

FINTECH IN CEE

Charting the course for innovation
in financial services technology

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Foreword

Financial Technology is one of the most innovative, increasingly important and potentially the most rapid change in financial services revolutionising the way financial services firms operate and transforming debt and equity markets, payments, credit assessment, regulatory compliance, personal finance and many other facets of financial services.

United Kingdom, a world leader in financial and professional services, is also fast becoming an important FinTech capital, providing a fertile environment for start-ups and entrepreneurs with increasing FinTech activity taking place across the financial services sector. FinTech has now grown from its disruptive roots into a thriving industry in its own right - generating £6.6 billion in revenue in 2015.

In Central and Eastern Europe, the UK is seen as a source of innovation and this creates significant opportunities for innovative UK companies in many different areas such as payments, data & analytics, cybersecurity or capital raising & personal finance. The UK Government is committed to supporting FinTech companies, creating growth as well as further strengthening our position as the world's pre-eminent financial services centre of innovation. Working with colleagues across government, the Department for International Trade (DIT) are leading efforts to support UK-based FinTech companies seeking to internationalise their business.

We have commissioned this report highlighting FinTech opportunities in nine Central and Eastern European countries (Austria, Bulgaria, Croatia, Czech Republic, Hungary, Poland, Romania, Slovakia and Slovenia) as we believe it will provide sufficient depth of information on FinTech, in terms of the subsectors and overseas markets, to attract UK firms and give them a clear steer where to focus their activity to exploit these opportunities.

We hope this report will be used by FinTech companies, investors and those in the FinTech ecosystem to find out more about business opportunities in Central in Eastern Europe, do business in the region and further support this vibrant and dynamic sector in the UK.

I welcome this report and its analysis and insights offered and hope it will be helpful to all stakeholders across the FinTech sector ensuring the UK's continued growth as the leading FinTech hub.



Mark Garnier
Parliamentary Under Secretary
of State at the Department
for International Trade

Introduction

Although some may think that FinTech is just another “buzzword”, we believe that technology creates the possibility to dramatically reshape finance as we know it. Digitisation is taking place in all areas of business and life, transforming services, and creating new ones accelerated by new FinTech companies.

Deloitte, on behalf of the Department for International Trade performed a review of the FinTech market in the Central & Eastern European (CEE) region. The purpose of our report, a pioneer research of its kind in this part of the world, is to provide an overview of financial services industry, estimate the size of the FinTech market and illustrate potential business opportunities for FinTech companies in nine CEE countries: Austria, Bulgaria, Croatia, Czech Republic, Hungary, Poland, Romania, Slovakia and Slovenia.

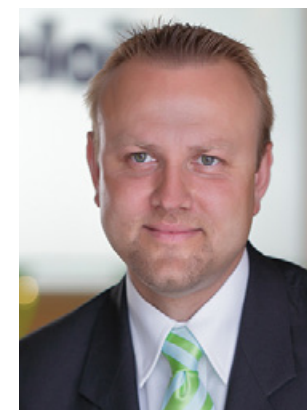
For the purpose of the report, we prepared a FinTech market taxonomy that covers both established financial technologies in banking, insurance and asset management & capital markets, as well as emerging financial technologies in such areas as payments, capital raising & personal finance, cybersecurity, data & analytics and other software. Not all eight subsectors are covered for each of the nine countries analysed. We have focused on those subsectors in each of the reviewed countries where we have noted interesting developments.

We have also estimated the size of the FinTech market in each CEE country. In total, the FinTech market in the CEE region is worth over EUR 2,2 bn – a value comparable to assets of a medium-sized bank in Croatia. However, we believe that this amount will grow significantly as the future of modern finance is coded in technology.

The CEE FinTech markets proved to be differentiated across the countries not only based on their size, but, more importantly, by the dominating technology and the propensity to adopt innovation. Some, potentially game-changing technologies have not reached the CEE market yet, however, they are definitely coming (excellent examples include blockchain and IoT in banking). The undisputed black horse in each of the nine markets is the payments subsector, with significant development and rapid adoption of latest technologies.

We see a strong potential in the entire CEE market. New entrants – incumbents and disruptors, both local and international – have a chance to succeed in providing innovative solutions to either the financial sector itself or directly to end-users. We have pointed out both strengths and weaknesses, as well as opportunities and threats for each analysed country. And, in dedicated chapters, we have summarised the current landscape, future market outlook and key barriers for aspiring entrants.

We trust that this report will contribute to the broader debate regarding the direction of FinTech development across CEE. While some in the financial services industry see FinTech companies as a threat, and others see them as opportunities, we believe that a model of coopetition between established players and new entrants will prevail.



Daniel Martyniuk
Director
Deloitte Poland

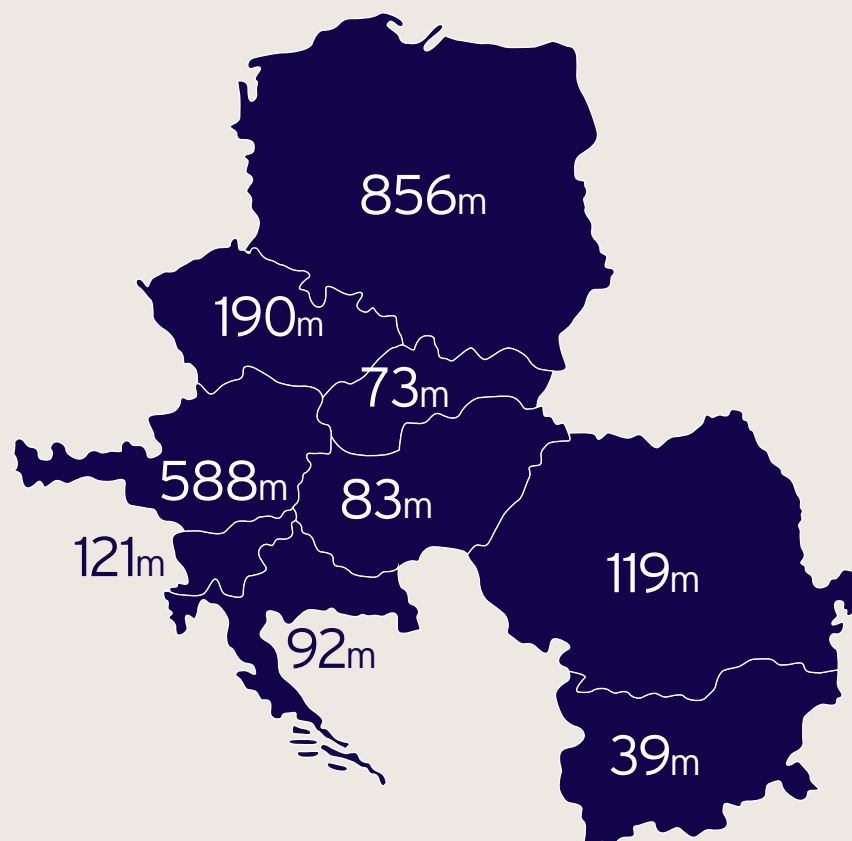
Executive summary

CEE FinTech market size

The estimated size of the FinTech market across the nine CEE countries featured in this report is

EUR
2.2 bn

The term "FinTech" refers to IT solutions dedicated to the financial sector, covering software technologies provided by any established or emerging entity. Here, we define the financial sector as consisting of eight sub-segments: banking, insurance, Asset management and capital markets, capital raising and personal finance, payments, data and analytics, cybersecurity and other software.



