# 15 LAT AMRON
## CENTRUM WIEDZY O RYNKU NIERUCHOMOŚCI

# DIRECTORY

## System for Analysis and Monitoring of Real Estate Market Transactions (AMRON System)

ZWIĄZEK BANKÓW POLSKICH

March 2019

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Prezes Zarządu
Centrum Prawa Bankowego i Informacji Sp. z o.o.

**P**ractice of disclosing the economic information in Poland is relatively new – System BANKING REGISTER was launched by the Polish Banks Association in 1992, Bureau of Credit Information has operated since 1997 and Bureau of Economic Information InfoMonitor S.A. was established basing on the act on disclosing economic information as of February 14, 2003.

Despite the fact that system of economic information disclosure is relatively new, Polish Banks Association has elaborated solutions comparable with worldwide standards, from the perspective of data quality, dataflow velocity, security of both data processing and data transferring.

Reliable information on real estate value is a key element of the restoration of confidence among real estate market participants. Due to our experience, the demand for such information systematically grows, particularly during the changes of market trends.

The idea of the AMRON database appeared in Polish Banks Association in autumn 2001. AMRON started its activity in September 2004. However, it was 2006, when due to the supervisory regulation Recommendation S and drastic changes on real estate market, both in Poland and all over the world, AMRON started to gather grand interest of banks engaged in mortgage lending, as well as of other entities participating in real estate business.

Basing on the unique and credible AMRON database, Polish Banks Association established the **CENTRE OF ANALYSIS AND MONITORING OF REAL ESTATE MARKET TRANSACTIONS (AMRON CENTRE)*.** The idea of such decision was to create the specialized, country-wide information and analysis centre, which would offer its services and products to all real estate market participants and both governmental and municipal institutions in the scope of i. a. keeping the registers and databases, verifying and actualizing of real estate values.

On behalf of Polish Banks Association I would like to invite and entreat all interested entities participating in real estate market to cooperate with AMRON Centre.

*\* AMRON Centre was established by Polish Banks Association to manage and develop the database and the System for Analysis and Monitoring of Real Estate Market Transactions and it acts within the organizational structure of Centre of Banking Law and Information Sp. z o.o.*

# What makes us unique?

▶ **SOLIDITY** - safe system established by and for banking sector and broadly defined participants of the real estate market, under the patronage of Polish Banks Association

▶ **QUALITY** - AMRON as the only in Poland interbank database on real estate within the meaning of the Recommendation J fulfils the highest quality criteria determined by Financial Supervision Authority in Recommendations addressed to banks and SKOKs (Recommendation D, Recommendation J, Recommendation S, Recommendation W, Recommendation A-SKOK)

▶ **AVAILABILITY** - AMRON is user-friendly, intuitive and easy to use web application available on-line – it requires no additional technical or financial outlays

▶ **SECURITY**- the AMRON System complies with the highest safety standards confirmed by IT audit; access to the System is possible after logging through the Individual User Account

▶ **THE HIGHEST SAFETY AND PERFORMANCE STANDARDS** monitored on a daily basis and verified by cyclic security audits

▶ **VERSATILITY** - cooperation with the AMRON System does not require any special software installation or any additional technical effort - AMRON is a web application

▶ **STANDARDIZATION** - ordered uniform data with obligation description of properties

▶ **DATA REPRESENTATIVITY** - territorial distribution of data resources represents the depth of local markets and credit activity of Polish banking sector

▶ **CREDIBILITY -** collected and processed data come from verifiable documents – the AMRON System allows to identity the person who entered property/ transaction into the System

▶ **ACCURATENESS** - AMRON is a benchmark for media and many national and commercial institutions, dealing with professional analysis of real estate market turnover

# AMRON System

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.

AMRON allows you to make analysis and monitor the real estate market and it becomes an indispensable tool for supporting the development of the market.

Our goal is to create a comprehensive database on Polish real estate market. AMRON provides quick and direct access to the reliable information necessary for all market players.

# AMRON in numbers

AMRON database reached the level of **3.172 million data records** – it makes AMRON the unique nationwide source of information on real estate market with such an extended database.

Extension of the database's resources is performed through the manual input of the particular records or through automatic transfer of the data from participants' databases and registers via Data Loader application. This application, installed on user's PC, allows to verify, converse and transfer a huge package of data during one simple operation.
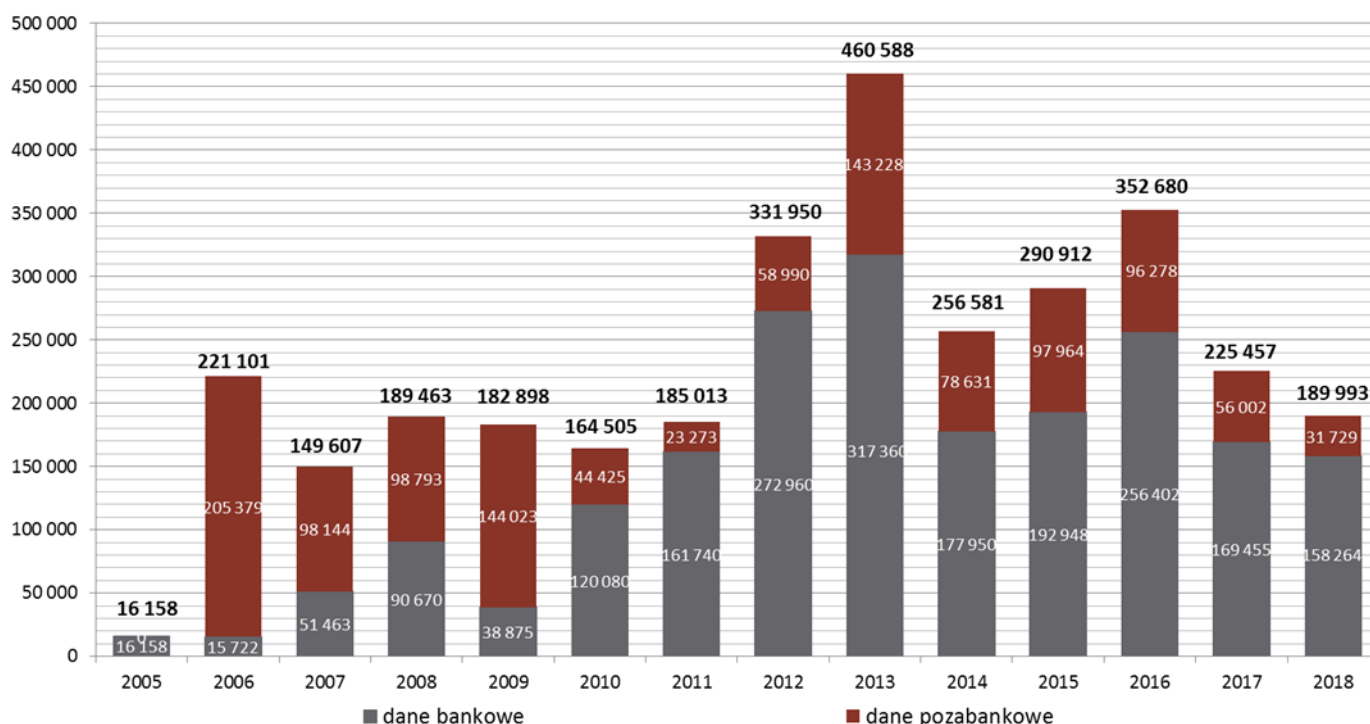


*As of December 2018*

# AMRON – pillar of confidence on polish real estate market

**System for Analysis and Monitoring of Real Estate Market Transactions**, commonly known as AMRON, is an efficient combination of a country-wide database of real estate prices and values with reporting and analyzing modules. Such a combination enables to monitor the real estate market and makes AMRON an indispensable tool, supporting both business development and risk management in real estate finance area.

The idea of the AMRON inter-banking database appeared in Polish Banks Association in autumn 2001. AMRON started its activity in September 2004. However, it was 2006, when due to the supervisory regulation Recommendation S and drastic changes on real estate market, both in Poland and all over the world, AMRON started to gather grand interest of banks engaged in mortgage lending, as well as of other entities participating in real estate business.

# Partners cooperating with AMRON

⇒ 28 largest commercial banks and 329 Cooperative Banks

⇒ SKOK im. Franciszka Stefczyka (Credit Union)

⇒ Polish Financial Supervision Authority

⇒ National Bank of Poland

⇒ National Public Prosecutor's Office

⇒ Emmerson Evaluation Sp. z o.o.

⇒ Universities

⇒ insurance companies

⇒ real estate appraisers and realtors

⇒ Polish Association of Developers

⇒ Polish Residential Landlords' Association

⇒ Research and consulting companies

⇒ Ministries and local self-governments

## Recommendation J

Characteristics of the database according to Recommendation's requirements:

⇒ currently updated, but with access to historical data

⇒ complex and reliable, containing of different information from possibly all available sources

⇒ collecting of data concerning the macro and micro location of real estate

⇒ Purpose of the database:

⇒ estimating the current real estate market's rate and predicting future trends

⇒ increase in quality of appraisals for banks' purposes

⇒ developing and popularising the standards as well as unification of collected information

⇒ simplification of turnover of claims secured by a mortgage

⇒ increase in transparency of real estate market as well as of risk connected to that market

Recommendation J dated September 11, 2012 introduces a definition of inter-bank (external) database as independent of bank, standardized system of data gathering and processing, systematically fed with data on real estate market, including characteristics of particular properties and information of real estate values and prices, that enable to analyse and monitor real estate market. Such a database is a fundamental tool for the whole sector's risk monitoring and therefore all banks involved in mortgage business should participate in such a database.

Structure of AMRON database fulfils the requirements of Recommendation J and consists of wider than demanded scope of information on real estate.

## Recommendation S and T

AMRON System is a perfect tool for fulfilling restricted requirements of Recommendation S and T:

⇒ AMRON's functionalities allow to perform the proper and reliable estimation of real estate

⇒ AMRON database allows to control reliability of assumptions and parameters accepted by the appraiser for the valuation needs

⇒ System's functionalities are the tool for monitoring changes on real estate market as well as to periodical verification of value of real estate constituting the mortgage collateral

⇒ AMRON database is based on reliable, standardized data deriving mostly from notary deeds and appraisal reports

The new version of Recommendation S (IV) of 18 June 2013 on good practices in management of credit exposures secured by mortgages entered into force on 1 January 2014 (recommendations 6, 9.1, 12, 14.10, 15.8 and 20 entered into force on 1 July 2014).

