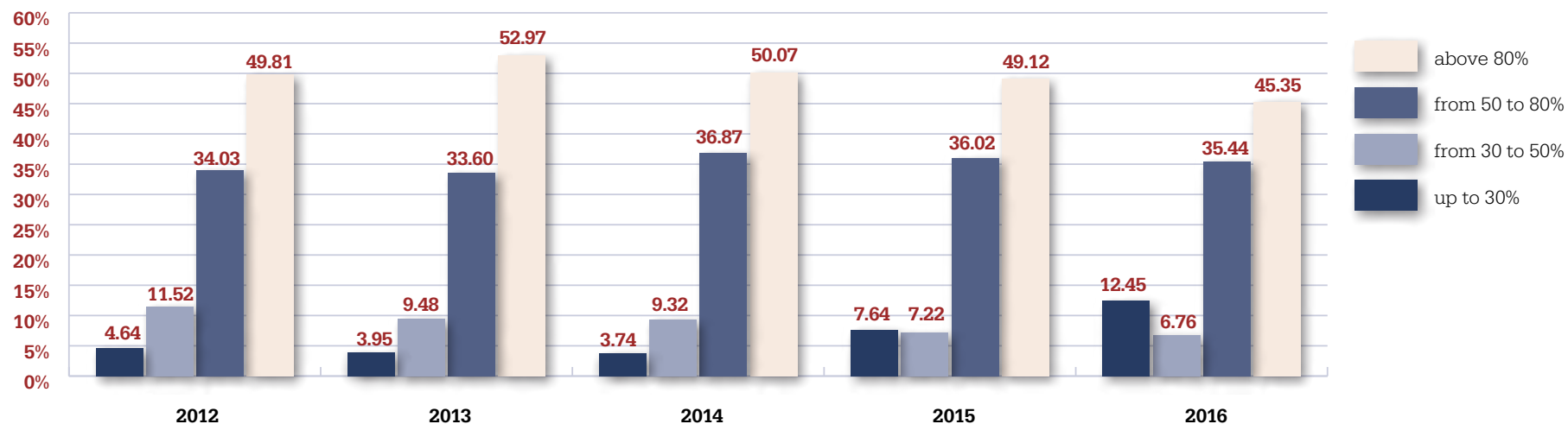
	Q4 2014	Q1 2015	Q2 2015	Q3 2015	Q4 2015	Q1 2016	Q2 2016	Q3 2016	Q4 2016
up to 30%	4.07%	4.43%	5.59%	8.31%	11.71%	10.86%	13.91%	11.77%	13.06%
from 30 to 50%	8.75%	8.25%	8.17%	6.78%	5.83%	6.58%	6.99%	6.76%	6.69%
from 50 to 80%	38.28%	37.70%	38.79%	35.31%	32.60%	34.94%	36.45%	35.36%	34.91%
above 80%	48.90%	49.62%	47.44%	49.60%	49.86%	47.61%	42.65%	46.11%	45.34%

Source: Polish Banks Association – SARFiN

Comparison of LtV structure of new housing loans on an annual basis, showed a systematic decrease in the share of loans with LtV ratio at the highest level, i.e. above 80%. In 2016, the share of loans with LtV ratio up to 30% amounted to **12.45%**, which was a significant increase compared to 2015 – by **4.81 p.p.** The shares of newly granted housing loans with

LtV ratio in other categories decreased, i.e. the percentage of loans with LtV ratio above 80% was lower by **3.77 p.p.**, loans with LtV between 50 and 80% – by **0.58 p.p.**, and loans with LtV between 30 and 50% – by **0.45 p.p.**

Chart 14. Structure of LtV ratio of newly granted loans in 2012 – 2016



Source: Polish Banks Association – SARFiN

Table 11. Structure of LtV ratio of newly granted loans in 2012 – 2016

	2012	2013	2014	2015	2016
up to 30%	4.64%	3.95%	3.74%	7.64%	12.45%
from 30 to 50%	11.52%	9.48%	9.32%	7.22%	6.76%
from 50 to 80%	34.03%	33.60%	36.87%	36.02%	35.44%
above 80%	49.81%	52.97%	50.07%	49.12%	45.35%

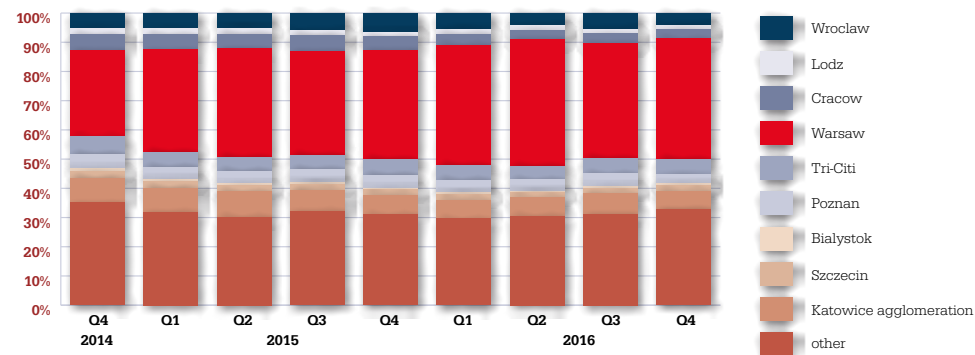
Source: Polish Banks Association – SARFiN

Housing loans in major Polish cities

In Q4 2016, the share of nine largest Polish agglomerations in the structure of newly granted housing value decreased by **1.62 p.p.** in relation to the previous quarter and amounted to **67.17%**. Among analysed cities, a higher sales of housing loans was recorded only in Warsaw, which accounted for **41.37%** of the total value of new loans – it was an increase by **1.97 p.p.** comparing to Q3 2016. In other analysed agglomerations minimal declines were noted, the most significant in case of Wrocław – by **1.38 p.p.**

In relation to Q4 2015, some major changes were recorded. The share of housing loans granted in Warsaw increased by **3.95 p.p.** In contrast, noticeable decreases were recorded in Wrocław, Cracow and Poznan, respectively by **2.35 p.p.**, **1.43 p.p.** and **1.16 p.p.**

Chart 15. Value of newly granted loans in major Polish cities in Q4 2014 – Q4 2016



Source: Polish Banks Association – SARFIN

Table 12. Value of newly granted loans in major Polish cities in Q4 2014 – Q4 2016

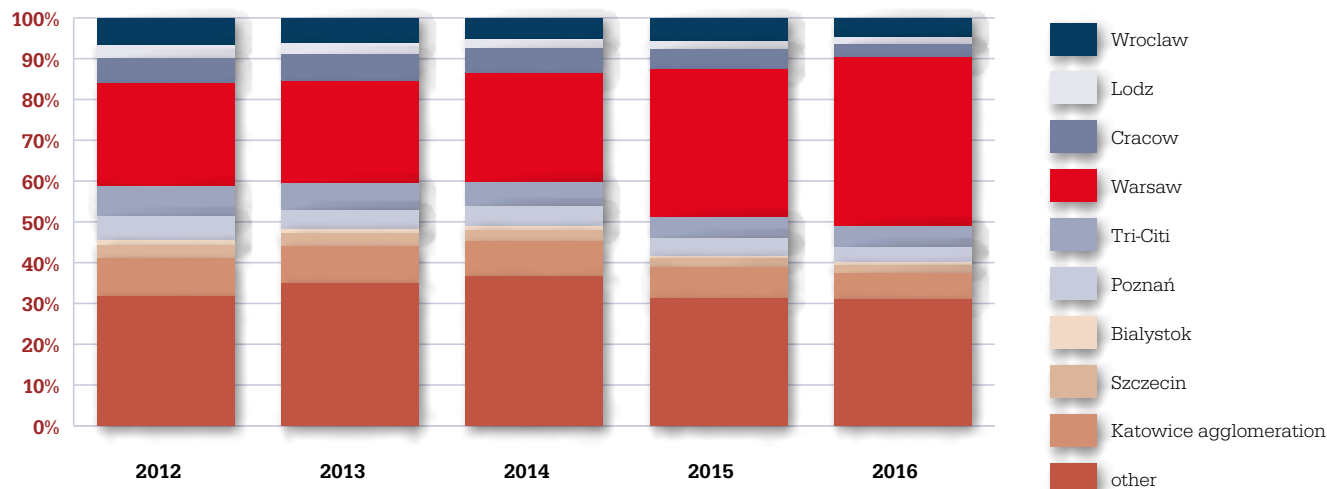
quarter	other	Katowice agglomeration	Szczecin	Białystok	Poznań	Tri-City	Warsaw	Cracow	Łódź	Wrocław
Q4 2014	35.06%	8.36%	2.61%	0.94%	4.75%	5.93%	29.57%	5.42%	2.27%	5.09%
Q1 2015	31.89%	8.09%	2.36%	0.89%	4.07%	5.08%	35.05%	5.20%	2.09%	5.28%
Q2 2015	30.20%	8.60%	2.06%	0.71%	4.31%	4.81%	37.08%	5.00%	1.96%	5.27%
Q3 2015	32.10%	7.20%	2.14%	0.66%	4.38%	5.00%	35.54%	5.38%	1.58%	6.02%
Q4 2015	30.98%	6.64%	1.92%	0.63%	4.39%	5.37%	37.43%	4.54%	1.70%	6.41%
Q1 2016	29.66%	6.43%	1.83%	0.65%	4.18%	5.19%	40.98%	3.95%	1.61%	5.52%
Q2 2016	30.53%	6.21%	1.76%	0.62%	3.84%	4.74%	43.27%	3.22%	1.49%	4.31%
Q3 2016	31.22%	6.87%	2.01%	0.66%	4.19%	5.31%	39.40%	3.29%	1.60%	5.44%
Q4 2016	32.83%	6.29%	1.91%	0.63%	3.23%	5.01%	41.37%	3.12%	1.55%	4.06%

Source: Polish Banks Association – SARFIN

In 2016, the share of smaller Polish cities decreased by **0.21 p.p.** to a level of **31.05%**. Among analysed agglomerations, the share of the value of new housing loans increased only in Warsaw – to a level of **41.31%**,

i.e. by **4.98 p.p.** In comparison to 2015, slight declines were recorded in other urban areas.