Executive summary

FinTech trends in CEE countries

Established technologies

Innovations for the banking sector provide the greatest share of FinTech solutions in all CEE countries. Such solutions are highly developed in virtually all countries (internet and mobile banking and contactless cards, for example). Although most solutions are developed in-house or provided by established vendors, there is room for emerging FinTech providers.

In most countries, innovation in insurance is still far behind the banks. There is a focus on improving distribution channels (especially smartphone apps and gamification) and launching new services based on telematics.

The asset management sector is somewhat conservative. Most financial institutions use systems provided by traditional vendors (such as Murex and Kondor+). On the other hand, specific opportunities exist to break down the dominance of these players by offering flexible and inexpensive solutions (such as the potential in Austria for developing solutions for individual investors).

Emerging technologies

The payments area is a hot topic due to the launch of numerous breakthrough solutions, particularly those relating to various payment methods such as contactless and mobile payments, host card emulation and cryptocurrency. The leadership role belongs to Poland and the Czech Republic, where sophisticated solutions include inter-banking m-payments schemes and robots are employed in processing payments. The upcoming implementation of the Directive on Payment Services II may change the payments market in all countries, however.

Capital raising and personal finance is gaining momentum in all CEE countries, except for Hungary where such services are the preserve of the banks. Consumers use personal finance management (PFM) tools, based both on in-house developed solutions and off-the-shelf solutions delivered by start-ups. The P2P lending market is quite well developed, both for individual borrowers and SMEs.

Organisations tend to utilise data and analytics solutions delivered by global players. However, most markets are still at an early stage of development, which spells opportunities for foreign and local FinTechs to gain market share.

All countries are paying more and more attention to risks related to cybersecurity due to the increasing number of attacks. To date, this area of IT solutions has been dominated by global players.

Small and medium enterprises are increasingly interested in automated and cloud-based financial management solutions.

Barriers and enablers

Key barriers to market entry are related to demand, regulation and competition. Launching FinTech solutions is usually acceptable to the financial authorities, although special requirements or limitations might apply (such as the use of the cloud or the legal status of the financial entity). Generally speaking, countries which are less economically developed and are characterised by limited domestic demand tend to be less attractive in terms of FinTech potential. A favourable business environment (with low tax rates and competitive labour force costs) might attract young companies seeking success in CEE.

A vibrant start-up community that facilitates the matchmaking process between solution providers and the demand side may accelerate the progress of FinTech development. Financial forums, incubators and industry fairs are effective ways to spread knowledge of the latest innovations and bring FinTech on to the industry agenda.