# Internal Own Database

Functionality of the **Internal Own Database** is a unique space in the System, unavailable for other participants. Internal Own Database is prepared for gathering and processing data concerned with Bank's loans and mortgage collaterals and it may be adopted individually for every Bank.

Internal Own Database includes two categories of the attributes describing the outstanding debts:

⇒ **pre-defined attributes** - agreed with participating banks and concerning the following data:

- 🏠 Customer's modulo
- 🏠 loan agreement number
- 🏠 loan agreement data
- 🏠 loan amount
- 🏠 currency of the loan
- 🏠 loan period (in months)
- 🏠 value of the collateral in PLN (as for the loan agreement date)
- 🏠 level of the LtV ratio in % (as for the loan agreement date)
- 🏠 status of the loan
- 🏠 classification of the outstanding

Only attributes marked in red are obligatory when bank uses the internal database.

**additional attributes** may be defined individually by each bank, depending on its particular needs or procedures; there may be defined approximately 15 additional attributes.

Functionality of the Internal Own Database allows to perform the **periodic updating of the collaterals value** – data of the latest update are saved automatically by the System (date, updated collateral value in PLN, current loan balance and LtV ratio). It makes it possible to compare the current update with the previous one.

Internal Own Database is simple and efficient tool for current monitoring of the value of real estate, verifying the real estate appraisals or updating the value of mortgage collaterals. Representative proportion of data on bank's mortgage collaterals in AMRON database allows to perform the cyclical aggregated report on current status of the collaterals portfolio - **report on mortgage collaterals.**

AMRON database collects information about property characteristics, location and information about the transaction prices from reliable sources. A full description of each property type contains on average about 30 attributes, making it possible to carry out detailed market analysis.

AMRON System gathers and processes the data concerning the following types of properties:

- **Land property**
  - agricultural land
  - development land
  - forest land
- **Premises**
  - commercian unit
  - residential unit
- **Building**
  - single family building
  - multifamily building
- **Commercial property**
  - hotel / motel / boarding house / spa
  - office / retail / services property
  - parking/ garage
- **Agricultural supply base property**

- **Public use property**
  - cultural and art property / school / kindergarten
  - hospital / medical care facility
  - sport and recreation property
- **Municipal property**
  - sewage purification plant
  - waste disposal
  - water purification plant
- **Industrial property**
  - automotive supply base
  - industrial property
  - petrol station
  - storehouse / logistic centre
- **Other property**
  - mixed-purpose / other type of real estate
  - renewable energy sources

## Sources of information collected in AMRON System:

- preliminary sales agreement (primary market/ secondary market)
- purchase-sale (primary market/ secondary market)
- lease/ rent contract
- donation
- offer
- insurance value
- contribution into company
- tender procedure

- sale by debt collector
- sale by administrative receivership
- other
- mortgage lending value
- valuation of bank security – value of the property determined on the appraisal report, verified for the purpose of securing the payment of the debts
- appraisal report / valuation report – information about property value specified for the purpose of securing the debts  - source to monitor the quality of appraisal reports prepared by property valuers; each of the participating in the AMRON System banks has access to the information only from own appraisal reports

# Characteristics of the System

AMRON System is a fundamental source of information on real estate market in Poland. It enables to register, store and disclose data on real estate market and transaction prices.

**Functionalities of AMRON System** enable to**:**

⇒ gather and disclose selected data concerning real estate, review the data in form of tabular reports

⇒ present the information on  changes in specific real estate prices scale  in form of diagrams-

⇒ disclose the analysis presenting statistics and current trends on real estate value

⇒ construct the models for predicting the value of real estate

⇒ actualize, supplement and verify the data concerning real estate market

⇒ keep 'the own databases and registers' for particular Users

⇒ reliably verify the value of real estate – AMRON offers the possibility to monitor different types of risk concerned with mortgage lending

Cooperation with AMRON does not require any additional technical expenditures. AMRON System is an Internet application. Every user of the internet browser may have the access to the application, after fulfilling the minimal technical requirements.

**User's competencies** are defined individually by defining business authorization of the particular user. It may be additionally limited by defined access to particular types of real estate, sources of information and territorial rang.

AMRON System enables to generate **several types of statistical and analytical reports** generated on the basis of the database resources  as well as to review data concerning real estate presented in tabular form.

- Information reports (A, B and H) include general or detailed scope of information on real estate and transactions.

- Statistical reports (C, N, R) – enable to analyze the average real estate prices for relevant localization or period of time, as well as to conduct the quantitative or qualitative analyzes of real estate market, including micro and macro economical indicators.

- Analytical reports – present the trend of particular real estate prices on the market for defined sub-base of properties or for particular property (Reports type D), actualization of market value of valuated properties as for the defined moment (Reports type E and G).

- Digital maps – allow to define the location of properties, to present the properties on the map together with important information on available communication, services, administration offices, hospitals etc.

**black list** – property registered in AMRON database may be ticked and described as „suspected" property, when it was a subject of dubious transaction, when its physical condition differs from the official description or when its  documentation arouse suspicion.

**B Report** presents the detailed scope of information on real estate. B Report is generated in form of the table and includes all available in the System details of the property.

☐ Select all on page

| Select | IdT | Attention | Property type | Source of information | Date of transaction / valuation / lease | Price |
|--------|-----|-----------|---------------|----------------------|----------------------------------------|-------|
| ☑ | 2012763 | - | Residential unit | Purchase sale secondary market | 2014-01-15 | 333 |
| ☑ | 2013237 | - | Residential unit | Valuation of bank security | 2013-12-13 | 569 |
| ☑ | 2013766 | - | Residential unit | Purchase sale secondary market | 2013-12-17 | 400 |
| ☐ | 2013848 | - | Residential unit | Purchase-sale primary market | 2013-12-30 | 491 |
| ☐ | 2013860 | - | Residential unit | Preliminary sales agreement for secondary market property | 2013-12-02 | 271 |
| ☐ | 2015407 | - | Residential unit | Preliminary sales agreement for secondary market property | 2013-12-02 | 320 |
| ☐ | 2015988 | - | Residential unit | Purchase sale secondary market | 2014-01-02 | 500 |
| ☐ | 2016224 | - | Residential unit | Valuation of bank security | 2013-12-13 | 635 |
| ☐ | 2016225 | - | Residential unit | Purchase sale secondary market | 2014-01-17 | 633 |
| ☐ | 2016429 | - | Residential unit | Valuation of bank security | 2013-12-01 | 332 |

‹ [_____]                                                              ›

130 data loaded. Page 1 of 13.
◄ 1 2 3 4 5 6 ►

**PRICES**

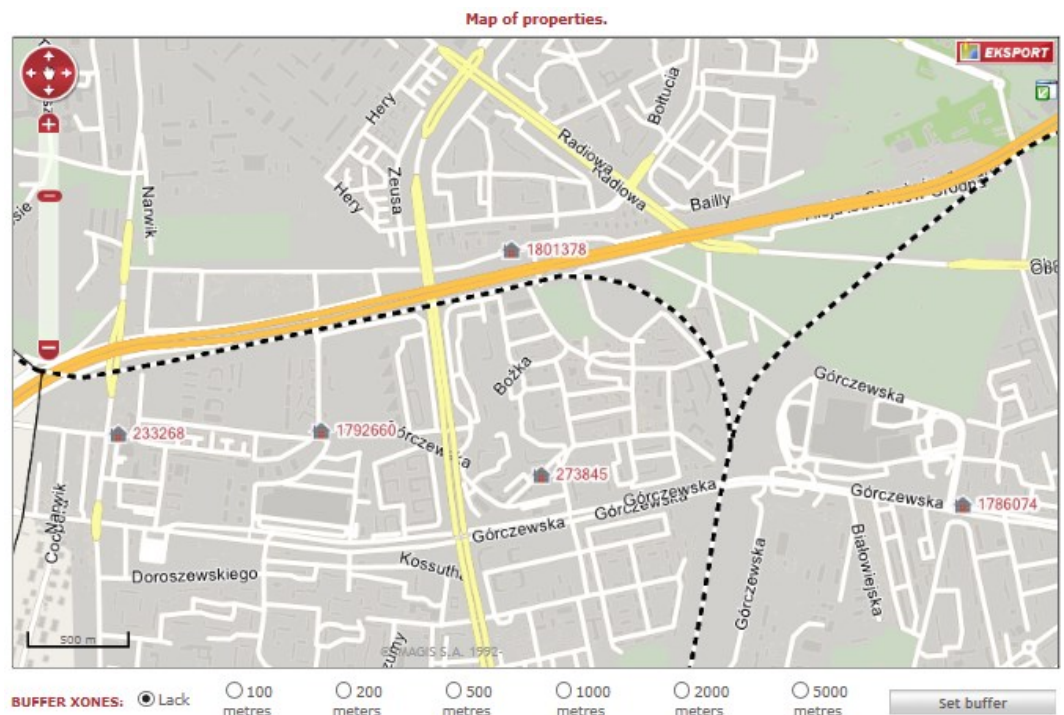| *Average price for all properties* | 436 653,31 | *Average price m² all properties:* | 6 972,45 |
|---|---|---|---|

| Report B | Show on map | Export to CSV | Export to PDF | Price / value spread |
|---|---|---|---|---|

Results of the report may be presented in graph form:



Map of properties.

BUFFER XONES: ⦿ Lack  ○ 100 metres  ○ 200 meters  ○ 500 metres  ○ 1000 metres  ○ 2000 meters  ○ 5000 meters  [ Set buffer ]

# Information Reports

**H Raport** presents all transactions and occurrences registered in AMRON database concerned with particular real estate, including registered changes of the real estate condition.