Chart 16. Value of newly granted loans in major Polish cities in 2012 – 2016



Source: Polish Banks Association – SARFIN

Table 13. Value of newly granted loans in major Polish cities in 2012 – 2016

year	other	Katowice agglomeration	Szczecin	Białystok	Poznan	Tri-Citi	Warsaw	Cracow	Łodz	Wroclaw
2012	31.73%	9.36%	3.22%	1.12%	5.92%	7.46%	25.10%	6.17%	3.19%	6.73%
2013	35.02%	9.06%	3.03%	1.07%	4.75%	6.51%	25.05%	6.46%	2.75%	6.30%
2014	36.70%	8.58%	2.69%	1.00%	4.71%	6.01%	26.77%	5.97%	2.27%	5.30%
2015	31.26%	7.61%	2.11%	0.72%	4.29%	5.07%	36.33%	5.02%	1.83%	5.76%
2016	31.05%	6.44%	1.88%	0.64%	3.86%	5.06%	41.31%	3.39%	1.56%	4.81%

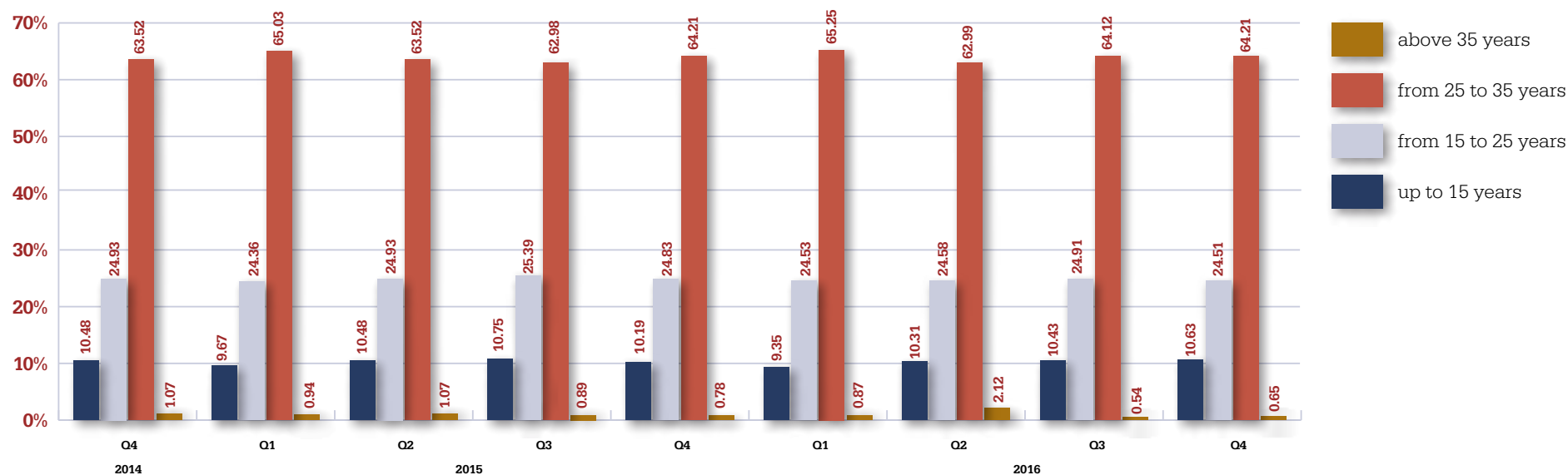
Source: Polish Banks Association – SARFIN

Lending period

In Q4 2016, the popularity of housing loans with maturity period from 15 to 25 years declined – their share in the portfolio amounted to **24.51%**, which was less by **0.39 p.p.** comparing to the previous quarter. The changes in shares of other categories in the portfolio of newly granted loans were minimal.

In relation to the same period of 2015, an increase was recorded only in category of loans with the maturity period up to 15 years – by **0.44 p.p.** The share of loans granted for the period from 25 to 35 years and for more than 35 years has not changed, while the popularity of loans for the period from 15 to 25 years decreased slightly – by **0.31 p.p.**

Chart 17. Structure of new loans by lending period in Q4 2014 – Q4 2016



Source: Polish Banks Association – SARFiN

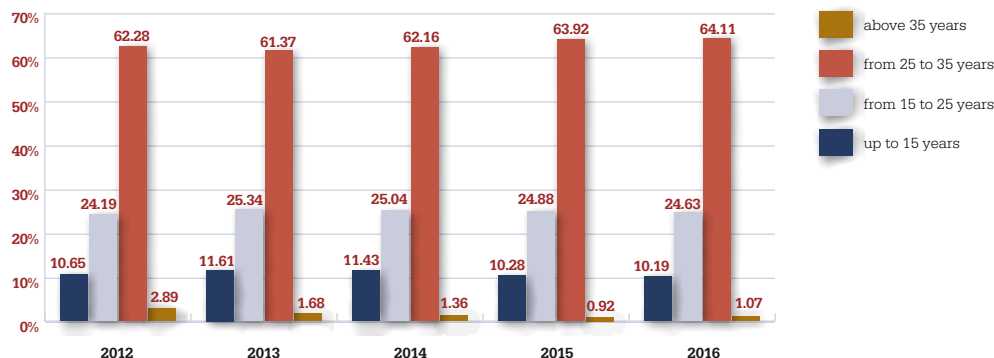
Table 14. Structure of new loans by lending period in Q4 2014 – Q4 2016

	Q4 2014	Q1 2015	Q2 2015	Q3 2015	Q4 2015	Q1 2016	Q2 2016	Q3 2016	Q4 2016
up to 15 years	10.48%	9.67%	10.48%	10.75%	10.19%	9.35%	10.31%	10.43%	10.63%
from 15 to 25 years	24.93%	24.36%	24.93%	25.39%	24.83%	24.53%	24.58%	24.91%	24.51%
from 25 to 35 years	63.52%	65.03%	63.52%	62.98%	64.21%	65.25%	62.99%	64.12%	64.21%
above 35 years	1.07%	0.94%	1.07%	0.89%	0.78%	0.87%	2.12%	0.54%	0.65%

Source: Polish Banks Association – SARFiN

In 2016, loans with repayment period ranging from 25 to 35 years were the most popular – their share in the structure of new housing loans by lending period amounted to **64.11%**, which was more by **0.19 p.p.** comparing to 2015. The share of loans, repayment of which was scheduled for a period above 35 years slightly increased – by **0.15 p.p.** to a level of **1.07%**. Slight decreases were recorded in the segment of loans with maturity period up to 15 years and between 15 and 25 years, by **0.09 p.p.** and **0.25 p.p.** respectively.

Chart 18. Structure of new loans by lending period in 2012 – 2016



Source: Polish Banks Association

Table 15. Structure of new loans by lending period in 2012 – 2016

	2012	2013	2014	2015	2016
up to 15 years	10.65%	11.61%	11.43%	10.28%	10.19%
from 15 to 25 years	24.19%	25.34%	25.04%	24.88%	24.63%
from 25 to 35 years	62.28%	61.37%	62.16%	63.92%	64.11%
above 35 years	2.89%	1.68%	1.36%	0.92%	1.07%

Source: Polish Banks Association

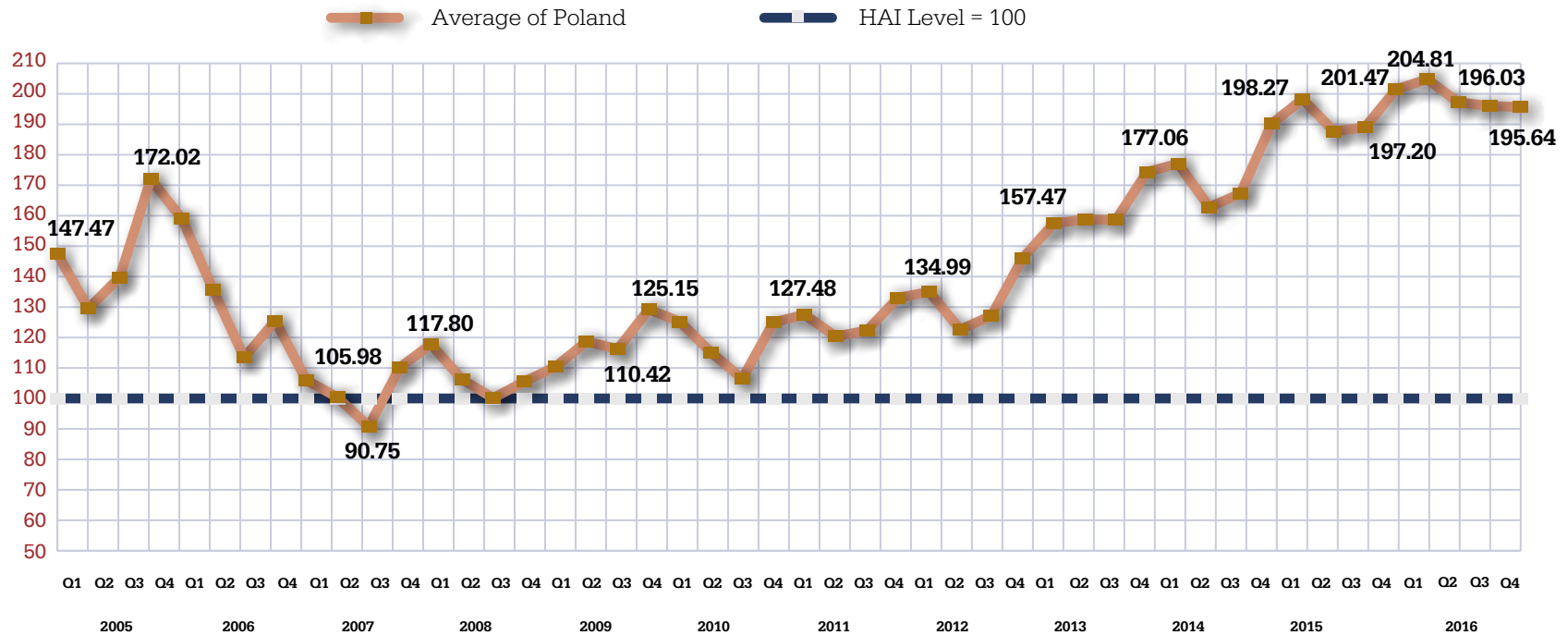
Housing Availability Index M3 – HAI M3

Housing Availability Index (HAI M3), a synthetic measure presented in AMRON-SARFiN Reports, shows quarterly changes in availability of housing units in Poland for the exemplary family comprising of two employed adults with one older child. Slight decrease of dwelling availability in Q4 2016 was influenced by the following factors:

- a quarterly increase of housing prices in monitored cities in order to calculate HAI M3 Index (8 biggest cities) – by **3.87%** in relation to Q3 2016;
- an unnoticeable decrease in the average interest rate of loans granted in Q4 2016 – according to the National Bank of Poland, it diminished by **0.03 p.p.** (1 basis point) – the real interest rate of loans granted in Q4 2016 amounted to **4.63%** (in the previous quarter – **4.66%**);
- an increase in the average family income in Q4 2016, i.e. by **4.04%** in comparison to the previous quarter;
- the living costs level, which for the Report purposes are expressed as the minimum subsistence level of the previous quarter (calculated as inflation quarter on quarter due to the postponement of announcing the minimum subsistence level by the Institute of Labour and Social Affairs for the next quarter), increased by inflation rate (**0.7%**).

All the aforementioned factors caused that the disposable income for HAI M3 (which is the difference between the family income and the amount of the loan instalment amount, or the value of the minimum subsistence level – in order to calculate the Housing Availability Index the lower amount is taken into account) increased by **3.31%** in Q4 2016 and therefore the Index decreased by **0.39 points** (Index level in Q3 2016 amounted to **196.03 points**).

Chart 19. Housing Availability Index M3 for the period from Q1 2005 to Q4 2016



Source: Polish Banks Association

Summing up, changes in HAI M3 level in 2016, it should be pointed out that during the year an increase in property prices (by **4,49%**) was noted, but also the average interest rates on new mortgage loans slightly increased (by **0.03 p.p.**) and family income increased by **3.10%**. Thus, the annual comparison proves the index decreased by **5.84 points**.