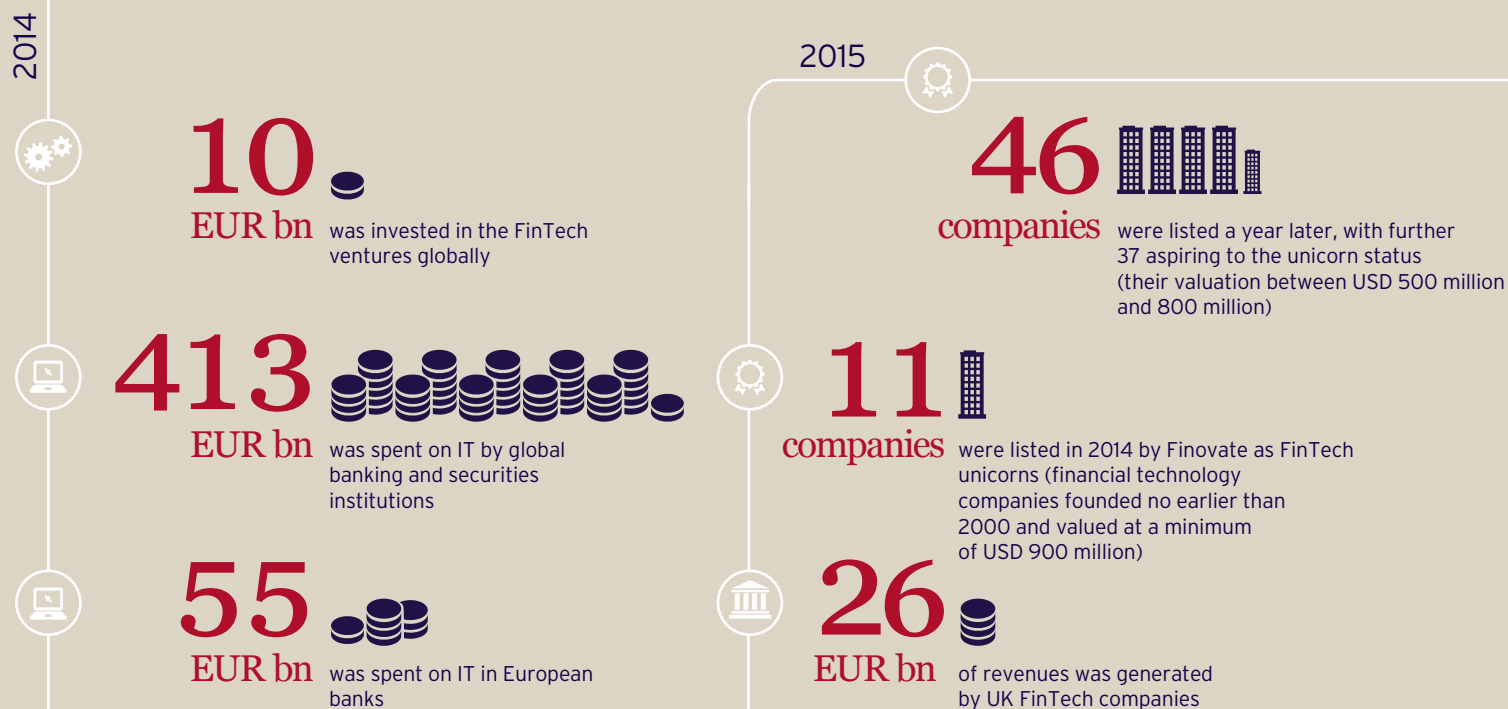
FinTech Definition and Taxonomy



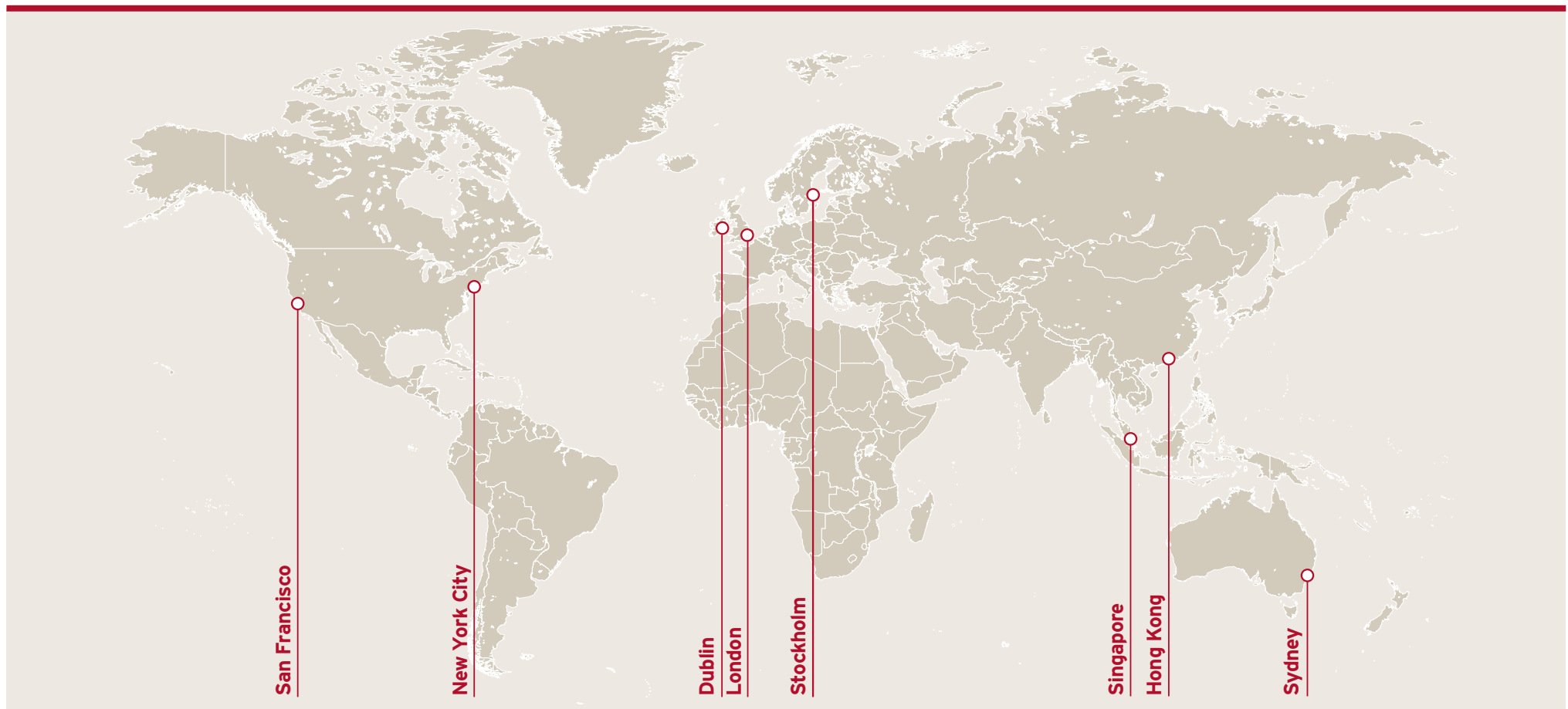
FinTech

Key global indicators

Until 2020 the FinTech investment market is estimated to grow at 55% annually



Global FinTech hubs



FinTech taxonomy



Established financial technologies

Solutions developed internally by established financial institutions or provided to them by large incumbent vendors or smaller players

Banking Insurance Asset management and capital markets

These are IT solutions that can be developed in-house by a bank, insurer, or asset management/capital markets organisation, or be tailor-made by large external vendors (incumbents) for a particular entity's needs. Such solutions support the entity in operating and carrying out all activities, including CBS, CRM, billing, online/mobile banking, trading, compliance and more. Other solutions are designed to improve the offering, sales and service model, capabilities or process efficiency of banking, insurance and asset management players – these include API and data platforms, alternative insurance schemes, auto/robo investing, alternative trading schemes, foreign exchange platforms and more.



Emerging financial technologies

Solutions developed by large incumbent vendors or smaller players. Solutions are dedicated to established financial institutions or support SMEs, consumers, private investors etc.

Payments Capital raising and personal finance Cybersecurity Data and analytics Other software

Such IT solutions support payments, money transfer and cash handling activities; they can include:

- mPOS, NFC, web and mobile payments software and infrastructure
- Improved functionality for acquirers and payment integrators (payment service providers)
- Cryptocurrency solutions: mining, exchange and wallet management
- Banking inclusion support (such as pre-paid and non-bank debit cards)
- E-wallets, card integrators

These IT solutions are aimed at non-bank capital raising and finance management (excluding trading). Examples include:

- Financial marketplaces for P2P lending, micro lending, crowdfunding, social financing, estate refinancing schemes, financing the supply chain (such as factoring and leasing)
- Online/mobile financial advisory, including personal cashflow analytics
- Solutions reinforcing saving habits, including community saving platforms

IT solutions that increase security both at the level of financial system functionality – including data security, fraud protection, customer verification schemes (biometrics, finger-vein technology) – and at the level of personal usage