REPORT TYPE SELECTION » PROPERTY TYPE » LOCATIONS AND SOURCES » PARAMETERS » ADDITIONAL REQUIREMENTS » TYPE H REPORT

| IdN | Type of property | Location |
|---|---|---|
| 459795 | Residential unit | mazowieckie, Warszawa, Warszawa, Warszawa, Ursynów, KOMISJI EDUKACJI NARODOWEJ 56/56 |

| IdT | Date of transaction / valuation / lease | Price | Currency | Price PLN | Source of information: | Parking spaces |
|---|---|---|---|---|---|---|
| 459795 | 2006-09-14 | 295 000,00 | PLN | 295 000,00 | Valuation of bank security | No data |
| 804216 | 2006-09-04 | 295 000,00 | PLN | 295 000,00 | Appraisal report / Valuation report | No data |

| IdT | 459795 | | 804215 | |
|---|---|---|---|---|
| Property type | Residential unit | | Residential unit | |
| Land Registers | No data | | Precinct | 1-11-05 |
| | | | Plot numbers | 4/33, 1/1, 1/2 |
| | | | LR number | WA2M/00373994/0 |
| | | | LR Section III | No data |
| | | | Land surface | No data |
| Land Register | No data | | No data | |
| TERYT | 1465010918123/T146503109065/1465130988833 | | 1465010918123/T146503109065/1465130988833 | |
| Location | mazowieckie, Warszawa, Warszawa, Warszawa, Ursynów, KOMISJI EDUKACJI NARODOWEJ | | mazowieckie, Warszawa, Warszawa, Warszawa, Ursynów, KOMISJI EDUKACJI NARODOWEJ | |
| Postal code | No data | | 02-797 | |
| Number of building | 56 | | 56 | |
| Unit number | 56 | | 56 | |
| Urban zone | No data | | Indirect | |
| Land ownership | Other | | Perpetual usufruct | |
| Title to premises | Ownership title | | Ownership title | |
| Development density | No data | | High density | |
| Type of building | No data | | Multifamily high | |
| Register of monuments | No data | | No data | |
| Standard of unit | No data | | Balcony / loggia<br>Strage room / basement<br>High<br>Tiling<br>Panels<br>Closets<br>Exchanged windows<br>Kitchen furnishing | |
| Technical standard of building | No data | | Entry gate<br>Building indulated within last 4 years<br>New / renovated facade<br>Renovated staircase<br>Fencing<br>Intercom | |
| Year of construction | No data | | 2003 | |
| Usable area | 40,07 m2 | | 40,07 m2 | |
| Floor | 0 | | 6 | |
| Neighbourhood | No data | | Multifamily building (lowrise)<br>Multifamily building (highrise)<br>Shopping malls<br>Public infrastructure<br>Forest, park<br>Recreation areas<br>Green areas | |
| Number of rooms | 0 | | 2 | |
| Number of storeys | 0 | | 16 | |
| Functionality of unit | No data | | Single-level<br>En suite kitchen<br>Well-planned unit | |
| Building construction | No data | | Mixed | |

Export to PDF

**FOTO Report** allows the User to verify the technical condition of the building and its standard based on attached pictures of the property. After purchasing the PHOTO Report User goes to the site to generate a file with photos for the chosen property.



The User can generate the PHOTO Report from details of the Report B and Report H. After selecting a particular property (for the Report B), or from the Report H, there is available to buy photos, which will be packed. Photos have Id of photo, the date of execution and the address of the property.

In the absence of photos for the particular property, the button Raport Foto is not displayed in the Report H, in the case of the Report B – there will be displayed a message about the lack of photos, and the fee will not be charged.

# Statistical Reports

**C Reports** present the average real estate prices, in respect to location or time function. The scope of analysed data are defined by the User. It may concern i.e. in particular localization, type of real estate, source of the information and – depending on the type of the report – additional parameters. AMRON System offers five types of such Reports..

**C1 Report** presents the average price of sq. m. in particular location for relevant period of time. It is generated in form of the histogram and displays the price level for chosen locations. A single bar in the report indicates the level of prices for one location. Height of the bar is the arithmetic mean of prices available in the AMRON System for the period specified by the user. Under each bar chart shows the average price and the number of transactions that were used to calculate this average value.



| Location | Average price for 1 m² [PLN] | No of transactions |
|---|---|---|
| Bemowo | 6 880,31 | 527 |
| Białołęka | 5 962,56 | 773 |
| Bielany | 7 168,96 | 737 |
| Mokotów | 8 280,77 | 1 001 |
| Ochota | 7 790,61 | 321 |
| Praga-Południe | 7 159,59 | 799 |
| Praga-Północ | 6 709,86 | 145 |
| Rembertów | 5 958,08 | 44 |
| Śródmieście | 9 986,94 | 606 |
| Targówek | 6 191,73 | 372 |
| Ursus | 6 616,69 | 295 |
| Ursynów | 7 814,33 | 437 |
| Wawer | 6 586,28 | 178 |
| Wesoła | 7 477,54 | 43 |
| Wilanów | 7 296,14 | 492 |
| Włochy | 6 811,96 | 239 |
| Wola | 7 803,64 | 708 |
| Żoliborz | 8 155,33 | 533 |

**C2 Report** presents the prices volatility in one chosen location divided into user selected time parameter.

REPORT TYPE SELECTION » PROPERTY TYPE » LOCATIONS AND SOURCES » PARAMETERS » ADDITIONAL REQUIREMENTS » MODEL DETAILS » REPORT C2

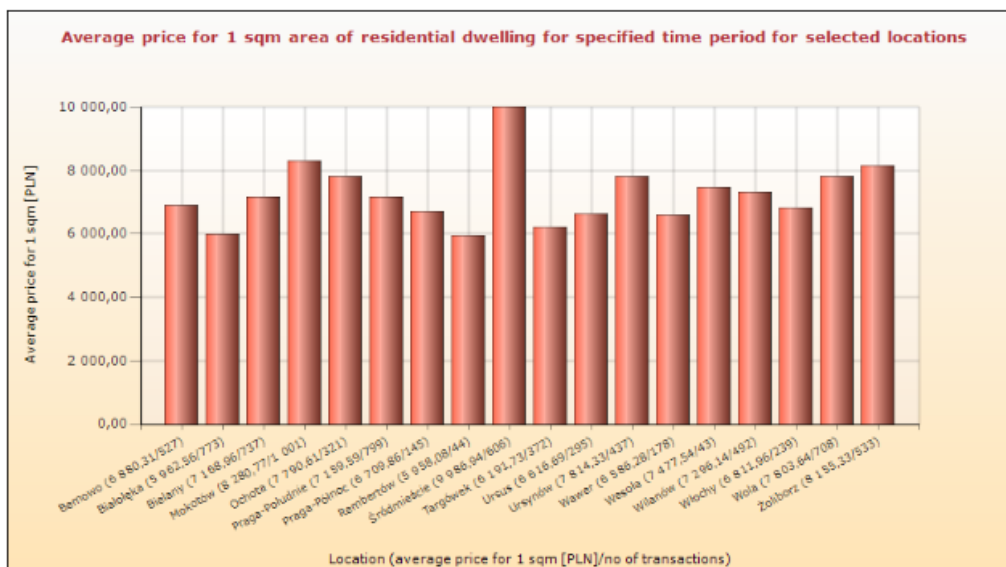REPORT: AVERAGE PROPERTY SQM PRICE FOR SELECTED TIME PERIOD FOR SELECTED LOCATIONS

- Chosen locations
- Chosen property types and data sources
- Remaining report selection criteria



Average price for 1 sqm area residential dwelling on month for selected location

No of transactions below which bars will be hidden: [                    ]     Change

**Obtained results**

| Date | Average price for 1 m² [PLN] | Number of transactions |
|---|---|---|
| January 2013 | 6 753,89 | 136 |
| February 2013 | 6 854,27 | 100 |
| March 2013 | 7 007,53 | 121 |
| April 2013 | 6 855,20 | 129 |
| May 2013 | 6 941,59 | 128 |
| June 2013 | 6 914,67 | 96 |
| July 2013 | 6 884,74 | 72 |
| August 2013 | 6 729,72 | 64 |
| September 2013 | 6 873,88 | 69 |
| October 2013 | 6 797,66 | 59 |
| November 2013 | 6 945,72 | 49 |
| December 2013 | 6 960,38 | 51 |

Export to PDF     Export to CSV

# Statistical Reports

**C3 Report** is generated in the form of map which presents the average prices in particular location, including chosen macroeconomic indicators obtained from Regional Data Bank.

Additional data acquired from Regional Data Bank gathered in AMRON System:

- dwellings in total
- population in cities (% of total population)
- population in pre-productive, productive and post-productive age
- completed residential buildings
- completed dwellings in total
- permits issued for dwelling construction

- Gross Domestic Product per capita
- agricultural holdings
- total area of agricultural land
- area of arable land
- registered unemployment rate
- average gross wage per month

REPORT TYPE SELECTION » PROPERTY TYPE » LOCATIONS AND SOURCES » PARAMETERS » ADDITIONAL REQUIREMENTS »
REGIONAL MACROECONOMICAL DATA » MODEL DETAILS » REPORT C - DETAILS

REPORT: AVERAGE PRICE MAP COMPARED TO REGIONAL MACROECONOMICAL DATA

- Chosen locations
- Chosen property types and data sources
- Remaining report selection criteria

| Location [counties] | Average price for 1 m² [PLN] | Population in productive age [2012] | Rate of registered unemployment [2012] | New residential buildings [2012] |
|---|---|---|---|---|
| bocheński | 3 690,49 | 70 034,00 | 11,30 | 336,00 |
| brzeski | 3 680,41 | 62 154,00 | 12,60 | 227,00 |
| chrzanowski | 2 931,56 | 85 916,00 | 15,50 | 195,00 |
| dąbrowski | 2 851,76 | 40 577,00 | 19,90 | 142,00 |
| gorlicki | 3 101,13 | 72 770,00 | 13,30 | 261,00 |
| krakowski | 4 862,65 | 178 382,00 | 10,80 | 1 146,00 |
| limanowski | 3 025,22 | 84 151,00 | 18,80 | 319,00 |
| miechowski | 3 274,93 | 32 484,00 | 11,50 | 53,00 |
| myślenicki | 3 917,32 | 83 310,00 | 14,10 | 420,00 |
| nowosądecki | 3 999,80 | 139 468,00 | 18,10 | 615,00 |
| nowotarski | 4 787,35 | 126 590,00 | 14,10 | 464,00 |
| olkuski | 3 003,87 | 76 966,00 | 15,60 | 171,00 |
| oświęcimski | 2 788,49 | 103 441,00 | | |
| proszowicki | 2 560,89 | 29 156,00 | | |
| suski | 3 078,32 | 55 578,00 | | |
| tarnowski | 2 399,92 | 133 862,00 | | |
| tatrzański | 8 247,76 | 45 004,00 | | |
| wadowicki | 3 251,31 | 106 431,00 | | |
| wielicki | 4 615,08 | 78 978,00 | | |
| Kraków | 6 283,46 | 504 357,00 | | |
| Nowy Sącz | 3 327,24 | 56 344,00 | | |
| Tarnów | 3 753,05 | 75 348,00 | | |
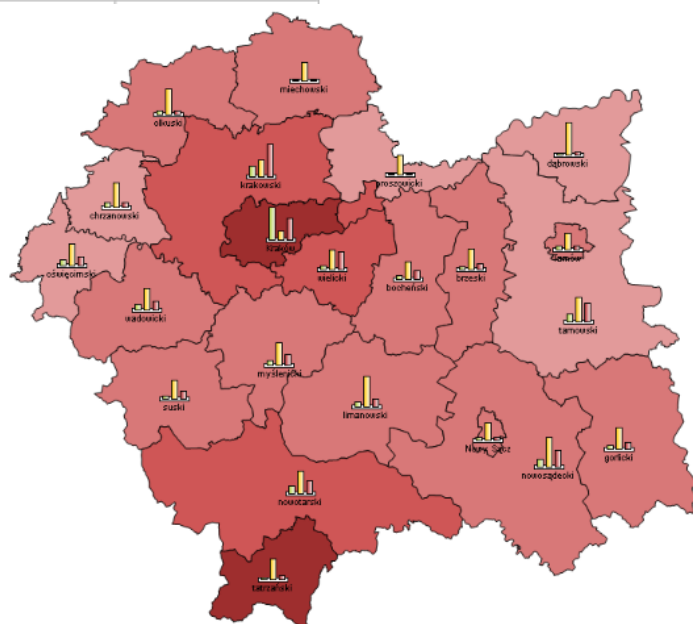
Macroeconomic data
- Population in productive age
- Rate of registered unemployment
- New residential buildings