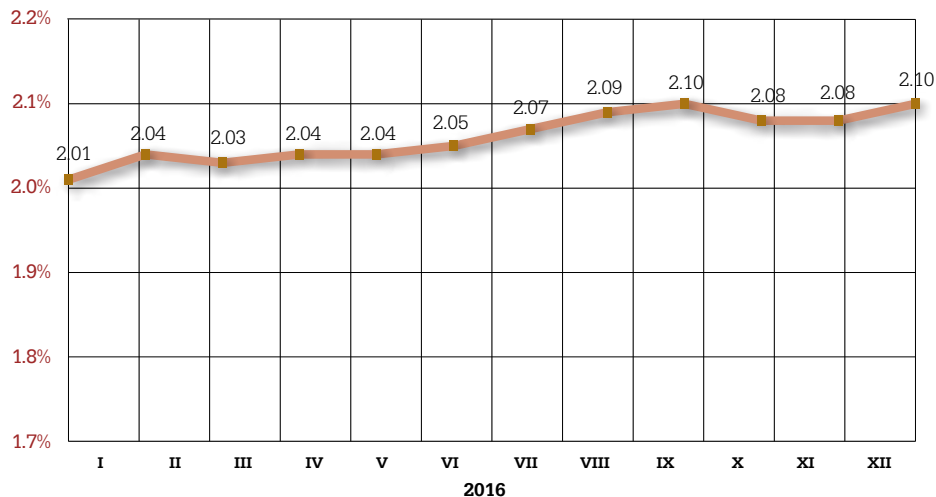
This trend indicates that the availability of housing loans, estimated in relation to income and price level, is still relatively high. But it does not have to translate into demand for mortgage loans, it only indicates the great potential for these products.

Average margin levels and mortgage interest rates

Last year, both margins and mortgage interest rates slightly increased. The average margin of a mortgage loan (in amount of PLN 300 000, at the LtV ratio of 75% and granted for the period of 25 years) in December 2016 amounted to **2.10%**, what meant a return to the value noted at the end of Q3 2016 and an increase by **0.09 p.p.** throughout the whole year 2016. The Monetary Policy Council did not change interest rates

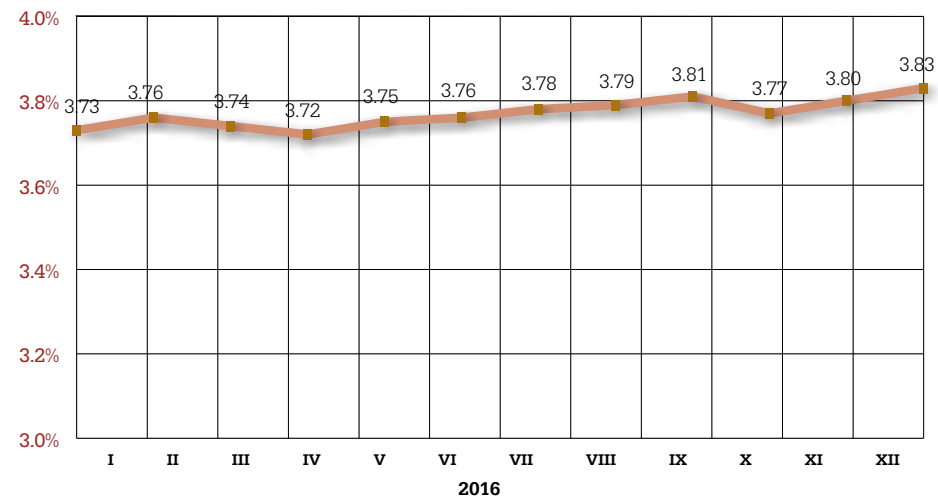
from 5 March 2015 keeping them at historically low level. The reference rate was still **1.50%** and WIBOR 3M increased slightly (by **0.02 p.p.**) in comparison to September 2016 and in December it amounted to **1.73%**. At the end of analysed quarter, the average interest rate of model housing loan accounted for **3.83%**, i.e. increased by **0.02 p.p.** in reference to September last year and by **0.10 p.p.** in comparison to January 2016.

Chart 20. Average margin of a housing loan in January 2016 – December 2016



Source: AMRON Centre based on banks' credit offers

Chart 21. Average interest rate of a housing loan in January 2016 – December 2016

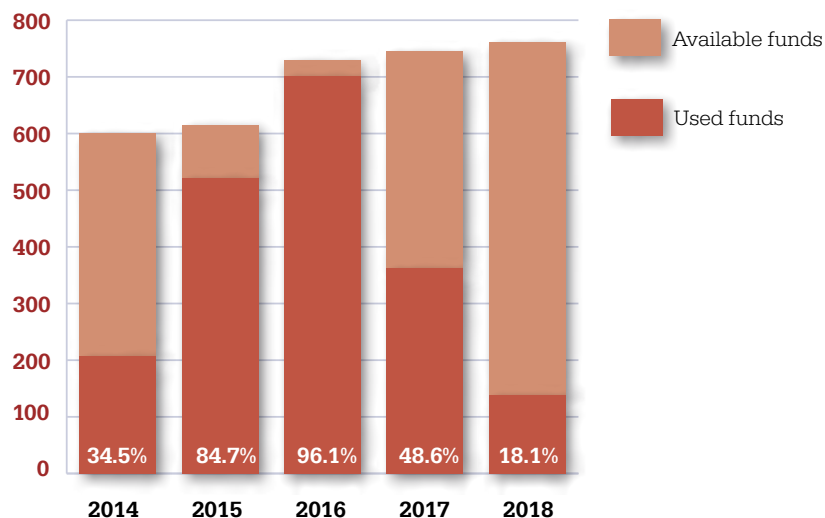


Source: AMRON Centre based on banks' credit offers

'Flat for Youth' Programme

As a result of enormous influx of applications for funding borrowers' downpayment under 'Flat for Youth' Programme at the turn of 2015 and 2016, Bank Gospodarstwa Krajowego announced the suspension of accepting applications for subsidies from funds reserved for 2016 already on March 15 last year, and July 5 it stopped accepting applications with payment planned for the year 2017. Since then, buyers may apply for payment only from funds earmarked for payment in 2018 – at the end of 2016, **18.1%** of the amount of **PLN 762 million** was reserved.

Chart 22. Use of the annual limits of funds planned to provide financial support under 'Flat for Youth' Programme as at December 31, 2016 (million PLN)

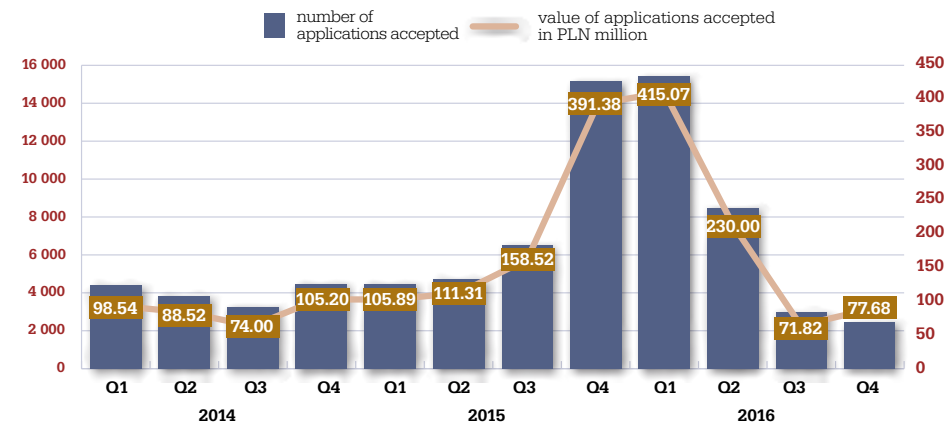


Source: BGK

In the period from October to December last year, **2 431** applications for subsidy were accepted, which was **18.7%** less in comparison to Q3 2016 and **84.2%** less than in the record-breaking Q1 2016. The total amount of subsidy in Q4 2016 amounted to **PLN 77.7 million** – by **8.2%** more than in the previous quarter.

Throughout three years of functioning the government Programme called 'Flat for Youth', **76 160** applications for the amount of subsidies accounting for **PLN 1.928 billion** were submitted to the Bank Gospodarstwa Krajowego through lending banks. In the period from January 1, 2014 to December 31, 2016, **74 759** loan agreements for a total amount of **PLN 13.2 billion** were signed under the Programme. The total contracted amount of subsidies was equal to **PLN 1.888 billion**. Preferential housing loans accounted for **14.0%** of the number and **11.4%** of all new loan agreements signed in the period 2014 – 2016, while in Q4 2016 these shares accounted to **6.8%** and **5.5%** (**2 832** loan agreements for amount of **PLN 541.6 million**) respectively.

Chart 23. Number and value of subsidy to loan applications approved by banks in Q1 2014 – Q4 2016 – 'Flat for Youth' Programme



Source: BGK

As for December 31, 2016 the total amount of state support for borrowers' downpayment and additional financial support to repay part of the housing loan reserved for disbursements in case of birth or adoption a third child in the period of 5 years from the date of signing the purchase agreement exceeded the amount of **PLN 1.930 million**. **10.74%** of this amount was paid from funds reserved for subsidies in 2014, **26.99%** came from the Programme's budget earmarked for 2015,

36.35% – for 2016, for 2017 – **18.78%** and **7.14%** – from funds for 2018. At the end of 2016, **PLN 384 million** from funds reserved for 2017 and **PLN 624 million** from the budget provided for subsidies in 2018 was still available for financial support on the basis of the Act on state aid in young people first housing purchase.

So far, the average floor area of a dwelling acquired in the Programme amounted to **53.71 sq.m.** and a detached house – **86.48 sq.m.**, while the average price was equal to **PLN 219.7 thousand** for dwellings and **PLN 290.1 thousand** for houses.

In Q4 2016, the maximum price per square meter of a housing in ‘Flat for Youth’ Programme remained unchanged in Gdansk (**PLN 5 094.65** for primary market and **PLN 4 168.35** for secondary market). Among the biggest cities, the limit was reduced in Poznan (for primary market by **PLN 103.40** and for secondary market by **PLN 84.60**) and in Lodz (for primary market by **PLN 53.35** and for secondary market – by **PLN 43.65**). In Warsaw, Wroclaw and Cracow, maximum prices of dwellings increased respectively by **PLN 80.13**, **PLN 78.10** and **PLN 8.25** for primary market and by **PLN 65.56**, **PLN 63.90** and **PLN 6.75** for housing units on secondary market.