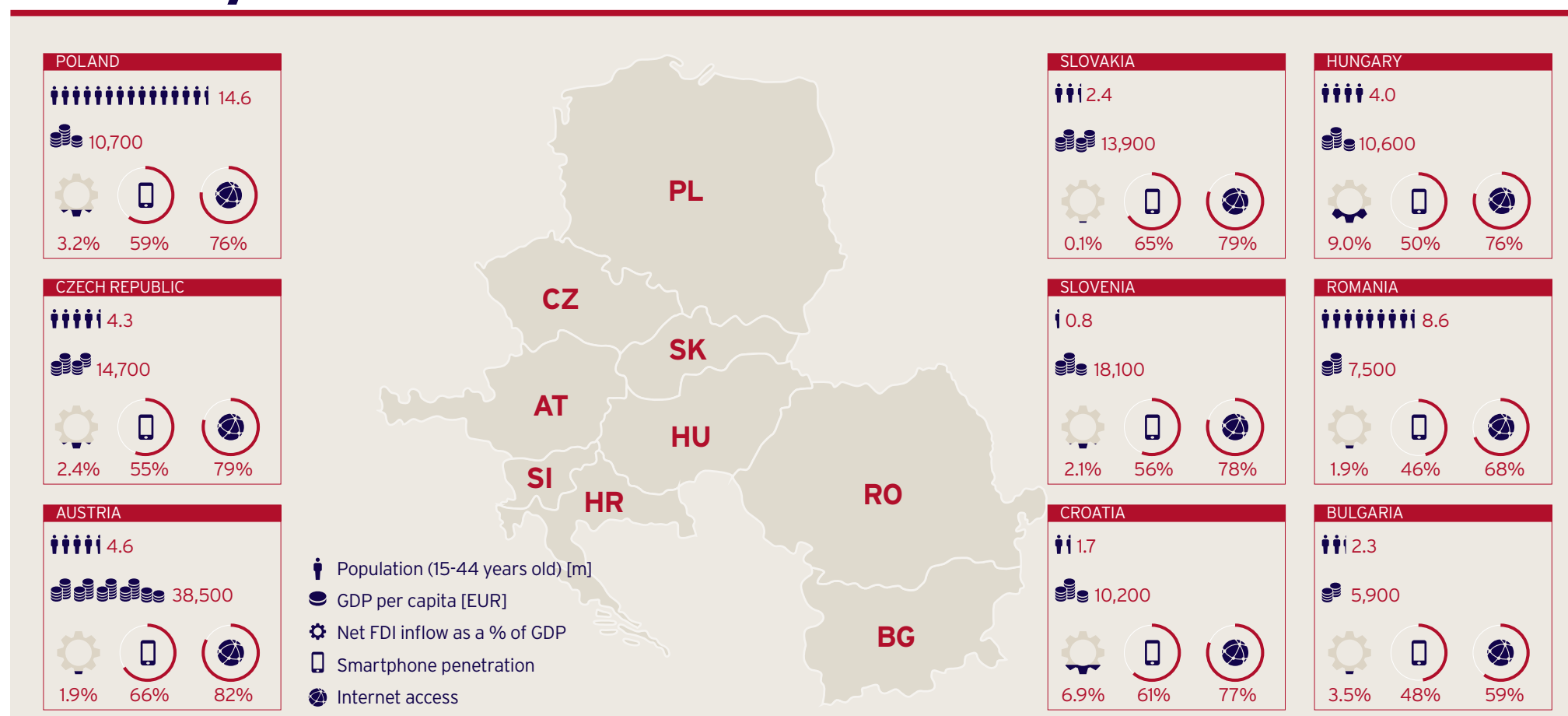
Solutions enabling finance-related analysis based on big data, including analytics software, credit scoring and data-based market analysis for financial institutions such as banking market intelligence

Software not classified above, including distributed ledger technologies (databases that can securely record financial, physical and electronic assets for sharing across a network through entirely transparent updates of information), systems and applications supporting companies' finance functions (such as accounting, controlling and debt collection)

General Overview of CEE Countries



CEE Key economic indicators



SWOT Analysis

AUSTRIA

SWOT analysis



Strengths

It is estimated that Austrian GDP will increase from 0.7% in 2015 to around 1.5% in 2016 and 2017.

The shadow economy is estimated to be at a low 8% of GDP (the second best score in Europe).

In the latest "Global Competitiveness Report", Austria has the highest position among CEE countries.

Austria has the leading position in the CEE region in terms of income metrics: GDP per capita is EUR 35,500, and gross disposable income is EUR 25,850.

Labour market conditions in Austria are better than in most EU countries. The unemployment rate has stabilised and is currently at 5.9%.

Austria is ranked 21st in "Doing Business" and first globally in the category of trading across borders.



Weaknesses

Austria has relatively high gross costs of labour compared with the EU-28 average (EUR 31.5 vs EUR 24.6).

The rate of corporate income tax is above the EU average (25% vs 22.5%).

The ratio of general government gross debt to GDP has risen to just over 85%, partly reflecting public aid extended to banks, including capital injections to Hypo Group Alpe Adria.

There is a relatively long period needed to start a business compared to the OECD average (22 days vs 8 days).



Opportunities

Austria has the highest level of internet access in CEE (82% vs the 75% average for CEE). Austria also has the highest ratio of smartphone penetration - 66% compared to the average of 56% (data for CEE countries).

In Austria, one in four invoices is electronic: the average in the CEE region is half as many.

The share of e-government users in Austria is the highest among CEE countries (37%) and exceeds the EU average (32%).

Almost the entire population aged 15+ has a current account with a financial institution (97%).



Threats

The Austrian banking sector is exposed to issues in Central, Eastern and Southern Europe. Due to credit losses in the CEE markets and the need for bank recapitalisation, Austria's public finances have been burdened in recent years.

BULGARIA

SWOT analysis



Strengths

Bulgaria has one of the lowest government debts in the EU (at around 30% of GDP in 2015).

Although Bulgaria is 54th out of 144 countries ranked in the 2015-2016 edition of the Global Competitiveness Report, it has risen significantly (up from 74th place in 2012).

Bulgaria has the lowest total labour cost in the EU-28 (84% lower than the average).

The IT sector is forecast to yield some 2% of the country's GDP in 2015, after four consecutive years of double-digit growth.



Weaknesses

The domestic market is relatively small with 7.1 million inhabitants.

The non-observed economy in Bulgaria constitutes over 30% of GDP, the worst in the EU.

Among CEE countries, Bulgaria has the lowest ratio of GDP per capita (EUR 12,800 vs the EU average of EUR 20,441) and of gross disposable income per capita (EUR 8,921 vs EUR 14,533).

The unemployment rate grew by 7.4 percentage points between 2008 and 2013 (from 5.6% to 13.0%).

Bulgaria has one of the lowest ratios of internet users (as a percentage of 16-74 year-olds) compared to the CEE average (55% vs 68%).

In 2014 non-performing loans (NPL) accounted for 16.7% of all loans.