Average price of property
- < 1 000.00 PLN
- 1 000.00 – 2 000.00 PLN
- 2 000.00 – 3 000.00 PLN
- 3 000.00 – 4 000.00 PLN
- 4 000.00 – 5 000.00 PLN
- 5 000.00 – 6 000.00 PLN
- > 6 000.00 PLN

**C4 Report** presents the average real estate price for particular location and chosen data source and it allows to estimate differences in prices/ values deriving from different sources (e.g. notary deeds of real estate purchase, appraisal reports, realtor's offers, donation agreements etc.).

REPORT TYPE SELECTION » PROPERTY TYPE » LOCATIONS AND SOURCES » PARAMETERS » ADDITIONAL REQUIREMENTS » MODEL DETAILS » REPORT C4
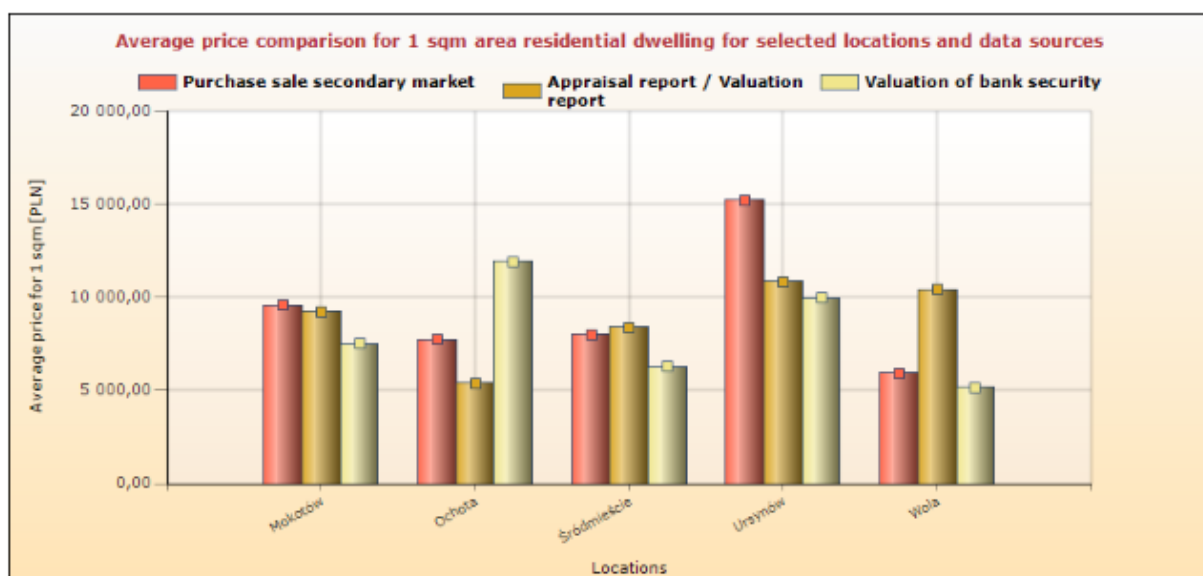
REPORT:COMPARISON OF AVERAGE SQM PRICESIN CHOSEN LOCATIONS, BY INFORMATION SOURCES

- ☒ **Chosen locations**
- ☒ **Chosen property types and data sources**
- ☒ **Remaining report selection criteria**



Average price comparison for 1 sqm area residential dwelling for selected locations and data sources

**Obtained results**

| Location | Source of information: | Avarage price per 1 m² [PLN] | Price median for 1 m² [PLN] | Number of transactions |
|---|---|---|---|---|
| mazowieckie, Warszawa, Warszawa, Warszawa, Mokotów | Purchase sale secondary market | 9 588,46 | 5 685,74 | 18 |
| | Appraisal report / Valuation report | 9 259,21 | 5 170,74 | 20 |
| | Valuation of bank security | 7 506,63 | 4 271,78 | 18 |
| mazowieckie, Warszawa, Warszawa, Warszawa, Ochota | Purchase sale secondary market | 7 760,91 | 4 633,62 | 11 |
| | Appraisal report / Valuation report | 5 394,13 | 2 908,06 | 8 |
| | Valuation of bank security | 11 919,33 | 8 805,47 | 3 |
| mazowieckie, Warszawa, Warszawa, Warszawa, Śródmieście | Purchase sale secondary market | 8 007,35 | 5 782,95 | 57 |
| | Appraisal report / Valuation report | 8 380,04 | 4 714,09 | 55 |
| | Valuation of bank security | 6 298,73 | 4 131,39 | 46 |
| mazowieckie, Warszawa, Warszawa, Warszawa, Ursynów | Purchase sale secondary market | 15 224,98 | 6 649,30 | 21 |
| | Appraisal report / Valuation report | 10 839,53 | 6 648,94 | 27 |
| | Valuation of bank security | 9 973,94 | 3 999,70 | 26 |
| mazowieckie, Warszawa, Warszawa, Warszawa, Wola | Purchase sale secondary market | 5 925,29 | 3 821,95 | 20 |
| | Appraisal report / Valuation report | 10 426,44 | 5 320,74 | 18 |
| | Valuation of bank security | 5 169,37 | 3 177,82 | 21 |

Export to PDF          Export to CSV

# Statistical Reports

**C5 Report** presents changes of median and average price of sq. m. of dwelling for chosen locations.

REPORT TYPE SELECTION » PROPERTY TYPE » LOCATIONS AND SOURCES » PARAMETERS » ADDITIONAL REQUIREMENTS » MODEL DETAILS » REPORT C5
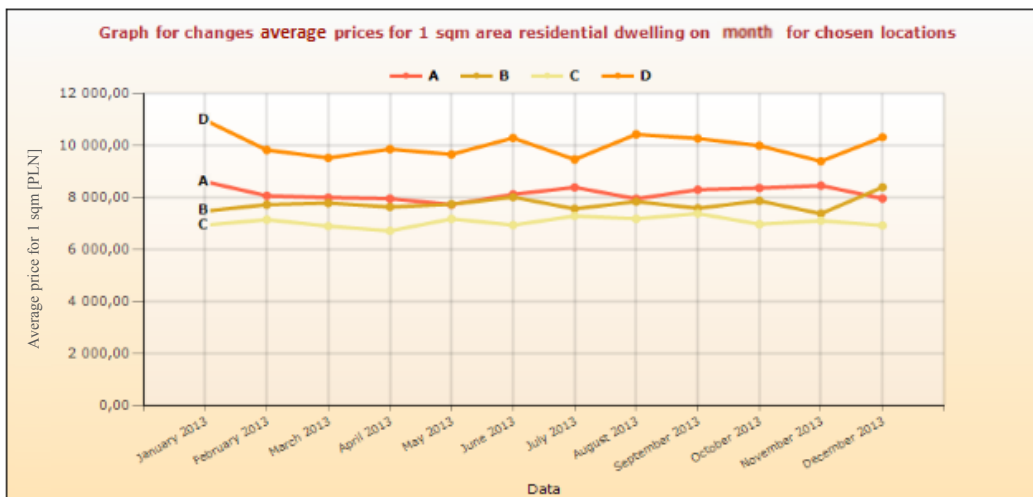
REPORT:CHART OF MEDIAN CHANGES AND AVERAGE AREA PRICE FOR SELECTED LOCATIONS

☒ **Chosen locations**

☒ **Chosen property types and data sources**

☒ **Remaining report selection criteria**


Graph for changes average prices for 1 sqm area residential dwelling on month for chosen locations

Show chart for the median

## Obtained results

| Date | A | | B | | C | | D | |
|------|-----|-----|-----|-----|-----|-----|-----|-----|
| | S | M | S | M | S | M | S | M |
| January 2013 | 8 619,49 | 7 984,97 | 7 486,78 | 7 459,28 | 6 949,76 | 7 065,13 | 10 985,10 | 9 490,94 |
| February 2013 | 8 077,24 | 7 787,24 | 7 737,29 | 7 500,00 | 7 159,07 | 6 850,88 | 9 839,41 | 9 290,14 |
| March 2013 | 8 009,57 | 7 754,87 | 7 797,58 | 7 733,33 | 6 909,10 | 6 891,39 | 9 535,94 | 8 926,36 |
| April 2013 | 7 966,74 | 7 446,81 | 7 646,87 | 7 596,69 | 6 727,53 | 6 607,14 | 9 873,08 | 8 973,09 |
| May 2013 | 7 738,69 | 7 550,20 | 7 752,88 | 7 416,67 | 7 188,79 | 7 081,28 | 9 669,41 | 8 990,43 |
| June 2013 | 8 131,48 | 7 734,74 | 8 027,07 | 7 661,65 | 6 950,37 | 6 913,12 | 10 302,82 | 9 101,70 |
| July 2013 | 8 402,16 | 7 756,55 | 7 576,01 | 7 576,01 | 7 299,44 | 7 187,91 | 9 473,89 | 8 656,04 |
| August 2013 | 7 961,31 | 7 770,40 | 7 854,57 | 7 923,11 | 7 193,45 | 6 842,11 | 10 441,44 | 9 080,99 |
| September 2013 | 8 313,04 | 7 909,78 | 7 597,88 | 7 597,88 | 7 397,24 | 7 294,41 | 10 281,62 | 9 481,84 |
| October 2013 | 8 374,46 | 7 907,60 | 7 882,37 | 7 944,10 | 6 983,43 | 6 964,29 | 10 005,17 | 9 535,26 |
| November 2013 | 8 470,47 | 8 229,80 | 7 388,14 | 7 367,23 | 7 116,86 | 6 857,47 | 9 404,74 | 8 729,95 |
| December 2013 | 7 971,76 | 7 929,59 | 8 407,26 | 8 399,67 | 6 936,57 | 6 659,66 | 10 332,03 | 9 519,22 |