Table 16. Price limits in ‘Flat for Youth’ Programme in selected Polish cities – comparison of Q3 2016 and Q4 2016

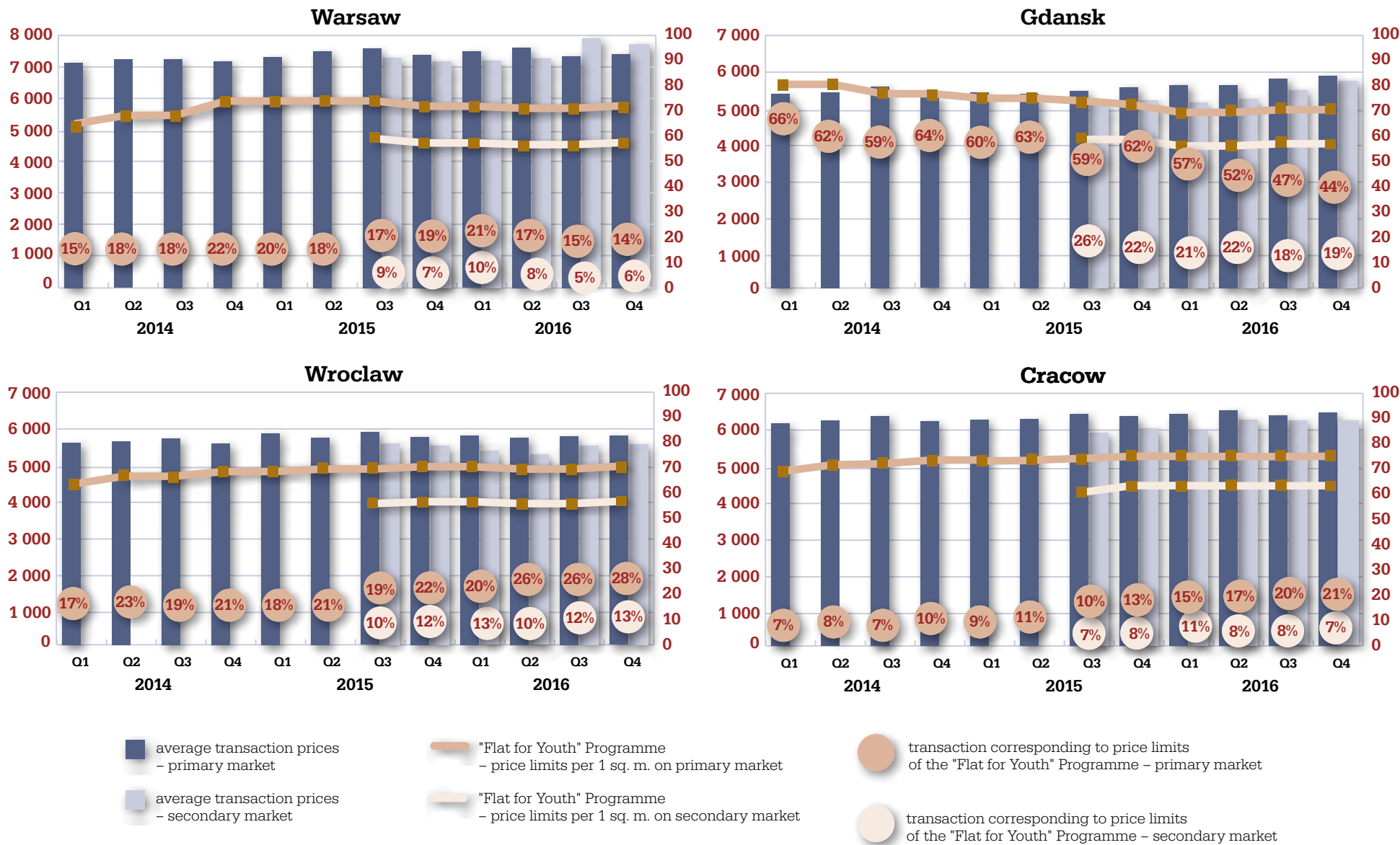
City	price limits in the ‘Flat for Youth’ Programme – primary market (price per 1 sq. m.)	change on primary market Q4 2016/Q3 2016	price limits in the ‘Flat for Youth’ Programme – secondary market (price per 1 sq. m.)	change on secondary market Q4 2016/Q3 2016
Warsaw	PLN 6 433.43	PLN 80.13	PLN 5 263.71	PLN 65.56
Wroclaw	PLN 5 259.10	PLN 78.10	PLN 4 302.90	PLN 63.90
Gdansk	PLN 5 094.65	PLN 0.00	PLN 4 168.35	PLN 0.00
Cracow	PLN 5 247.55	PLN 8.25	PLN 4 293.45	PLN 6.75
Poznan	PLN 5 711.20	PLN – 103.40	PLN 4 672.80	PLN – 84.60
Lodz	PLN 4 200.90	PLN – 53.35	PLN 3 437.10	PLN – 43.65

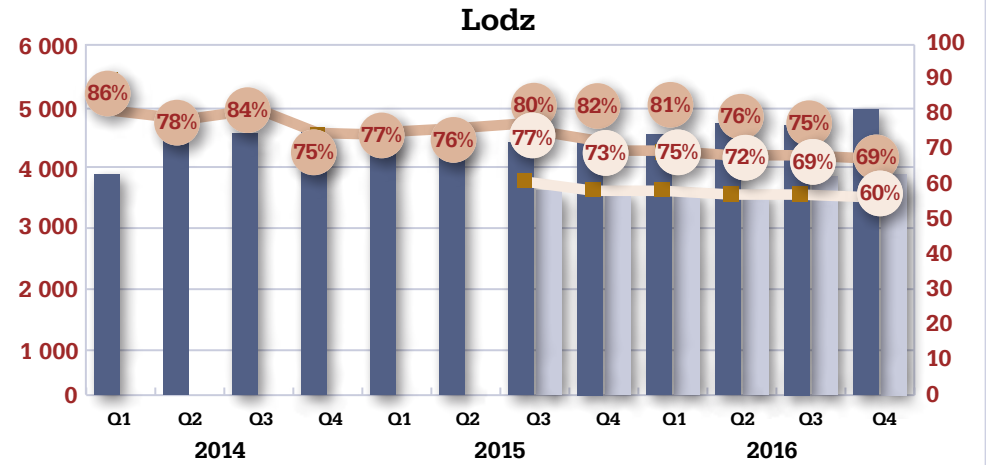
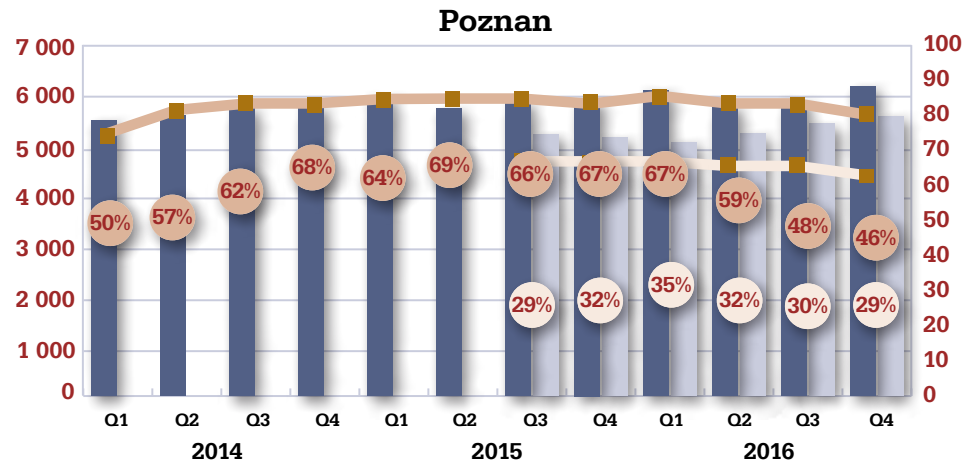
the price limits per 1 sq.m. of dwelling in the ‘Flat for Youth’ Programme change twice a year – for the Pomeranian voivodship in January and July, for the other provinces – in April and October
Source: BGK

Extracting the sale transactions of dwellings with prices and floor area within the limits of ‘Flat for Youth’ Programme concluded in Q4 2016, enabled to assess the availability of the government subsidies in the biggest Polish cities. The highest availability of dwellings that met the ‘Flat for Youth’ Programme criteria, was noted in Lodz, where **69%** of transactions in Q4 2016 on primary market and **60%** of transactions on secondary market met the prices and floor area limits. The next cities in terms of the availability of the Programme were Poznan and

Gdansk, where respectively **46%** and **44%** of flats sold on primary market could be purchased with government subsidy. In case of premises from secondary market shares amounted to **29%** in Poznan and **19%** in Gdansk. The least likely to benefit from the subsidy under the Programme were buyers in Warsaw – in Q4 2016, only **14%** of total number of transactions on primary market related to housing price limit, and on the secondary market – only **6%**.

Chart 24. Comparison of average transaction prices per 1 sq. m. of flats in Q1 2014 – Q4 2016 and price limits in 'Flat for Youth' Programme





■ average transaction prices
- primary market

■ average transaction prices
- secondary market

— "Flat for Youth" Programme
- price limits per 1 sq. m. on primary market

— "Flat for Youth" Programme
- price limits per 1 sq. m. on secondary market

● transaction corresponding to price limits
of the "Flat for Youth" Programme - primary market

● transaction corresponding to price limits
of the "Flat for Youth" Programme - secondary market

Source: BGK, AMRON

Situation on housing market

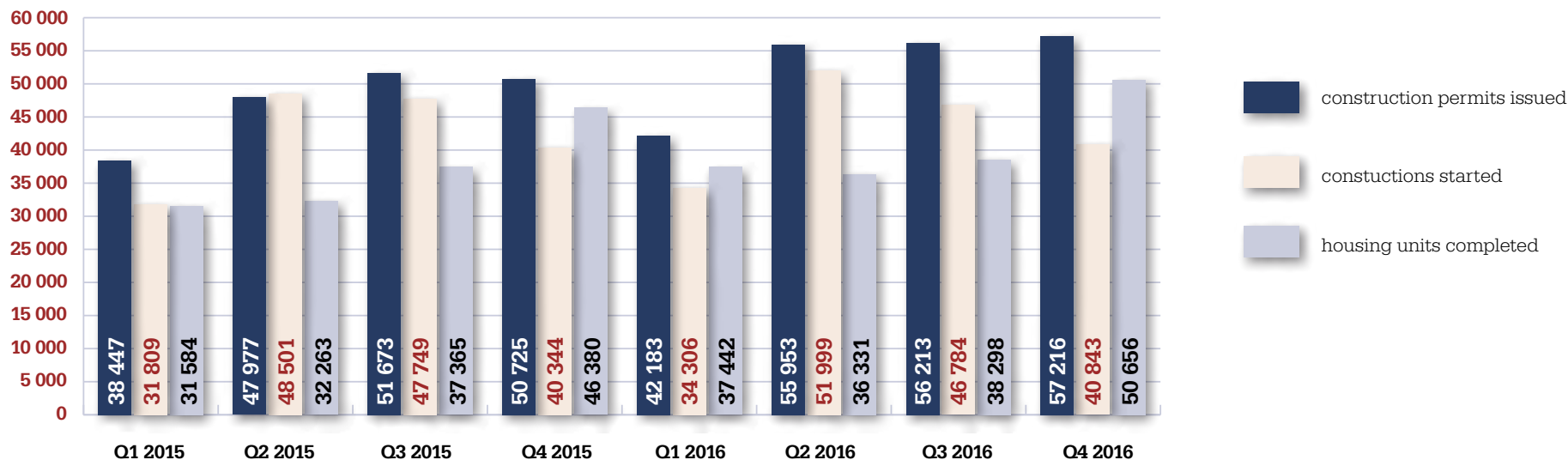
As every year, in the last quarter of 2016, a decline in the number of constructions started was noted – by **13%** comparing to the previous quarter. Thus, the number of dwellings which construction was begun in Q4 2016 amounted to **40 843**. In the same period, permits for construction of **57 216** housing units were issued, which meant a minimal increase (by **2%**). The number of completed dwellings increased by **32%** in relation to Q3 2016, reaching the level of **50 656**.