Opportunities

Real GDP increased by 2.2% in 2015. Although this rate of increase is expected to slow down in 2016 to 1.5% (due a decrease in EU-funded investments), GDP is expected to pick up again to 2.0% in 2017.

In 2014 there was a reversal in the trend for growing unemployment. The rate decreased to 11.4% and is expected to fall further to 8.8% in 2017.

Bulgaria's corporate income tax (CIT) rate is the lowest in the EU at 10%. The personal income tax rate is flat, also at 10%. Industries that face structural unemployment issues are granted a 0% tax rate.



Threats

The working-age population is estimated to be set to decrease by 41% between 2013 and 2060.

The share of ICT specialists among the total number of employed individuals is the lowest of all CEE countries (1.9% vs the 3.6% average).

Only 9% of Bulgarian enterprises use e-invoices, as compared to 12% in CEE, and only 4% use cloud technologies (against the CEE average of 8%).

Bulgaria has one of the lowest proportions of banked citizens in the CEE region - 63%, 16 percentage points lower than average for CEE countries.

Bulgarians have one of the lowest trust in banks ratios in the CEE region at just 34%.

As many banks operating in Bulgaria are Greek-owned (with a market share around 20% in 2015), their potential divestment may pose supervisory challenges and result in substantial changes to the structure of the banking sector.

CROATIA

SWOT analysis



Strengths

The most recent AQR (asset quality review) and portfolio screening have confirmed the resilience of the Croatian financial sector.

Only 13% of firms reported complications with access to bank loans in 2015, below the EU average of 21%.

EU funds potentially available in 2014-2020 totalled EUR 11.7 billion.

The country has CEE's biggest ratio of enterprises which utilise cloud services - 15% of the total vs the 8% average for the CEE region.



Weaknesses

The financial crisis had a substantial effect on the economy - between 2008 and 2014, real GDP shrunk by about 12.5% while the unemployment rate increased from 8.9% to 17.0%.

Government debt more than doubled during the 2008-2014 recession, from 38.9% of GDP to 85.1% of GDP, mainly driven by high deficits and costs induced by state-owned enterprises.

Croatia suffers from one of the EU's highest shares of GDP by the shadow economy (28%).

Croatia is last in the EU with just 2.8% of citizens subscribed to high-speed broadband (compared to an EU average of 30%).

Among the researched countries, Croatia has the lowest rank in Global Competitiveness Report (77th; the next lowest is Slovakia at 67th, while the CEE leader is Austria at 23rd).

The ratio of private investment as a percentage of GDP fell from 33% to 3.7% between 2008 and 2014.

The ratio of bank NPL to total gross loans surged from 12.3% in 2011 to 17.1% in 2015.

Net external liabilities amount to almost 80% of GDP, and are dominated by foreign-currency denominated debt.



Opportunities

GDP growth, observed in 2015 for the first time since the crisis, is expected to remain stable in 2016-17 (2.1% on average), while the unemployment rate is forecast to drop below 14.0% in 2017 from 17.3% in 2014.

Labour market reforms in 2013 and 2014 aimed to facilitate the use of flexible types of employment.

Since Croatia joined the EU (January 1st, 2013), its trade connections have been improving.

Croatia is planning to invest €203 million into fast broadband through the use of Structural Funds.



Threats

Recession (2008-2014), non-performing loans and the conversion of Swiss franc loans into euros (September 2015) have weakened the profitability of the financial sector.

According to the Croatian National Bank, the obligatory conversion of CHF loans (imposed by the government) will result in losses worth HRK 8 billion, corresponding to around three years' profits before tax for the banking industry.

Fixed broadband access is still costly, with subscription prices nearly twice as high as the EU average.

R&D investments as a share of GDP amounted to 0.8% in Croatia in 2013 and was below the 2% EU average (the fourth lowest R&D intensity level in the EU).

CZECH REPUBLIC

SWOT analysis



Strengths

The Czech economy has rebounded since the 2012 - 2013 recession, and its real GDP increased by 4.3% in 2015.

The government debt-to-GDP ratio decreased.

The Czech Republic is competitive, as confirmed by its high 31st position in the Global Competitiveness Index.

The unemployment rate is at a low level (5.1% as compared to the EU average of 9.4% in 2015).

Gross labour costs are below the average for the EU-28 (EUR 9 vs EUR 25 per hour).

There is a high share of ICT specialists among the employed population (4.1%).

Although internet access availability is below the EU-28 average (78% vs 81%), it is the second best score within CEE (the first being Austria at 81%).

The e-commerce sector is strong, calculated as per capita spending on online shopping (the value in 2014 reached EUR 273 per capita, the second highest spend in CEE).

The banking sector is in good condition - for the past five years, the capital adequacy ratio has been over 15% and ROE above 16%. The results of stress tests indicated the Czech banking sector's high degree of resilience to liquidity shocks.



Weaknesses

While in 2007, the share of NPLs to total gross loans was 2.7%, in the post-crisis years the average ratio (for 2009-2015) rose to 5.9%.

Public debt increased from 27.8% of GDP in 2007 to 43% in 2014.

The most problematic factors affecting doing business in the Czech Republic indicated in the last edition of the Global Competitiveness Report of the World Economic Forum are inefficient government bureaucracy, corruption and policy instability.



Opportunities

Forecast GDP growth is 2.3% in 2016 and 2.7% for the following year.

Total R&D intensity (research and development expenditure as a percentage of GDP) is forecast to reach 2.9% in 2020, only slightly below the EU target of 3.0%.

The government has implemented the Business Corporations Act, aimed at facilitating setting a business by substantially reducing the minimum capital requirements.

The ratio of public debt to GDP is forecast to fall in the next two years.



Threats

The number of inhabitants is forecast to fall by 2 million by 2060 (current population - 10.5 million).

According to the European Commission there is a weak linkage between research institutions and the private sector. Some gaps in the targeted allocation of funding are hindering investments in innovation activities.

AT BG HR CZ HU PL RO SK SI

HUNGARY

SWOT analysis



Strengths

Hungary's real GDP growth oscillates around 2.2-2.4%. EU subsidies make up 4% of the country's GDP, driving development.

The level of ICT specialists as a proportion of the employed population (4.9%) is the highest among CEE countries.

The relatively high share of e-government users (32%) equals the EU average, ahead of all CEE countries except for Austria (37%).

Hungary is a popular target country for foreign investors - FDI net inflows amount to 9% of GDP (the highest result among the CEE countries).

Key strengths of the economy include: good infrastructure (public transport, roads, energy grid) and an advantageous geographic location coupled with attractively low wages as compared to Western Europe (gross hourly labour cost EUR 7.3 vs. the EU average of EUR 24.6).