## Number of transactions

| Date | A | B | C | D |
|------|-----|-----|-----|-----|
| January 2013 | 273 | 82 | 240 | 109 |
| February 2013 | 245 | 83 | 194 | 130 |
| March 2013 | 262 | 93 | 218 | 106 |
| April 2013 | 287 | 89 | 227 | 154 |
| May 2013 | 182 | 71 | 262 | 130 |
| June 2013 | 121 | 34 | 194 | 125 |
| July 2013 | 138 | 47 | 120 | 145 |
| August 2013 | 117 | 25 | 69 | 121 |
| September 2013 | 143 | 37 | 86 | 61 |
| October 2013 | 125 | 36 | 83 | 41 |
| November 2013 | 90 | 42 | 69 | 30 |
| December 2013 | 91 | 37 | 79 | 34 |

## Legend

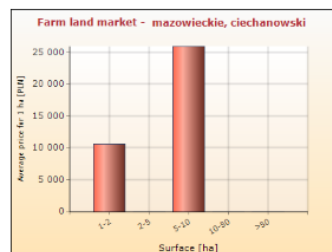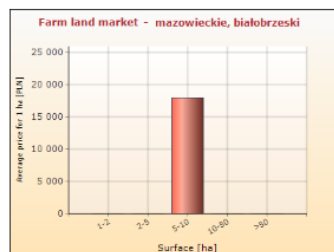| | |
|---|---|
| A | Mokotów, Warszawa, Warszawa, Warszawa, mazowieckie |
| B | Ochota, Warszawa, Warszawa, Warszawa, mazowieckie |
| C | Praga-Południe, Warszawa, Warszawa, Warszawa, mazowieckie |
| D | Śródmieście, Warszawa, Warszawa, Warszawa, mazowieckie |
| M | Median [PLN] |
| S | Average price [PLN] |

Export to PDF   Export to CSV

**R1 Report** presents the land market for maximum four locations (voivodships or counties). Analysis may be performed for agricultural land or construction land.

The result of R1 Report contains:

- bar graph showing the average unit prices for chosen period of time, type and other parameters; number of bars depends on number of chosen locations
- bar graphs showing the average unit price of land for each of the selected locations
- results in tabular form indicating the average values and the number of data by types of land - in case of agricultural land
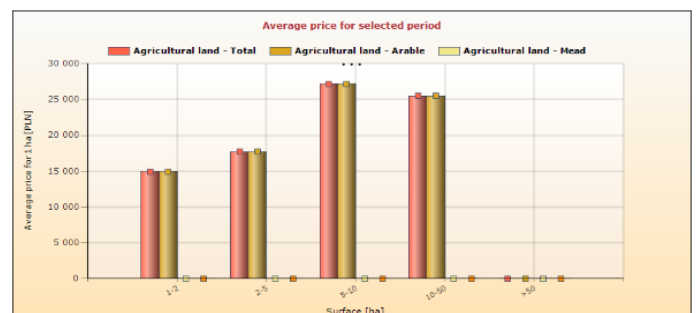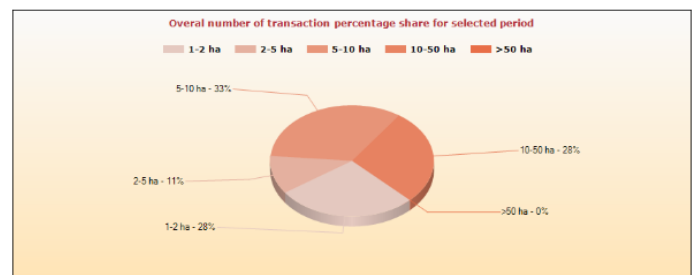
**R2 Report** is an analysis of changes in average agricultural land prices and construction land prices in one particular location. It presents the average values and the number of transactions by types of land - for agricultural land and by surface.

Graphic form of R2 Report contains:

- bar graph showing the average unit prices for land in chosen location with a number of bars corresponding to the number of time intervals defined by user
- pie graph presenting the number of land transactions by surface
- bar graph showing the average price /value of the land for the entire analyzed period by surfac



For generating Report R2 for selected location click its box in results table

**Obtained results**

| Location | mazowieckie, białobrzeski | | mazowieckie, ciechanowski | | mazowieckie, garwoliński | | mazowieckie, mławski | |
|---|---|---|---|---|---|---|---|---|
| Surface [ha] | Number of transactions | Average price for 1ha [PLN] | Number of transactions | Average price for 1ha [PLN] | Number of transactions | Average price for 1ha [PLN] | Number of transactions | Average price for 1ha [PLN] |
| 1-2 | 0 | 0,00 | 1 | 10 600,71 | 0 | 0,00 | 2 | 9 913,03 |
| 2-5 | 0 | 0,00 | 0 | 0,00 | 2 | 7 342,80 | 3 | 12 351,08 |
| 5-10 | 1 | 17 921,15 | 1 | 25 886,51 | 1 | 24 581,81 | 4 | 13 246,97 |
| 10-50 | 0 | 0,00 | 0 | 0,00 | 0 | 0,00 | 2 | 16 935,26 |
| >50 | 0 | 0,00 | 0 | 0,00 | 0 | 0,00 | 0 | 0,00 |
| In total | 1 | 17 921,15 | 2 | 18 243,61 | 3 | 13 089,14 | 11 | 13 067,06 |

Export to PDF    Export to CSV

**Obtained results**

| Surface [ha] | | I quarter 2013 | | II quarter 2013 | | III quarter 2013 | | IV quarter 2013 | |
|---|---|---|---|---|---|---|---|---|---|
| | | Number of transactions | Average price for 1ha [PLN] | Number of transactions | Average price for 1ha [PLN] | Number of transactions | Average price for 1ha [PLN] | Number of transactions | Average price for 1ha [PLN] |
| Agricultural land - Total | 1-2 | 1 | 10 600,71 | 3 | 16 040,93 | 1 | 15 915,12 | 0 | 0,00 |
| | 2-5 | 0 | 0,00 | 0 | 0,00 | 2 | 17 723,49 | 0 | 0,00 |
| | 5-10 | 1 | 25 886,51 | 2 | 27 975,44 | 0 | 0,00 | 3 | 27 098,67 |
| | 10-50 | 0 | 0,00 | 0 | 0,00 | 2 | 16 122,42 | 3 | 31 754,71 |
| | >50 | 0 | 0,00 | 0 | 0,00 | 0 | 0,00 | 0 | 0,00 |
| Agricultural land - Arable | 1-2 | 1 | 10 600,71 | 3 | 16 040,93 | 1 | 15 915,12 | 0 | 0,00 |
| | 2-5 | 0 | 0,00 | 0 | 0,00 | 2 | 17 723,49 | 0 | 0,00 |
| | 5-10 | 1 | 25 886,51 | 2 | 27 975,44 | 0 | 0,00 | 3 | 27 098,67 |
| | 10-50 | 0 | 0,00 | 0 | 0,00 | 2 | 16 122,42 | 3 | 31 754,71 |
| | >50 | 0 | 0,00 | 0 | 0,00 | 0 | 0,00 | 0 | 0,00 |
| Agricultural land - Mead | 1-2 | 0 | 0,00 | 0 | 0,00 | 0 | 0,00 | 0 | 0,00 |
| | 2-5 | 0 | 0,00 | 0 | 0,00 | 0 | 0,00 | 0 | 0,00 |
| | 5-10 | 0 | 0,00 | 0 | 0,00 | 0 | 0,00 | 0 | 0,00 |
| | 10-50 | 0 | 0,00 | 0 | 0,00 | 0 | 0,00 | 0 | 0,00 |
| | >50 | 0 | 0,00 | 0 | 0,00 | 0 | 0,00 | 0 | 0,00 |
| Agricultural land - Other | 1-2 | 0 | 0,00 | 0 | 0,00 | 0 | 0,00 | 0 | 0,00 |
| | 2-5 | 0 | 0,00 | 0 | 0,00 | 0 | 0,00 | 0 | 0,00 |
| | 5-10 | 0 | 0,00 | 0 | 0,00 | 0 | 0,00 | 0 | 0,00 |
| | 10-50 | 0 | 0,00 | 0 | 0,00 | 0 | 0,00 | 0 | 0,00 |
| | >50 | 0 | 0,00 | 0 | 0,00 | 0 | 0,00 | 0 | 0,00 |
| In total | | 2 | 18 243,61 | 5 | 20 814,73 | 5 | 16 721,39 | 6 | 29 426,69 |

Export to PDF    Export to CSV

# Statistical Reports

**N Report** shows the distribution of rent rates per m2 for two typical real estate (flats and business premises). Report results are presented in the tabular form ( the average rent rate in specified time for three different currencies: PLN EUR and USD with the information about the amount of transactions) and the graphical form (in the form of chart decomposition rent rates).