In relation to Q4 2015, small increases were recorded in all analysed categories. According to preliminary data of Central Statistical Office, the

number of permits issued for construction of new dwellings increased by **13%**, the number of dwellings completed – by **9%** and the number of new construction permits – by **1%**.

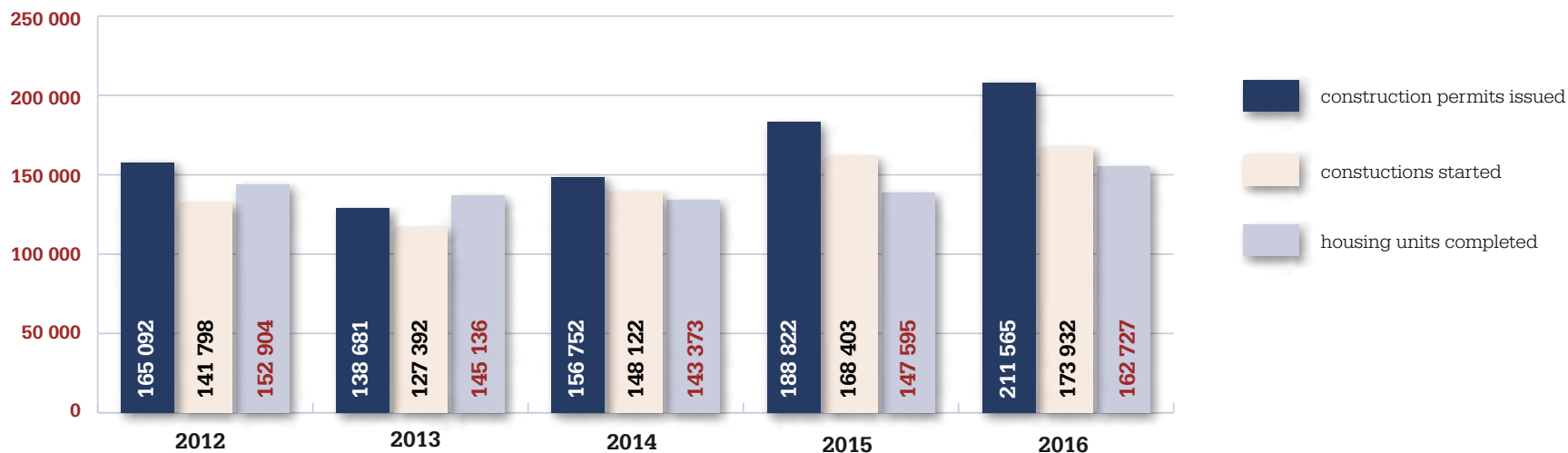
Throughout whole 2016, new record-breaking results were recorded. In Poland, **162 727** new dwellings were built, which was by **10%** more than in 2015. Construction of **173 932** units was also started (**3%** more compared to the previous year) and permits for construction of **211 565** new dwellings were issued (**12%** more). These were the best results since 2008.

Chart 25. Number of construction permits issued, constructions started and housing units completed in Q1 2015 – Q4 2016



Source: Central Statistical Office

Chart 26. Number of building permits issued, constructions started and housing units completed in 2012 – 2016



Source: Central Statistical Office

After the 2014 and 2015, 2016 was another very successful year for the developers' market, both in terms of investments and sales. Historically low interest rates, low borrowing costs, higher propensity to investment purchases and great interest in 'Flat for Youth' Programme were major drivers of demand for new housing, and thus contributed to development of the sector.

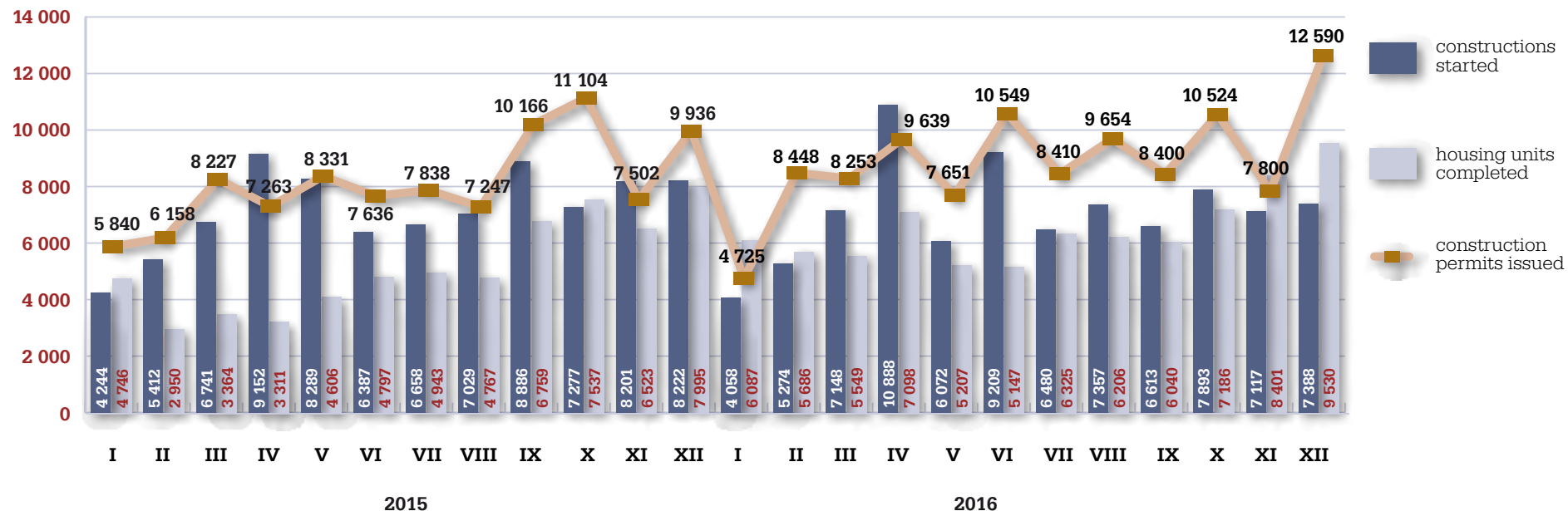
According to preliminary data published by Central Statistical Office, in the last quarter, developers completed **25 117** dwellings, which meant an increase by **35%** in comparison to Q3 2016. Developers' sector started construction of **22 398** new dwellings (an increase by **10%** on a quarterly basis) and obtained permits for the construction of further **30 914** dwellings (more by **17%** comparing to Q3 2016).

In comparison to the same period of 2015, only the number of constructions started decreased by **5%**. The number of permits issued for construction of new housing by developers increased by **8%** and the number of completed dwellings – by **14%**.

For the third year in a row, developers' sector noted record-breaking results. In the past year, developers obtained permits for the construction of **106 643** dwellings, i.e. by **10%** more than last year and built **78 462** dwellings, which meant an increase by **26%** comparing to 2015. The number of flats that construction was started in 2016 decreased year to year – but only by **1%** and amounted to **85 497**. There is no doubt that these results were excellent, but a clear decline in growth of new development investments can be seen, which may announce the imminent end of the prosperity on primary market.

In 2016, the number of construction permits issued for developers' investments accounted for **50%** of all permits in the housing sector, i.e. less by **2 p.p.** comparing to 2015. The number of constructions started by developers accounted for **49%** (less by **4p.p.**) of all new started constructions. And the share of development dwellings completed in the total number of all units completed in 2016 accounted for **48%**, which was more by **6 p.p.** in relation to 2015.

Chart 27. Number of construction permits issued, constructions started and housing units completed by developers in January 2015 – December 2016, monthly



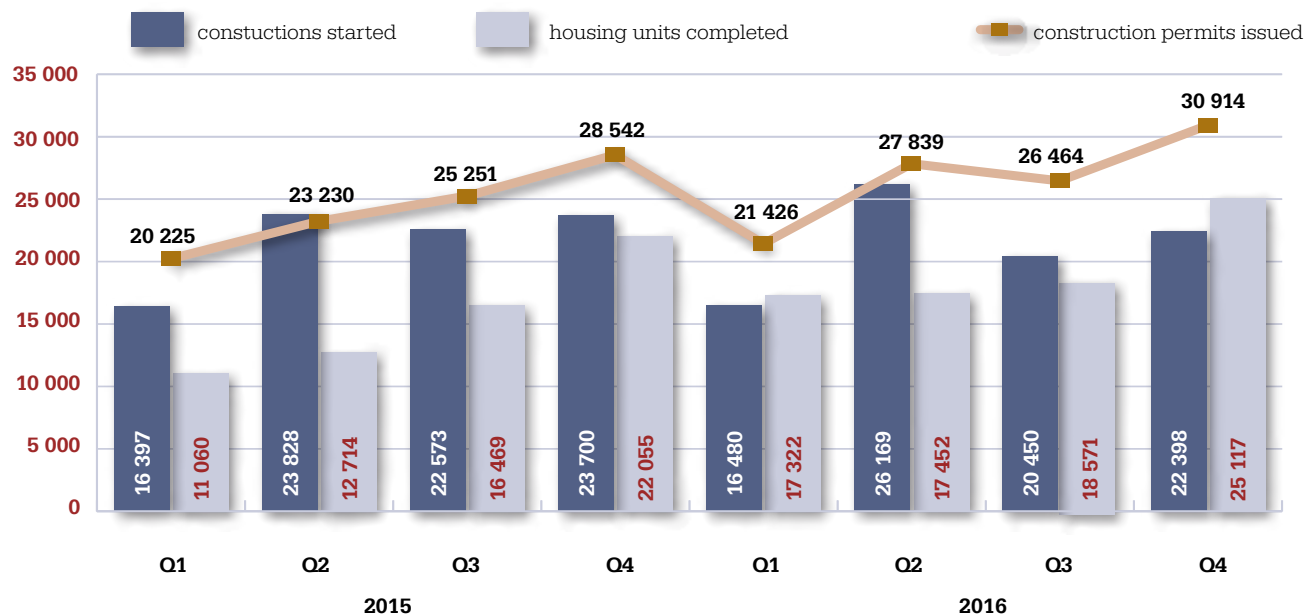
Source: Central Statistical Office

Table 17. Number of construction permits issued, constructions started and housing units completed by developers in Q1 2015 – Q4 2016

	2015				2016			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Construction permits issued	20 225	23 230	25 251	28 542	21 426	27 839	26 464	30 914
Constructions started	16 397	23 828	22 573	23 700	16 480	26 169	20 450	22 398
Housing units completed	11 060	12 714	16 469	22 055	17 322	17 452	18 571	25 117