The Corporate Income Tax rate is progressive (10% on tax base up to HUF 500 million and 19% above that), but there is a lower rate for SMEs (16%).



Weaknesses

General government gross debt (as a percentage of GDP) surged from 21.6% in 2008 to over 80% in 2014.

The domestic market is relatively small (with a population of under 10 million).

The low unemployment rate (6.9%) is partially due to public work schemes.

Only 1 in 20 companies uses e-invoices (half the EU average).

The banking sector is severely constrained by a large non-performing loan (NPL) portfolio (25%) of FX-based mortgages that consumers are unable to repay due to the depreciation of the local currency (HUF).

Hungary's "Doing Business" rank is the lowest of all CEE countries (for example, starting a company requires hiring a lawyer).

Hungary is ranked relatively low in the Global Competitiveness Index (at 63 as compared to the Czech Republic at 31).

Hungary has the highest VAT in the EU with a standard rate of 27%.



Opportunities

As the market situation slowly improves, crisis taxes and the fiscal burden are being gradually eased off.

Society follows technological trends: internet penetration is 76%, 60% of the population have Facebook accounts and 55% have smartphones, all spelling opportunities for the further development and adoption of digital solutions.

Digital entrepreneurship is moving up the government's agenda: numerous initiatives have already been launched to support this area, such as Kitchen Budapest and Colabs (both start-up incubators) and Web 2.0 (a competition for start-ups).



Threats

Future GDP growth is expected to fall below 2%.

There is a strong dependence on exports (84% of GDP, with a quarter of exports going to Germany), meaning that all economic downturns in Western Europe could be quickly transmitted to Budapest.

The heavy reliance on the EU translates into an expected fall in investment when European funds dry up.

By 2030, the proportion of the population aged 65+ will have risen from 18% to 23%.

Trust in the banking sector is very low - only 27% of the population say they have confidence in it.

POLAND

SWOT analysis



Strengths

Poland has weathered the economic crisis fairly well compared to its European neighbours. Since the end of the financial crisis, GDP has increased each year by 3.1% on average (2009 - 2015).

Companies benefit from the large domestic market - Poland is the sixth-largest EU country in terms of population.

The Polish economy is fairly competitive (ranked 41st and as the third best CEE country according to the Global Competitiveness Report).

Gross hourly labour costs in Poland are three times lower than the EU average (EUR 8.4 vs. EUR 24.6).

The ratio of non-performing loans (NPL) is stable (between 4.3% and 5.2% between 2009 - 2015).

Poland is attractive to foreign investors (FDI net inflow totalled 3.2% of GDP in 2014).

Poland rose in the "Doing Business" ranking from 76th in 2009 to 25th in 2015.

Businesses can be registered in a one-stop shop at the National Court Register.

Government has set up 14 Special Economic Zones, locations dedicated to investors where business activity is coupled with preferential conditions such as tax relief and the strong support of municipalities.



Weaknesses

The non-observed economy is estimated to stand at a high 15.4% of GDP.

Poland is ranked 46th in the Global Innovation Index (among EU countries, only Romania is ranked lower).

Real GDP per capita (adjusted to reflect purchasing power) is only 68% of the EU average and is below the Czech Republic, Slovakia and Slovenia.

Poland has one of the lowest savings levels in CEE (1.9% of gross disposable income).

There is a relatively low usage of cloud services both by individuals and enterprises (respectively the third and second lowest in the EU).

Usage of online sales channels by SMEs is below average (EU - 14.5%, PL - below 10%).

Penetration of fixed and wireless broadband is fairly low compared to other OECD countries (18.5% vs 28.8% for fixed and 55% vs 85.5% for wireless).

The activities of regulatory authorities can hamper innovation in the financial sector (in areas including cloud computing, non-bank personal lending and bancassurance).



Opportunities

The high level of business-cycle synchronisation with the advanced German economy, due to an integrated supply chain (exports to Germany accounted for 26% of all Polish exports in 2014).

Poland is the largest beneficiary of EU support. The EU has allocated EUR 82.5 billion to Poland over the 2014-2020 period.

There is a possibility of obtaining dedicated public aid, granted on the basis of an agreement between the Minister of the Economy and the investor. Companies planning to invest in seven selected industries, including R&D and biotechnology sectors, can apply for support.

Numerous domestic FinTech start-ups and mature companies are operating both in Poland and abroad.



Threats

The working-age population is estimated to be set to decrease by 35% between 2013 and 2060 in Poland, and by just 13% in the EU.

The rural population accounts for around 40% of all citizens; this can slow the growth of innovative banking services due to the different preferences of customers (many of whom are clients of co-operative banks).

Poland has one of the lowest shares among OECD members of ICT specialists among the working population (2.4% vs the average 3.6%).

The number of IT students has fallen (from 100,000 to 70,000 between 2006 and 2013).

ROMANIA

SWOT analysis



Strengths

In 2015 Romania recorded a 3.8% real GDP growth, which is expected to continue in 2016.

The country has a relatively large domestic market, the second biggest population in CEE.

Romania has a very competitive labour force, with gross hourly labour costs more than five times lower than the EU average (EUR 4.6 versus 24.6).

A large pool of IT specialists works in Shared Services Centres across the country.

The share of FX denominated loans among total loans has fallen below 50%, improving the exposure of the banking sector to the volatile FX market.

The inflow of foreign direct investment is growing dynamically – Romania is considered an attractive location for business.

Companies in Romania enjoy one of the lowest corporate income tax (CIT) rates in CEE (16%).



Weaknesses

The strong impact of the grey economy (estimated at up to 30% of GDP). Is damaging to the business environment.

Rural areas (where nearly half of all Romanians live) are characterised by low levels of ICT knowledge.

Over 12 million people are under state subsistence, retirement and unemployment support, putting a significant burden on the country's 4.5 million employees.

Gross disposable income (adjusted for purchase parity) is half the EU average and significantly lower than in other CEE countries (44% versus 78% in Slovenia, for example).

Savings of households are negative (gross expenditures exceed the disposable income).

There is a clear skills shortage (61% of Romanian employers experience challenges filling vacancies)¹.

The level of internet access is still low (68%).

E-government users constitute a very small share of the population (only 8% as compared to the EU average of 32%).

Corruption is still an issue, although corrective actions are having a positive effect.

The standard VAT rate is high at 24%.



Opportunities

Romania has the fastest broadband internet in Europe – the peak connection speed is close to 60 Mbps, and 16% of all connections have a speed of 100+ Mbps.