Distribution of rental rates [PLN] per square meter of a residential unit in chosen location
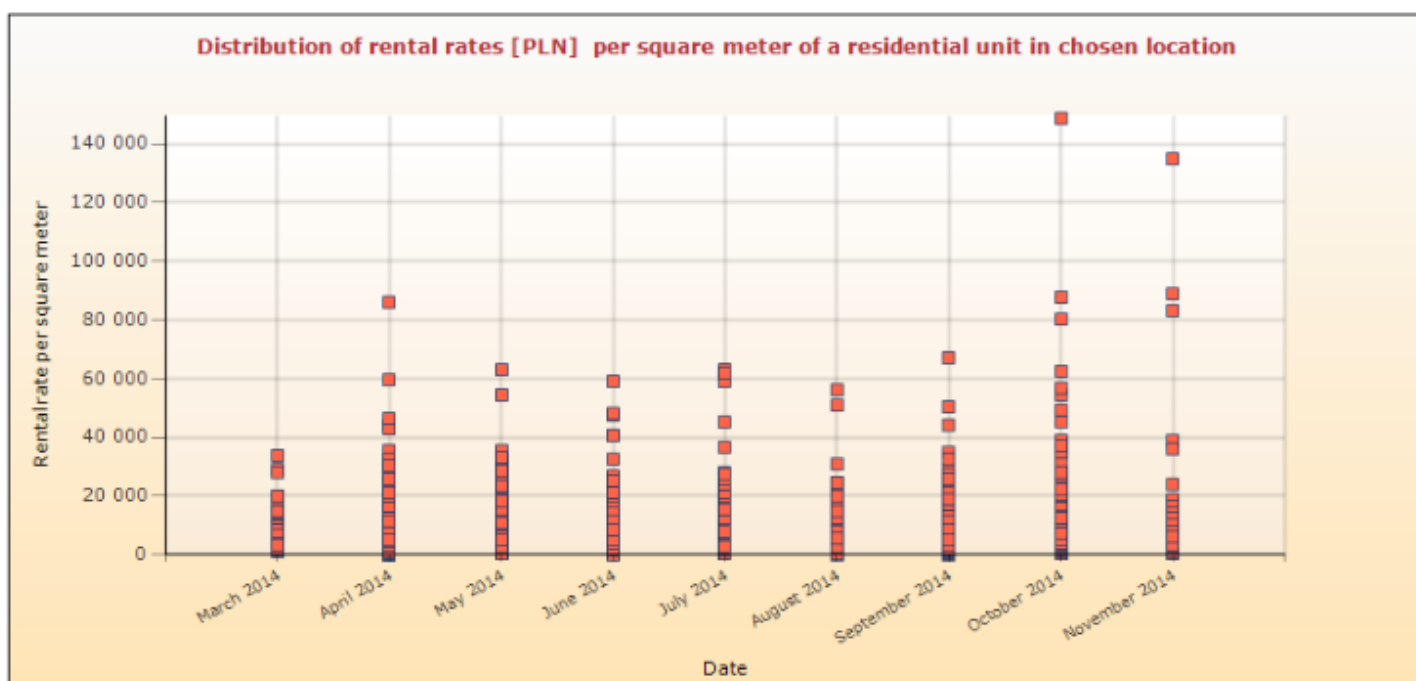
| Obtained results | | |
|---|---|---|
| | **[PLN]** | |
| **Date** | *Average rental rate per square meter* | *Number of transactions* |
| March 2014 | 7 257,97 | 103 |
| April 2014 | 7 473,51 | 441 |
| May 2014 | 6 733,02 | 453 |
| June 2014 | 7 264,36 | 442 |
| July 2014 | 7 204,02 | 440 |
| August 2014 | 6 953,79 | 371 |
| September 2014 | 6 962,32 | 422 |
| October 2014 | 8 272,77 | 404 |
| November 2014 | 8 477,30 | 173 |

**D1 Report** presents market trends in changes of real estate's prices on the defined sub-base of the market. Unit prices of real estate are processed on the date of the performance analysis. There is also calculated compliance of the model with unit prices.

REPORT TYPE SELECTION » PROPERTY TYPE » LOCATIONS AND SOURCES » PARAMETERS » ADDITIONAL REQUIREMENTS » MODEL DETAILS » END RESULT - LINEAR TREND

⊗ **Chosen locations**

⊗ **Chosen property types and data sources**

⊗ **Remaining report selection criteria**

| Results for indicated model. | |
|---|---|
| Average value from unit transaction prices | 7 999,94 PLN |
| Standard deviation from unit transaction prices | 1 235,67 PLN |
| Number of analysed transactions | 754 |
| Number of analysed properties | 925 |
| Predicted property price for date of first transaction | 7 939,06 PLN |
| Probable unit transaction price growth for each month | 19,19 PLN |



Linear function for trend for selected representative database
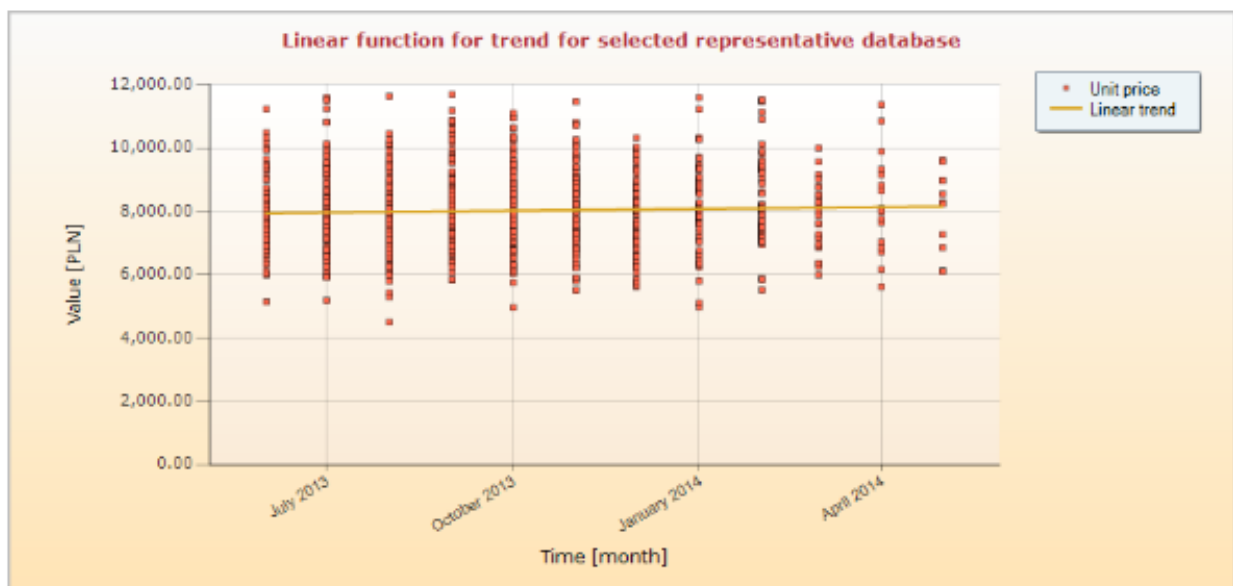
**COMPATIBILITY**

| Compatibility with linear model | 0.99 |
|---|---|
| Description | Compatibility very high |

⊗ **Legend**

| Legend - compatibility (C) | |
|---|---|
| C > 0.9 | Compatibility very high |
| 0.9 >= C > 0.6 | Compatibility high |
| 0.6 >= C > 0.3 | Compatibility average |
| 0.3 > C | Compatibility low |

Export to PDF   Interim results (linear model)

Report D2 - Advanced trend model   See also exponential model

# Analytical Reports

**D2 Report** is an advanced model of the real estate's price changes trend on the defined sub-base of the market, which includes the real moments of increase and decrease of prices..

⊗ **Chosen locations**

⊗ **Chosen property types and data sources**

⊗ **Remaining report selection criteria**

### Results for selected model

| $T_n$ | Date | Time (t) | Number of transactions (n) | Unit price (c) | $B_n$ | Unit in price/month rise | Unit price/year rise |
|-------|------|----------|----------------------------|----------------|-------|--------------------------|----------------------|
| T0 | March 2001 | 0 | 1034 | 3 741,95 | 29,76 | 0,80% | 9,55% |
| T1 | January 2006 | 58 | 930 | 7 117,04 | 155,27 | 2,18% | 26,18% |
| T2 | January 2008 | 82 | 4408 | 7 570,76 | -17,74 | -0,23% | -2,81% |

### Legend

| | |
|---|---|
| $T_n$ | Date of crucial changes in unit property transaction price level |
| Time (t) | Number of months from date (T0) of first transaction to date of analysed transaction from time period [T0,$T_{n+1}$] |
| Number of transactions (n) | Number of analysed transactions in time period [$T_n$,$T_{n+1}$] |
| Unit price (c) | Unit property transaction price from time period [$T_n$,$T_{n+1}$] [PLN] |
| $B_n$ | Estimated parameter of unit transaction prices changes in month from time period [$T_n$,$T_{n+1}$] |
| Unit in price/month (%m) rise | Unit price rise in every month of selected period |
| Unit price/year (%y) rise | Unit price rise in year |



Advanced trend function for selected representative database
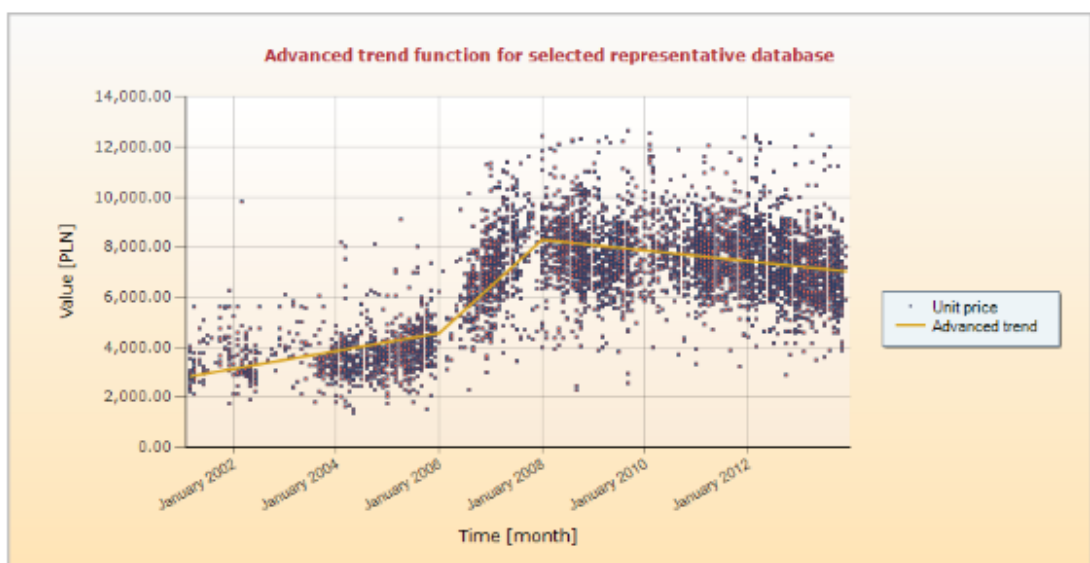
**COMPATIBILITY**

| Compatibility coefficient | 0,54 |
|---|---|
| Description | Compatibility average |

⊗ **Legend**

### Legend - compatibility (C)

| C > 0.9 | Compatibility very high |
|---|---|
| 0.9 >= C > 0.6 | Compatibility high |
| 0.6 >= C > 0.3 | Compatibility average |
| 0.3 > C | Compatibility low |

Export to PDF   Indirect results (advanced model ) >>

## E1 Report - prediction of the value of particular property. Such update may be performed from the level of A or B Report and its result may be saved in Internal Own Database module.