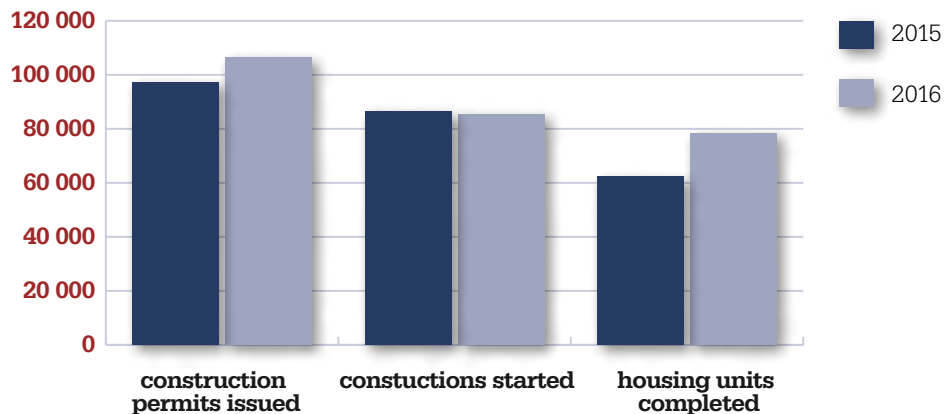
Source: Central Statistical Office

Chart 28. Number of construction permits issued, constructions started and housing units completed by developers in Q1 2015 – Q4 2016, quarterly



Source: Central Statistical Office

Chart 29. Comparison of numbers of construction permits issued, constructions started and housing units completed by developers in 2015 and 2016



Source: Central Statistical Office

Average transaction prices of housing units

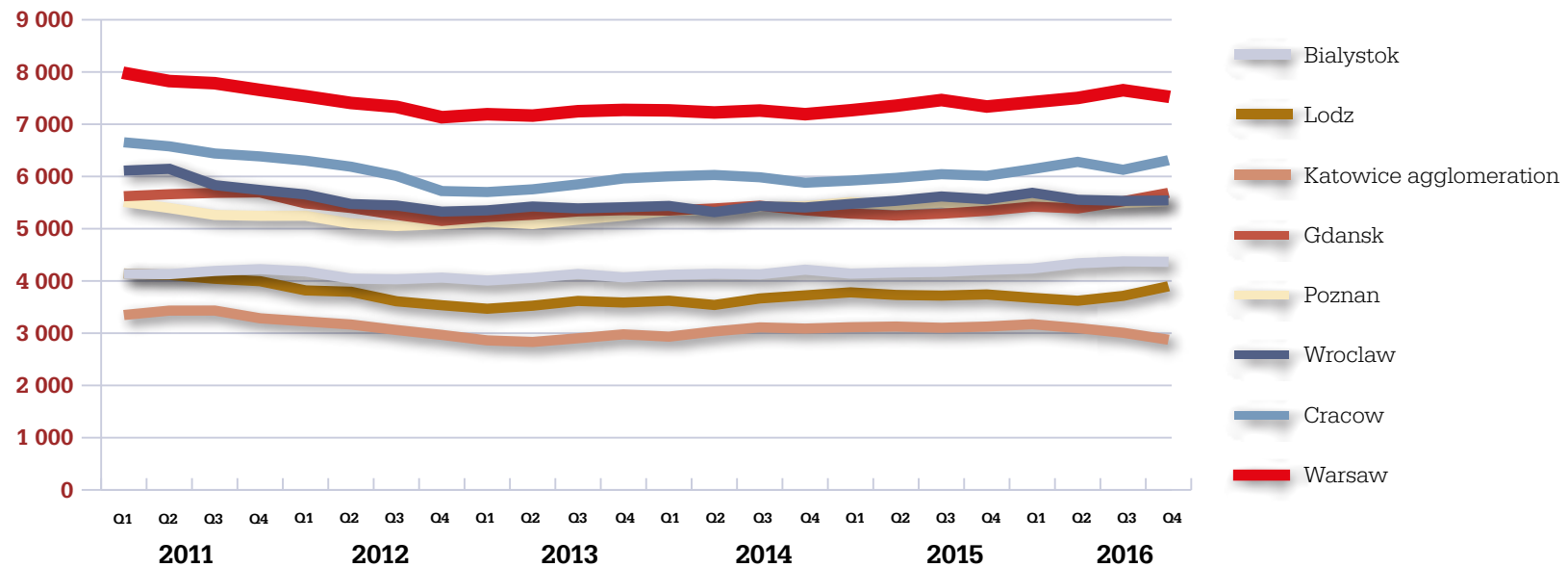
Demand for dwellings has been steadily growing for several years, and the developers' supply was flexibly adapted to the market situation. As a result, there was a relative balance between available offer and buyers interest, which maintained that the average transaction price of a housing unit remain stable, and in the largest urban centres showed a slight upward trend. If developers' activity will still meet the current demand, it is expected that the situation on the market in the near future will not change and there will be no sudden price fluctuations.

In Q4 2016, a slight decline in the average unit transaction price in Katowice agglomeration and Warsaw was recorded, respectively by **PLN 133/sq.m.** and **PLN 124/sq.m.** in comparison to the previous quarter. In Bialystok and Wroclaw average price did not change, while

in other cities a slight increases in the average price of 1 sq.m. of floor area were noted – the largest in Lodz and Cracow, by **PLN 184/sq.m.** and **PLN 182/sq.m.** respectively.

In comparison to Q4 2015, a significant decrease in the average transaction price was noted only in Katowice agglomeration – by **PLN 252/sq.m.** In other cities, an increases were recorded, i.e. in Wrocław by **PLN 157/sq.m.**, in Warsaw by **PLN 147/sq.m.**, in Cracow by **PLN 133/sq.m.** and in Katowice agglomeration by only **PLN 39/sq.m.**

Chart 30. Average transaction prices per square meter of a housing unit in selected cities in Q1 2011 – Q4 2016



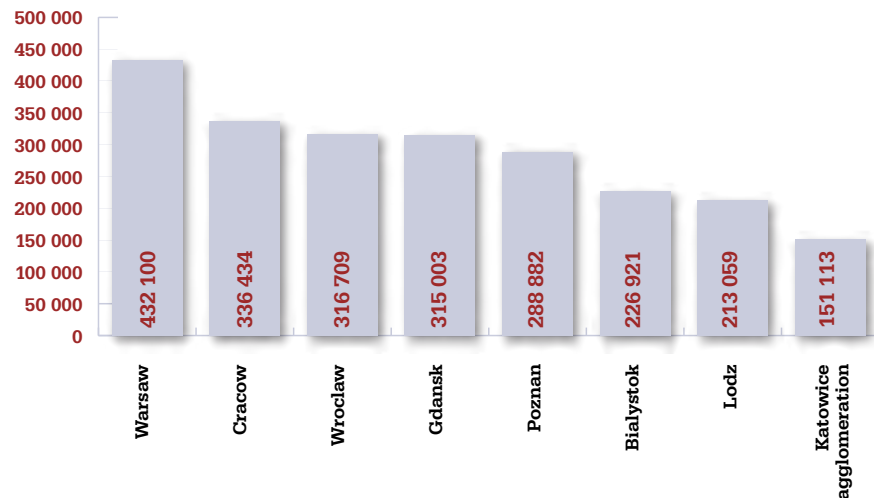
Source: AMRON

Table 18. Average transaction price per square meter of a housing unit in selected cities in Q1 2011 – Q4 2016

Quarter	Warsaw	Bialystok	Katowice agglomeration	Wroclaw	Gdansk	Cracow	Poznan	Lodz	
2011	Q1	7 982	4 136	3 348	6 112	5 622	6 654	5 513	4 142
	Q2	7 826	4 130	3 432	6 146	5 660	6 577	5 396	4 116
	Q3	7 785	4 191	3 433	5 834	5 686	6 440	5 263	4 042
	Q4	7 656	4 226	3 285	5 741	5 694	6 384	5 246	3 995
2012	Q1	7 536	4 182	3 225	5 655	5 484	6 302	5 248	3 819
	Q2	7 407	4 045	3 166	5 473	5 397	6 187	5 103	3 793
	Q3	7 333	4 033	3 061	5 444	5 265	6 012	5 052	3 611
	Q4	7 134	4 064	2 967	5 327	5 149	5 721	5 086	3 535
2013	Q1	7 192	4 008	2 862	5 351	5 224	5 702	5 132	3 468
	Q2	7 165	4 060	2 832	5 425	5 266	5 754	5 089	3 526
	Q3	7 249	4 134	2 903	5 389	5 331	5 849	5 173	3 618
	Q4	7 274	4 069	2 978	5 411	5 355	5 962	5 248	3 587
2014	Q1	7 265	4 117	2 934	5 436	5 347	6 003	5 343	3 621
	Q2	7 225	4 137	3 034	5 318	5 388	6 029	5 364	3 540
	Q3	7 262	4 126	3 111	5 432	5 441	5 985	5 420	3 665
	Q4	7 192	4 216	3 088	5 406	5 352	5 880	5 432	3 724
2015	Q1	7 267	4 140	3 114	5 475	5 289	5 921	5 509	3 782
	Q2	7 354	4 162	3 127	5 534	5 253	5 973	5 454	3 732
	Q3	7 463	4 174	3 103	5 617	5 287	6 044	5 502	3 720
	Q4	7 339	4 211	3 127	5 563	5 343	6 013	5 426	3 742
2016	Q1	7 422	4 238	3 172	5 687	5 423	6 141	5 564	3 677
	Q2	7 503	4 338	3 098	5 554	5 388	6 279	5 429	3 621
	Q3	7 651	4 374	3 008	5 533	5 525	6 128	5 489	3 714
	Q4	7 527	4 366	2 875	5 540	5 687	6 311	5 530	3 898

Source: AMRON

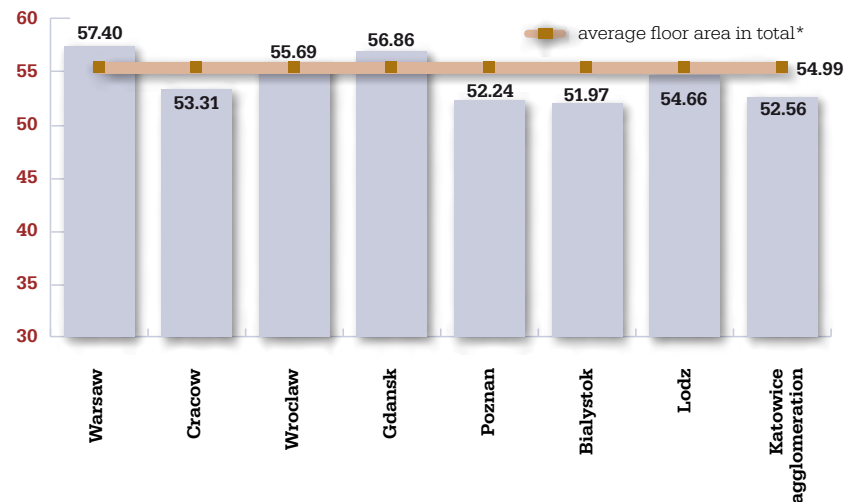
Chart 31. Total average transaction prices of housing units in selected cities in Q4 2016



Source: AMRON

The average floor area of dwelling purchased in eight major Polish cities in Q4 2016 amounted to **54.99 sq.m.**, which was more by **0.77 sq.m.** in relation to the previous quarter. The smallest dwellings were traded in Bialystok, where the average floor area accounted for **51.97 sq.m.**, while the largest – in Warsaw, where the average floor area in Q4 2016 amounted to **57.40 sq.m.** Dwellings with useable area larger than average were bought also in Wroclaw (**56.86 sq.m.**) and Gdansk (**55.69 sq.m.**).