The Romanian government actively supports domestic companies and foreign investors through state aid schemes, tax incentives, super deductions (150%) for R&D investments and low CIT.

Romania was ranked 37th in the global “Doing Business” Index 2016 (with improvement noted in the areas of paying taxes, enforcing contracts and resolving insolvencies).

An increase in public investment is expected over the years to come.



Threats

The proportion of non-performing loans (NPL) to total loans is very high (13.9%, behind only Bulgaria's 16.7%).

The development of the digital society as measured by the DESI (Digital Economy & Society Index) places Romania second from bottom in the EU.

Frequent changes in national legislation and the need to keep up with regulatory requirements are increasing the bureaucratic burden placed on potential investors.

SLOVAKIA

SWOT analysis



Strengths

In 2015, Slovakia recorded real GDP growth of 3.3%, which is expected to continue in 2016.

The country has the highest share of population aged under 25 (27.9%) in CEE.

It also has one of the highest indices of smartphone penetration (65%, just behind Austria's 66%).

Its level of internet access is high at 79%.

The banked share of the total population is also promising (77%).

The Slovak banking sector reports healthy profits and stable growth.

The share of ICT specialists as a proportion of employed individuals (4.1%) is above the EU average.

The regulation of banks (especially in terms of providing loans) is less restrictive than in other European markets.

Slovakia is one of the few CEE countries that has joined the eurozone and not suffered from the ramifications of FX loans.



Weaknesses

The unemployment rate is high at 11.3% affecting young adults particularly severely (25%).

There is a strong disparity between the east and the west of the country. The capital city - Bratislava - has a per capita income, adjusted for purchasing power, above the EU average, while the index for the entire country is just 49% of the EU average.

There is a very low level of FDI inflow (0.1% of GDP as compared to 2.4% in the neighbouring Czech Republic)².

The CIT rate is relatively high at 22%.



Opportunities

Slovakia has exited the EU's excessive deficit procedure, and the government expects to achieve a balanced budget by 2018.

EU funds are likely to improve the country's infrastructure.

Business confidence in the country is recovering after the crisis, driving investment growth.

The government is planning to further develop broadband access by rolling out fibre optic networks in rural areas.

Slovakia jumped to 29th place in the "Doing Business Index" in 2016 up from 37th the year before. Most important improvements included the shortening of time required to register a company (following the launch of a one-stop shop), the elimination of the requirement for a notary to verify signatures, and a reduction in corporate tax rates.

Slovakia offers several incentives (such as cash grants) and investment support to companies operating in technological centres.

Slovakia has one of the highest rates of cloud-computing adoption in Eastern Europe.



Threats

Exports drive Slovak GDP (87.4%), leaving the country vulnerable to any economic shocks affecting trade partners (mainly Germany and the Czech Republic).

Corruption remains an important problem in the economy.

The economy is not very competitive (the Global Competitiveness Index places Slovakia in 67th place), with key shortages identified in the area of institutions and labour market efficiency.

New political measures are transforming the country into a social welfare state, with the financial sector as one of the largest tax contributors (due to the introduction of new taxes specifically for banks).

Regulatory responsibility for the financial sector is centralised in the National Bank of Slovakia.

SLOVENIA

SWOT analysis



Strengths

The Slovenian economy continued to grow strongly in 2015. GDP is estimated to have expanded by 2.5% in 2015, following 3% growth in 2014.

Slovenia is one of the EU's best countries for 4G broadband coverage in rural areas (over 50% in 2014).

Almost all companies (99%) have access to the internet.

53% of the population used e-government services in Slovenia in 2014.

The introduction of an interactive central credit register for fiscal and legal entities is expected to reduce the risk of over-indebtedness in the SME sector.



Weaknesses

Slovenia's domestic market is relatively small - the EU's fourth smallest in terms of population.

The country's budgetary situation deteriorated sharply in 2013, when the State was obliged to rescue the banking system at an estimated cost of 11% of GDP.

The unemployment rate increased by 5.3 percentage points between 2008 and 2014 (from 4.4% to 9.7%).

The general government gross debt (as a percentage of GDP) surged from 21.6% in 2008 to over 80% in 2014.

Non-performing loans continue to decrease, but still remain at high levels. (In 2013, NPLs in the corporate sector accounted for 20.4% of corporate loans, falling to 16.4% by November 2015).



Opportunities

GDP growth is expected to slow down slightly in 2016 (to 1.8%), and is forecast to accelerate again in 2017 (2.3%).

Slovenia improved from 35th place in 2015 to 29th in 2016 in the global "Doing Business" ranking due to reforms in the fields of insolvency resolution, the enforcement of legal contracts and real estate management.

Slovenia adopted a new FDI strategy and a smart specialisation strategy in 2015 (25% of measures included in the Single document - the Slovenian government's initiative aimed at ensuring better regulatory and business environment and enhancing competitiveness of Slovenian economy - were implemented).

The number of individual e-buyers who made a purchase within the last 12 months grew by 6% annually between 2010 and 2015 to account for 39% of the population (aged 16-74).

Slovenia is expected to launch the use of the "SME test" in 2016, meaning every new law will have to be appraised based on the impact it will have on businesses, SMEs in particular.



Threats

The country has a rapidly ageing society (the working-age population is anticipated to decrease by around 21% from 2013 to 2060 in Slovenia, compared with 13% in the EU).