REPORT TYPE SELECTION » PROPERTY TYPE » PROPERTY CHOICE FOR PREDICTION PURPOSE » MODEL DETAILS » PREDICTION - REPORT PIV

### Chosen locations

| Locations: | Województwo | mazowieckie | Powiat | Warszawa |
|---|---|---|---|---|
| | Gmina | Warszawa | Miejscowość | Warszawa |
| | Dzielnica | Wola | Osiedle | |
| | Ulica | GÓRCZEWSKA | Bufor | 1500 m |

### Chosen property types and data sources

### Remaining report selection criteria

| Results for indicated model. | |
|---|---|
| Number of analysed transactions | 54 |
| Number of analysed properties | 79 |

### Market value index of analyzed properties - appointed on basis of multiplicative model.

| IDT | IdN | Assumed property value for 1 m² [PLN] | Forecasted value of property for 1 m² [PLN] | Standard variation for 1 m² [PLN] | Forecasted minimum value for 1 m² [PLN] | Forecasted maximum value for 1 m² [PLN] |
|---|---|---|---|---|---|---|
| T1 | N1 | - | 7 053,70 | 1 200,35 | 5 853,35 | 8 254,04 |

### Market value index of analyzed properties - appointed on basis of multiplicative model.

| IDT | IdN | Assumed property value [PLN] | Forecasted value of property [PLN] | Standard variation of forecasted property value [PLN] | Forecasted minimum property value [PLN] | Forecasted maximum property value [PLN] | Surface area[m²] |
|---|---|---|---|---|---|---|---|
| T1 | N1 | - | 317 416,29 | 54 015,56 | 263 400,73 | 371 431,85 | 45,00 |

PREDICTION CREDIBILITY

| Prediction credibility | 1,00 |
|---|---|
| Description | Credibility very high |

### Legend

| Legend - attribute | |
|---|---|
| A | Urban zone (*) |
| B | Type of parking space |
| C | Development density |
| D | Type of building (*) |
| E | Standard of unit |
| F | Technical standard of building (*) |
| G | Neighbourhood |
| H | Functionality of unit |
| I | Building construction (*) |
| J | Communication access |

| Legend - prediction credibility (PC) | |
|---|---|
| PC > 0.9 | Credibility very high |
| 0.9 >= PC > 0.6 | Credibility high |
| 0.6 >= PC > 0.3 | Credibility average |
| 0.3 > PC | Credibility low |

Export to PDF     Export to CSV

# Analytical Reports

**E2 Report - value prediction** enables to determine the average unit price of selected package of properties. System performs the value prediction also for properties not registered in AMRON database. However, the database must contain the data for similar properties, i.e. properties of similar size and other features, located nearby.

REPORT TYPE SELECTION » AVAILABLE ANALYTICAL REPORT LIST » MODEL DETAILS » PREDICTION - REPORT PROPERTY SELECTION » REPORT DETAILS » PREDICTION - REPORT PIV

⊗ Chosen locations

⊗ Chosen property types and data sources

⊗ Remaining report selection criteria

| Results for indicated model. | |
|---|---|
| Number of analysed transactions | 33 867 |
| Number of analysed properties | 38 197 |

For viewing single property details, select IdN in result table.

**Market value index of analyzed properties – appointed on basis of multiplicative model.**

| IDT | IdN | Assumed property value for 1 m² [PLN] | Forecasted value of property for 1 m² [PLN] | Standard variation for 1 m² [PLN] | Forecasted minimum value for 1 m² [PLN] | Forecasted maximum value for 1 m² [PLN] |
|---|---|---|---|---|---|---|
| 2149068 | 1895380 | 8 002,01 | 6 360,11 | 21,53 | 6 338,58 | 6 381,64 |
| 2153071 | 1898787 | 6 904,14 | 6 360,11 | 21,53 | 6 338,58 | 6 381,64 |
| 2098777 | 1858364 | 6 699,80 | 6 446,27 | 49,83 | 6 396,44 | 6 496,10 |
| 1972539 | 1756523 | 7 238,80 | 6 158,36 | 50,56 | 6 107,80 | 6 208,92 |

**Market value index of analyzed properties – appointed on basis of multiplicative model.**

| IDT | IdN | Assumed property value [PLN] | Forecasted value of property [PLN] | Standard variation of forecasted property value [PLN] | Forecasted minimum property value [PLN] | Forecasted maximum property value [PLN] | Surface area [m²] |
|---|---|---|---|---|---|---|---|
| 2149068 | 1895380 | 275 429,17 | 218 915,05 | 740,99 | 218 174,06 | 219 656,04 | 34,42 |
| 2153071 | 1898787 | 345 000,00 | 317 814,79 | 1 075,75 | 316 739,04 | 318 890,54 | 49,97 |
| 2098777 | 1858364 | 337 000,00 | 324 247,37 | 2 506,39 | 321 740,99 | 326 753,76 | 50,30 |
| 1972539 | 1756523 | 323 140,00 | 274 909,12 | 2 257,07 | 272 652,04 | 277 166,19 | 44,64 |

**PREDICTION CREDIBILITY**

| Prediction credibility | 1,00 |
|---|---|
| Description | Credibility very high |

⊗ Legend

| Legend - attribute | | | Legend - prediction credibility (PC) | |
|---|---|---|---|---|
| A | Urban zone (*) | | PC > 0.9 | Credibility very high |
| B | Type of parking space | | 0.9 >= PC > 0.6 | Credibility high |
| C | Development density | | 0.6 >= PC > 0.3 | Credibility average |
| D | Type of building (*) | | 0.3 > PC | Credibility low |
| E | Standard of unit | | | |
| F | Technical standard of building (*) | | | |
| G | Neighbourhood | | | |
| H | Functionality of unit | | | |
| I | Building construction (*) | | | |
| J | Communication access | | | |

Export to PDF        Export to CSV

Report G - property value prediction

**G Report - prognosis of real estate value**,  generowana generated from the value prediction level (i.e. E1 or E2 Report), which determines the market value of real estate projected for indicated date of future sale and the risk factors.

REPORT TYPE SELECTION » PROPERTY TYPE » LOCATIONS AND SOURCES » PARAMETERS » ADDITIONAL REQUIREMENTS » MODEL DETAILS » REPORT G

☑ Chosen locations

☑ Chosen property types and data sources

☑ Remaining report selection criteria

Date of future sale: 2014-11-11

## Results for G Report:

| IDT | IDN | Assumed value of property for 1 $m^2$ [PLN] | Forecasted value of property for 1 $m^2$ at the date of analysis [PLN] | Number of months (t) | Forecasted value of property for 1 $m^2$ at the date of future sale [PLN] |
|-----|-----|-----|-----|-----|-----|
| T1 | - | - | 8 726,15 | 40 | 8 669,44 |
| T2 | - | - | 8 879,02 | 40 | 8 822,31 |
| T3 | - | - | 8 879,02 | 40 | 8 822,31 |

*Define the date of future sale*

# Google Maps

Google Maps allow to define the location of searched real estate by marking the buffer zones. System enables the visualisation of searching results on the map. Digital map is complemented with points of interests enabling to estimate the nearest surrounding of the property (e.g. schools, administration offices, communication facilities, hospitals, service canters etc.).
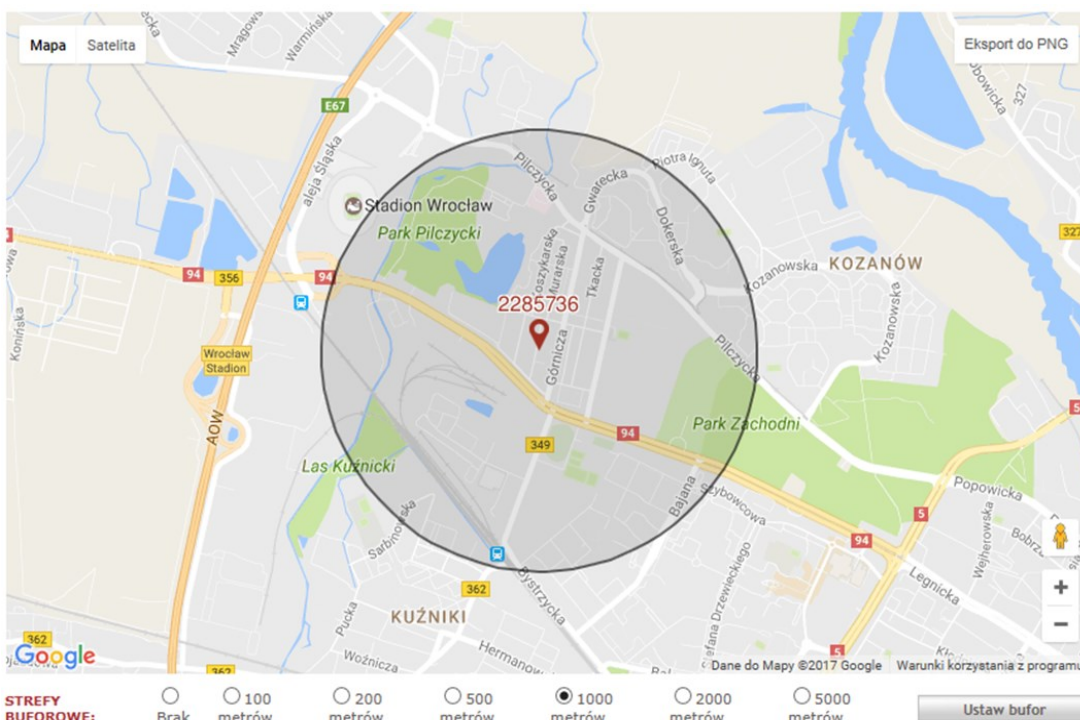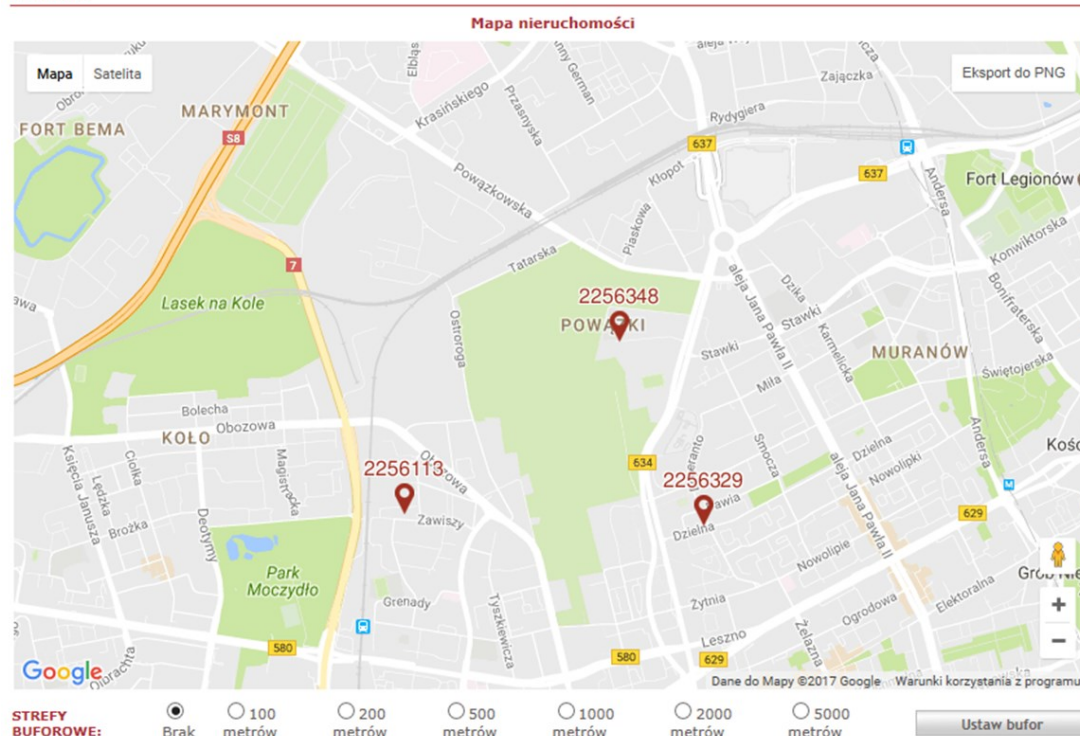
Proper recognition of the market is a key element in the risk assessment. It is more important due to the fact that existing real estate market crises shows (ex post, unfortunately) how dangerous results might cause real financing without the risk assessment. Transaction data base might allow monitoring and comprehensive market analysis, and, in consequences, risk mitigation.