Chart 32. Average floor area of housing units in selected cities in Q4 2016 (sq.m.)



* in 8 surveyed locations

Source: AMRON

Purchasing powers on the largest housing markets

Analysis of the average net monthly income and the average transaction price per 1 square meter of dwelling in major Polish cities showed that the purchasing power of Poles on housing market was growing steadily since 2007. In the period 2007 – 2016, the largest increase in housing floor area possible to purchase for the average net income was recorded in Katowice agglomeration – **0.37 sq.m.**

In 2016, in the best position in terms of the availability of housing were residents of Katowice agglomeration, whom average monthly income allowed to purchase **1.05 sq.m.** It was the only one urban center, where the ratio of the average income to the average transaction price exceeded 1. In Warsaw, potential buyers were able to purchase **0.55 sq.m.** of dwelling of the average income, and in Cracow – only **0.53 sq.m.**

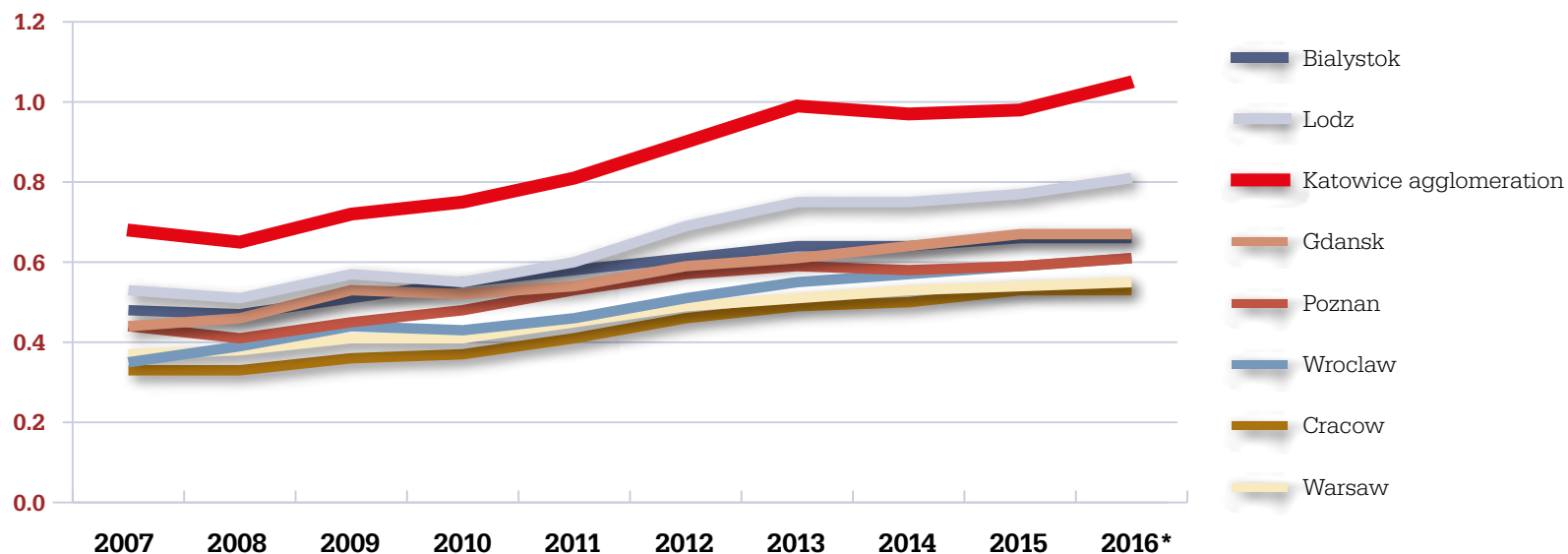
Table 19. Purchasing powers on the largest housing markets in 2007 – 2016

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016*
Katowice agglomeration	0.68	0.65	0.72	0.75	0.81	0.90	0.99	0.97	0.98	1.05
Lodz	0.53	0.51	0.57	0.55	0.60	0.69	0.75	0.75	0.77	0.81
Gdansk	0.44	0.46	0.53	0.52	0.54	0.59	0.61	0.64	0.67	0.67
Bialystok	0.48	0.47	0.51	0.55	0.58	0.61	0.64	0.64	0.66	0.66
Poznan	0.44	0.41	0.45	0.48	0.53	0.57	0.59	0.58	0.59	0.61
Wroclaw	0.35	0.39	0.44	0.43	0.46	0.51	0.55	0.57	0.59	0.61
Warsaw	0.37	0.38	0.41	0.41	0.45	0.49	0.51	0.53	0.54	0.55
Cracow	0.33	0.33	0.36	0.37	0.41	0.46	0.49	0.50	0.53	0.53

* estimation based on data of Central Statistical Office

Source: AMRON, Central Statistical Office

Chart 33. Purchasing powers on the largest housing markets in 2007 – 2016



* estimation based on data of Central Statistical Office

Source: AMRON, Central Statistical Office

Share of particular floor area segments in total turnover volume in Warsaw

In Q4 2016, dwellings with floor area between 45 and 55 sq.m. constituted the largest share in the structure of dwellings' turnover in Warsaw – **26.18%**, which meant an increase by **1.06 p.p.** in relation to the previous quarter. Interest in the largest flats with floor area ranging from 85 to 100 sq.m. and more than 100 sq.m. also slightly increased, respectively by **0.70 p.p.** and **1.23 p.p.**, while turnover of dwellings with floor area between 55 and 65 sq.m. (by **2.07 p.p.**) and from 65 to 75 sq.m. (by **0.68 p.p.**) decreased. The changes in other size categories in total turnover volume of housing units in Warsaw were minimal.

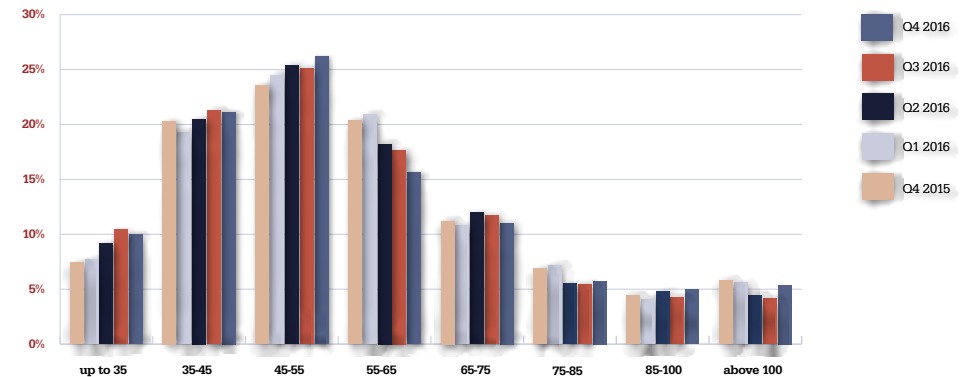
On an annual basis (Q4 2016/ Q4 2015), an increase in popularity of the smallest dwellings was noted – the share of flats with floor area up to 35 sq.m. in the structure of total turnover increased by **2.59 p.p.**, share of flats with area between 35 and 45 sq.m. – by **0.81 p.p.** and from 45 to 55 sq.m. – by **2.61 p.p.** The greatest decrease was recorded in case of dwellings with floor area ranging from 55 to 65 sq.m. (by **4.78 p.p.**) and from 75 to 85 sq.m. (by **1.13 p.p.**).

Table 20. Share of particular floor area segments in total turnover volume on housing market in Warsaw in Q4 2015 – Q4 2016

floor area (sq. m.)	Q4 2015	Q1 2016	Q2 2016	Q3 2016	Q4 2016
up to 35	7.40%	7.69%	9.17%	10.41%	9.99%
35 – 45	20.32%	19.27%	20.50%	21.25%	21.13%
45 – 55	23.57%	24.48%	25.39%	25.12%	26.18%
55 – 65	20.39%	20.88%	18.23%	17.68%	15.61%
65 – 75	11.21%	10.81%	11.99%	11.70%	11.02%
75 – 85	6.87%	7.19%	5.52%	5.44%	5.74%
85 – 100	4.42%	4.09%	4.78%	4.24%	4.94%
above 100	5.82%	5.58%	4.41%	4.16%	5.39%

Source: AMRON

Chart 34. Share of particular floor area segments in total turnover volume on housing market in Warsaw in Q4 2015 – Q4 2016



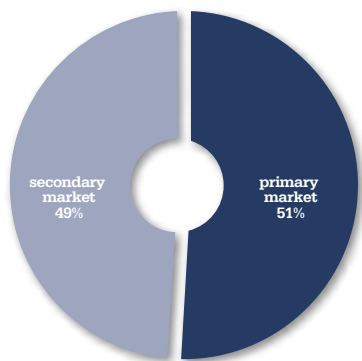
Source: AMRON

Turnover structure of the Warsaw housing market

In Q4 2016, **49%** of buyers purchased dwellings on Warsaw secondary market, while **51%** decided to buy a flat on primary market.

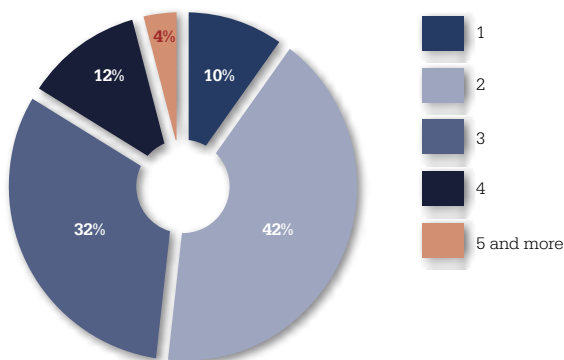
In the period from October to December last year, studios accounted for **10%** of total turnover structure in Warsaw, which meant a slight decrease in comparison to Q3 2016 – by **3 p.p.** At the same time, the popularity of two-room flats increased – the share of that kind of dwellings accounted for **42%** (an increase by **2 p.p.**). Changes in other segments were minimal.