The real estate market development perspectives require more intensive action towards higher safety level of the banks, without limiting mortgage loans offers. More transparent market is a primary condition for safety in real estate market finance.

From the banks and banking supervision perspective, the lack of commonly and easily available information on real estate market (in regard to property transaction prices and also macroeconomic and microeconomic factors) required for the comprehensive analysis of the risk factors related to the property, is a critical element, which increases risk in property finance.

The German, French and Far East experiences evidently indicate that the situation in the real estate market has direct impact on the banks financial results, especially on those, who are significantly involved in that market finance. Market slow down or crisis have impact on mortgage portfolio quality, and, at the same time on financial standing of the lender. Sometimes on the results of the whole sector as well. So the banks are obliged to minimize the risk related to the real estate, which is a collateral of the mortgage loan. The basic element for that risk assessment is constant real estate market monitoring, what in the final effect should be a part of the general credit risk assessment.

System for Analysis and Monitoring of Real Estate Market Transactions aims to assure a quick access to the data necessary for making business decision and estimating risk related to real estate. Creating such a reliable and credible repertory of information on real estate transaction prices shall facilitate decisions in the field of real estate market, augment the security and provide market's transparency.

AMRON System was established for the banking sector, however its development is succeeded with increasing interest of other entities participating in real estate market, as well as of National Bank of Poland and governmental bodies.

AMRON Centre aims to constantly progressing the analytical functionalities of the System in order to assure its Users the efficient, accessible and complex tool for analysing the whole market and particular properties.

Further dynamic development of the System, improving its effectiveness and security, broadening the scope of products and services, inviting entities from outside the banking sector, as well as cooperating with external registers and databases shall allow to increase the AMRONdatabase resources and will abate AMRON in its goal to become a leader in the area of information and analysis of real estate market.

# Market Research

AMRON Centre is a professional analytical and research centre, specializing in issues relating to the real estate market analysis and monitoring. Since over 10 years we have provided our clients and partners with reliable information on real estate market, we have explained the phenomena recorded on that market and we have assured the access to dependable economic information. Our reports are based on actual transaction prices.

Our expertise and experience covers assessing the influence of transaction prices changes on Polish housing market perspectives – as the only market researches provider, we analyze changes on housing loans market, due to access to the data gathered in System for Analysis of Real Estate Financing Market (SARFiN System).

We guarantee comprehensive approach to the real estate market issues, including the complex analyses of micro- and macroeconomic factors and long-term perspective grounded on historic data, current market prices and prognoses.

**AMRON Centre reports provide a useful and verified resource for business decisions, risk estimation and prognoses of the investment's profitability**.

Tools we offer for banks are used for i.a.:

- monitoring of mortgage collaterals value,

- risk management of mortgage collaterals portfolios – stress tests, concentration limits, recovery strategies,

- credit policy designing – defining the risk appetite, estimating the capital intensity of mortgage portfolio,

- fulfilling the Financial Supervision Authority's requirements defined in Recommendations S,J and W.

We assure support on every stage of the investment process – starting from planning, through plot purchase, investment preparation and sales – our tailor-made solutions for developers include among others:

- construction plot analysis and analysis of the potential investment's location, helpful particularly in planning phase and for verification of the investment assumption,

- efficient tools for monitoring the current situation on local housing market: reports on average housing prices, including information on floor areas of sold units and reports of trends presenting changes in housing values on particular local marke,

- exclusive prognosis models and reports on probability of changes in housing values monitoring of the new investment' commercialization and prices.

We develop periodic analytical publications and reports on local markets, as well as professional reports prepared accordingly to the detailed specifics delivered by investors, developers and other entities seeking for solid information on particular market segment, location and time period.

Our reports may be prepared in both Polish and English language version.

Contact: Jerzy Ptaszyński, Research and Market Service Director
(e-mail: jerzy.ptaszynski@amron.pl, phone: +48 22 463 47 63, mobile: +48 502 623 523 )

AMRON Centre offers the comprehensive service of the valuation process, which includes ordering, quality control, value verification and certification of the appraisal report basing of defined substantive criteria.

We valuate real estate that constitute or will constitute mortgage collateral of loans granted by banks. We are experienced in execution of package orders aiming to update the mortgage collaterals portfolio value.

Valuations ordered through AMRON Centre are carried out by independent valuers authorised under the Law on real estate management – we cooperate with network of over two hundred valuers operating on the whole territory of Poland. We assess all types of real estate. Appraisal reports are drew up in accordance with applicable laws and regulations.

We guarantee:

▶ verification of adequacy of appraisal reports' content, accuracy of calculations, methods and timing of order execution

▶ providing banks with appraisal reports fulfilling the requirements defined by Financial Supervision Authority in Recommendations J and S

▶ quality assessment performed by independent entity nor involved in banking processes of risk analysis and credit decision

▶ cooperation with valuers trained by Polish Banks Association and Polish Federation of Valuers Associations – we promote continuous professional development and raising the quality of the provided services

▶ using the AMRON System for verification of real estate value and for certifying the appraisal reports, combined with ongoing feeding the AMRON database with information from appraisal report

▶ possibility to precise assessment of recoveries in portfolio monitoring process

▶ competitive prices

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# Platform of Mortgage Borrowers Support

Platform of Mortgage Borrowers Support (PWK) is a project aiming to support those clients of the banks, who do not succeed in debt servicing – our help includes advisory and mediation in selling the property. From the other hand, the project's assumptions provide for banks' assistance by increasing the effectiveness of the „difficult" (i.e. non performing or under vindication) mortgage loans recovery.

We offer help in proceeding the voluntary sales of property constituting the mortgage loan collateral and we are launching the interbank database of mortgage collaterals, in strict cooperation of Polish Banks Association, banks and clients.

The PWK project will benefit with:

⇒- complex support for mortgage borrowers, who cannot deal with regular repayments of the loans (also denominated in foreign currencies)

⇒- faster finalization of sales process, which means lower costs and shorter period of recovery, comparing to enforcement proceedings

⇒higher level of received amounts

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# System for Analysis of Real Estate Financing Market

System for Analysis of Real Estate Financing Market (SARFiN) is a web application addressed to banks and dedicated to exchange of information on volume and value of new mortgage lending, as well as to provide participating banks with data related to of mortgage loans portfolio risk estimations.

System was launched by Polish Banks Association in 2001 and presently is used by 15 banks, which accordingly to reciprocity principle input own data and in return receive the standard reports enabling to estimate the volume and dynamics of the mortgage market, including particular bank's position on that market. Information generated in SARFiN System reflects approximately 90% of the total housing loans for individuals granted by Polish banks. Data collected in the System are made available to National Bank of Poland.

Data gathered in SARFiN System are used in AMRON Centre's reports, both those available at our website (AMRON-SARFiN Reports, as well as analyses and publications) and also in specialist analytical publications developed on individual order of banks, investors, developers and other entities interested in reliable information on particular market segment in specific location and time period.

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

SARFiN System is an excellent source of information enabling to verify trends in the real estate finance market.

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# WHAT WE DO?

## NATIONWIDE DATABASE ON REAL ESTATE TRANSACTIONS

Our goal is a reliable and standardized database on real estate prices and values, enabling to monitor and analyse developments in Polish real estate market.

We sincerely invite all participants of the market to join this project.

## MARKET ANALYSES

AMRON Centre performs specialized analyses for individual order on particular market segment, region or time period.

We also offer a series of analytical report on price changes of residential dwellings, building plots and agricultural land In selected local real estate markets (only Polish versions available).

Complete information on accessible reports is available at our website www.amron.pl

## VERIFICATION OF REAL ESTATE VALUE

Functionality of real estate value estimation enables to verify the current value of specific properties based on value prediction algorithm.
Functionality is available at www.amron.pl

## WE ASSURE:

- ▶ standarisation of data gathered by entities active on real estate market
- ▶ access to business supporting tools
- ▶ logistic and substantial support for educational initiatives and trainings addressed to professional real estate participants
- ▶ cooperation with legislative initiatives concerned with increase of quality and security of real estate market
- ▶ liaison with all real estate market participants for the market transparency

Are you interested in cooperation with AMRON Centre, please do not hesitate to contact us.

## PERIODIC REPORTS

Quarterly report on current trends on basic real estate market figures - „AMRON – SARFiN Report on housing loans and real estate prices" is already a commonly known source of information on current trends on the market. Report is useful for professional profound analysis of the market development, it supports business decisions concerned with investing on real estate market both for commercial investors, as well as for individuals.

All already published editions of the report are available at www.amron.pl

# Contact us for cooperation:

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