Chart 35. Turnover structure on Warsaw housing market – primary and secondary market in Q4 2016



Source: AMRON

Chart 36. Turnover structure on Warsaw housing market in terms of number of rooms in Q4 2016



Source: AMRON

Changes in mortgage collateral value

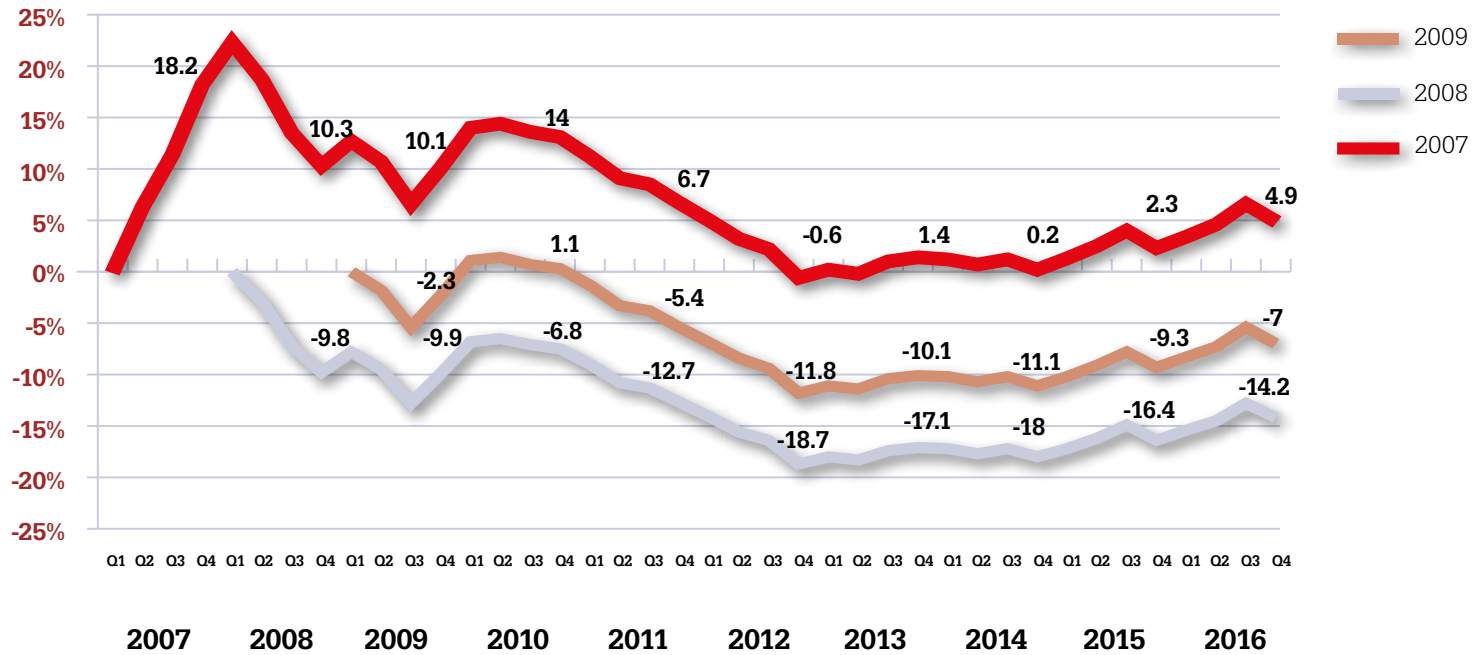
The collapse of the global financial market in the second half of 2007 resulted in changes in demand, supply, prices and financing of real estate market in Poland. The financial crisis confirmed a good condition of Polish economy – Poland was the only country in the EU, in which there has been no recession, but the negative effects of the crisis could

not be avoided. New restrictions in mortgage lending and weakening of PLN to CHF exchange rate caused a significant reduction in number and value of new housing loans and a slowdown in the growth trend of housing prices. In the period 2008 – 2012, declines in average prices of residential properties in major Polish cities reached even 20%. Purchasers, who decided to buy a dwelling in the period of highest prices, currently are not able to sell their properties without a loss. It is really important especially for people who have bought their dwellings with a housing loan, because funds from sale of flat may not be enough to pay off the liability. That is the main reason for dissatisfaction of CHF borrowers, 95% of which have income above the national average, therefore, they should not have problems with repayment of loan. People who have indebted in the period 2007 – 2009 in foreign currencies are not able to change a dwelling without loss because the value of loan is higher than the current value of property, which is the biggest problem.

Simulation of mortgage collateral value changes conducted for loans granted in in Q1 2007, Q1 2008 and Q1 2009 based on the analysis of the average transaction prices on Warsaw housing market, showed that in the worst situation are borrowers who have signed loan agreements in Q1 2008, when the average transaction price in Warsaw peaked, resulting in a decrease in value of properties currently equal to **14.2%**. In comparison to Q1 2009, the value of properties decreased by **7.0%** and the best result of simulation was noted for loans which collateral mortgage was conducted in Q1 2007, when prices were still quite low – an increase noted for these properties amounted to **4.9%**.

In the analysed period, Warsaw housing market was characterized by the greatest amplitude of average transaction prices changes, and therefore it can be concluded that the situation in other cities is better. Moreover, we should take into consideration that the majority of housing loans was granted in the amount not exceeding 80% of property value, and also a significant part of the debt has already been repaid. Thus, the loss of property value should not be a barrier in the sale of real estate, an increase of exchange rates is the only obstacle.

Chart 37. Value changes indicators of mortgage collateral of loans granted in Q1 2007 – Q4 2016



Source: AMRON

Commentary to the Report

– Professor Jacek Łaszek, Warsaw School of Economics



Properties, oh those properties...

No matter what they say, it's important to say at all... This well-known politicians and celebrities principle fits perfectly to the properties, which experience already a third youth in the whole world. The first was related to the dramatic deregulation of the housing market and social drama in the nineteenth century. The second was correlated with finding by politicians and financiers their philosopher's stone for social

peace, profitable and safe investments and economic growth, that is, with mortgage loans and condominiums. However, luck does not last forever. When too much dwellings are built, prices must eventually decrease, and then trouble appear. And when they have not fallen yet, this decline in the future can be very painful, because rapid. So, a high tension is accumulated on the real estate markets in developed countries and all people look at banking sector rather with fear because mortgage loans are the basis of this sector balance sheets.

And what awaits us in Poland, which recently was set a little sideways to Western partners? There is no oversupply of housing in Poland, especially in economically developing areas. Mortgage interest rates were at historically low level and interest rates of deposits were even negative, therefore a high size of housing building was observed. Fortunately, in the last ten years we have built a strong developers' sector and building materials sector, which significantly increased production. Without this, housing prices would be very high already a year ago. The withdrawal of state subsidies of housing loans ('Flat for Youth' Programme) has also a positive effect on price stability. The experience of the last few years showed that developers' sector is resistant to the costs of maintaining

the overproduction of housing for several years just because of the relatively low leverage and strong capital base. Housing prices are high and in case of problems developers can decrease them even by 10 or 20%. This is important, because the demand on developers' market can diminish quickly, especially when there is overproduction of housing, when people scare or believe that it will be cheaper.

All econometric models as a fundamental variable explaining the demand mention: real income (adjusted for inflation), interest rates, unemployment and demographic variables. In case of Poland, it can be expected that all the mentioned factors except demography will conduce stability or even further – growth in demand for dwellings. It may even be that negative interest rates on deposits will deepen, which may further increase the investment demand, as households will not be willing to lose their savings and may invest in housing, despite the associated risks. On the other hand, in high dump of dwellings for rent, rent prices will start to fall and limit investments.

However, it is optimistic scenario combined with faith in compensating effect of the market. The world enters a period of political and economic uncertainty, debts which nobody wants to pay have accumulated, and this causes political changes and will result in economic changes. Changes in exchange rates, high and low interest rates, the risk of countries' insolvency are another shock factors affecting these markets. Let us remember about the economic proportions. No more than 3 – 4% of our savings is involved in the current housing boom, thus we can easily imagine the demand for housing and the market shape with larger financial flows. Especially, as we do not learn from mistakes. I still remember silly discussions about stable exchange rate of the CHF charts with it's prospective 6-8 years structural and deep volatility. It reminds me of today's spell on loans with fixed interest rates. I wonder

who under these tensions and uncertainty, which always translates ultimately into high inflation (that you have to print money when market is in trouble any fool knows and can do it), would be willing to buy low-interest-bearing securities for many years? Well, maybe some pensioners will get tricked. But it will be really interesting, when interest rates go up sharply, and it turns out that the value of these securities is half the nominal value. Will it then be the reputational risk or more the case similar to Amber Gold? Without the thrill you cannot live.

There is no doubt that we will hear more about real estate, both in good and bad context. Poland is not an island, especially not green island. In any case, this and the next years promise to be very interesting in the sector.

Expert's comments published in AMRON-SARFiN Report reflect authors' opinions, which not always are consistent with opinions presented by Polish Banks Association and AMRON Centre.

AMRON and SARFiN Systems



System for Analysis and Monitoring of Real Estate Transactions

AMRON System is a standardized, nationwide database on real estate prices and values, equipped with advanced reporting and analytical modules for monitoring changes on the property market. System was established in 2004 in response to the banking supervisory requirements related to credit risk management and monitoring security instruments for mortgage lending. Since 2010, System is available for all real estate market participants. For twelve years we have created a new quality of information on value of real estate and from that point of view it is fully justified to literally understand the anagram of Polish name of the System: **AMRON – NORMA (the norm)**. For participants of Polish real estate market, **making use of AMRON System became a norm**. We have consistently implemented our goal, which is to create a comprehensive database on Polish real estate market. AMRON provides quick and direct access to the reliable information necessary for all participants on the market.

Our offer also includes periodic analytical publications and reports on prices changes of housing unit, construction plots and rural areas in selected provincial real estate markets – those reports are available on AMRON website. We also offer the individual reports prepared

accordingly to the detailed specifics of the market segment, location and time period. Since the beginning of 2014, we also offer services of real estate valuation realized by a network of appraisers cooperating with AMRON Centre.

AMRON Centre cooperates with commercial and cooperative banks, credit unions, insurance companies, Agricultural Property Agency, real estate appraisers and realtors, as well as with developers, financial advisors and municipalities. Currently, AMRON System is used by more than 500 entities active on real estate market. AMRON database is also available for National Bank of Poland, General Prosecutor's Office and Polish Financial Supervision Authority.

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sarfin System for Analysis of Real Estate Financing Market

System for Analysis of Real Estate Financing Market (SARFiN) is a system for exchanging information on sales of housing loans and information relating to the monitoring of the risk portfolio of housing loans.

The System is run by the Polish Banks Association since July 2001. The System is used by 19 banks, which, in accordance with the principle of reciprocity, submit to the System own information contribution and in return receive the reports containing aggregated data. Those reports allow to assess the volume and dynamics of the whole market and identify banks' own position on that market. The information generated in the System reflects about 95% of the market for retail lending. Access to the data stored in the SARFiN System has also the National Bank of Poland.

The data processed in the SARFiN System are also used in specialist analytical publications prepared by AMRON Centre, developed at the individual request of banks, investors, developers and other entities interested with reliable information about a particular market segment in the selected location and time period.

SARFiN also develops new services for banks and their customers: a loan affordability index, evaluation and estimation of the potential of the real estate lending market and the presentation of "risk maps" for different regions.

SARFiN System is an additional source of information for banks and enables them to verify the trends in the real estate financing market.

The Management Board of Polish Banks Association decided that service and administration of SARFiN System have been submitted to the Centre of Banking Law and Information, which supports also other Exchanging Information Systems of the PBA in a similar range. This means that the SARFiN System is a subject of internal policies and procedures to guarantee the high quality of the processed information, application security and project management in a manner consistent with the KNF requirements defined in Recommendation D. The contractor of maintenance and administration of the SARFiN System is the AMRON Centre, operating within the organizational structure of the Centre of Banking Law and Information.

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