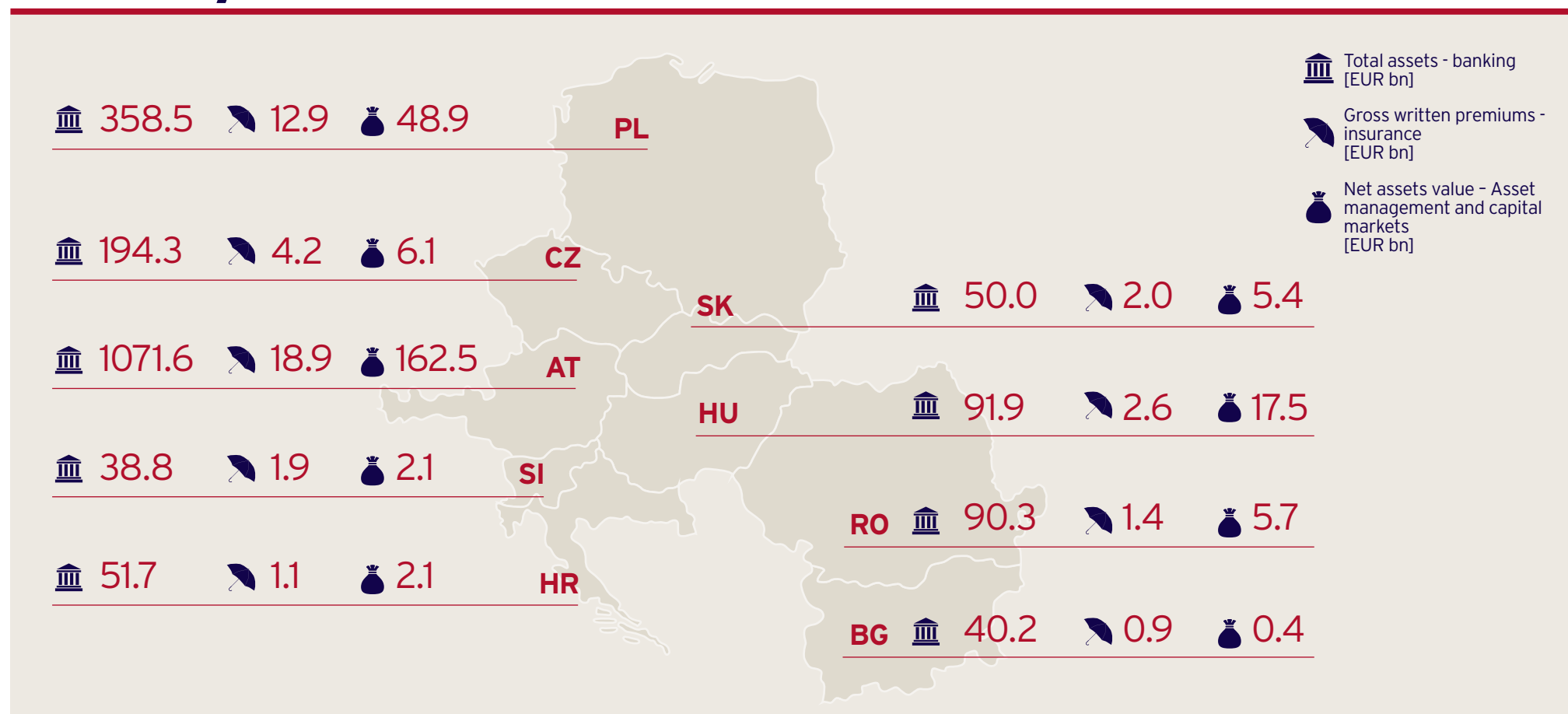
The banking sector remains economically challenged due to low interest rates and considerable share of NPLs in loan portfolio of private sector.

Investment in Slovenia dropped substantially during the crisis and has not recovered since.

Overview of Established Financial Sectors in CEE Countries

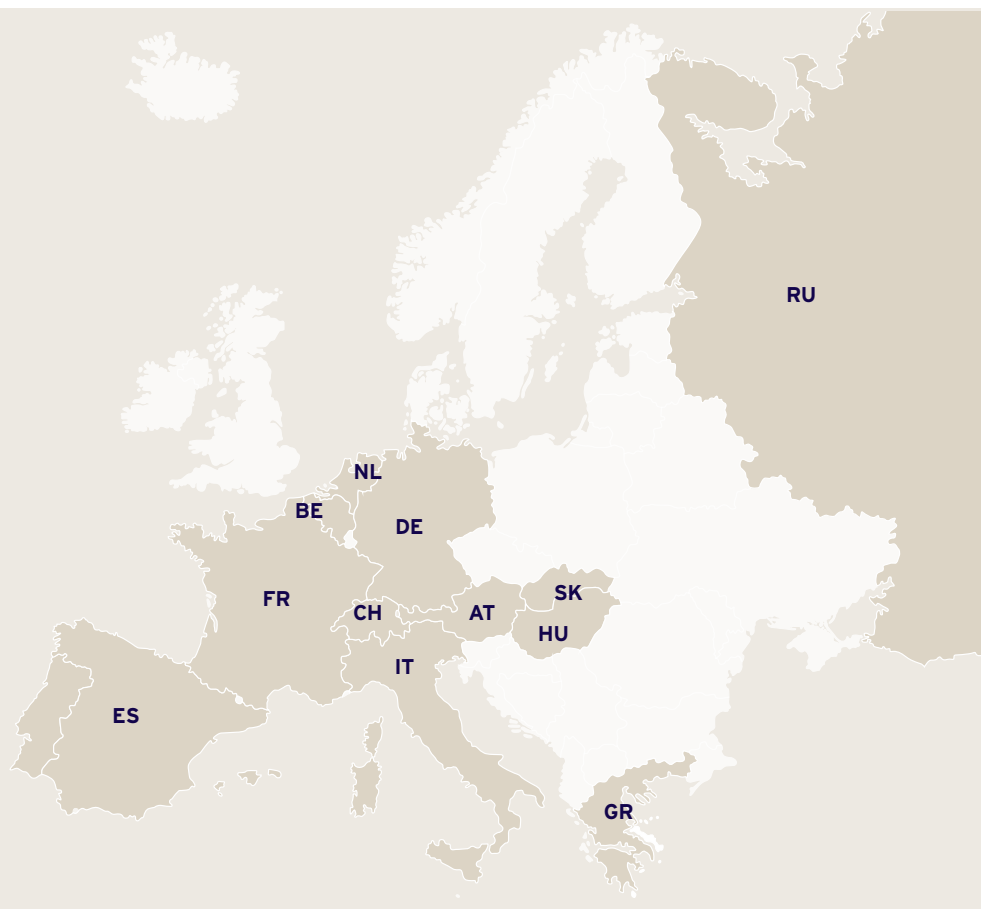


CEE key financial indicators



Banking groups in CEE

Bank	Country	AT	BG	CZ	HR	HU	PL	RO	SK	SI
Raiffeisenbank	AT	●	●	●	●	●	●	●	●	●
Erste Group Bank	AT	●		●	●	●		●	●	
Hypo Alpe Adria	AT				●				●	
KBC	BE		●	●		●			●	
Societe Generale	FR	●	●	●	●		●	●	●	●
Commerzbank	DE	●		●			●		●	
NGB	GR		●					●		
Alpha Bank	GR		●					●		
OTP Bank	HU		●		●	●		●	●	
UniCredit	IT	●	●	●	●	●	●	●	●	●
Intesa Sanpaolo	IT			●	●	●		●	●	●
Sberbank	RU			●	●	●			●	●
J&T	SK			●	●				●	
Santander	ES	●					●			
EFG	CH		●					●		
ING	NL	●		●			●	●		





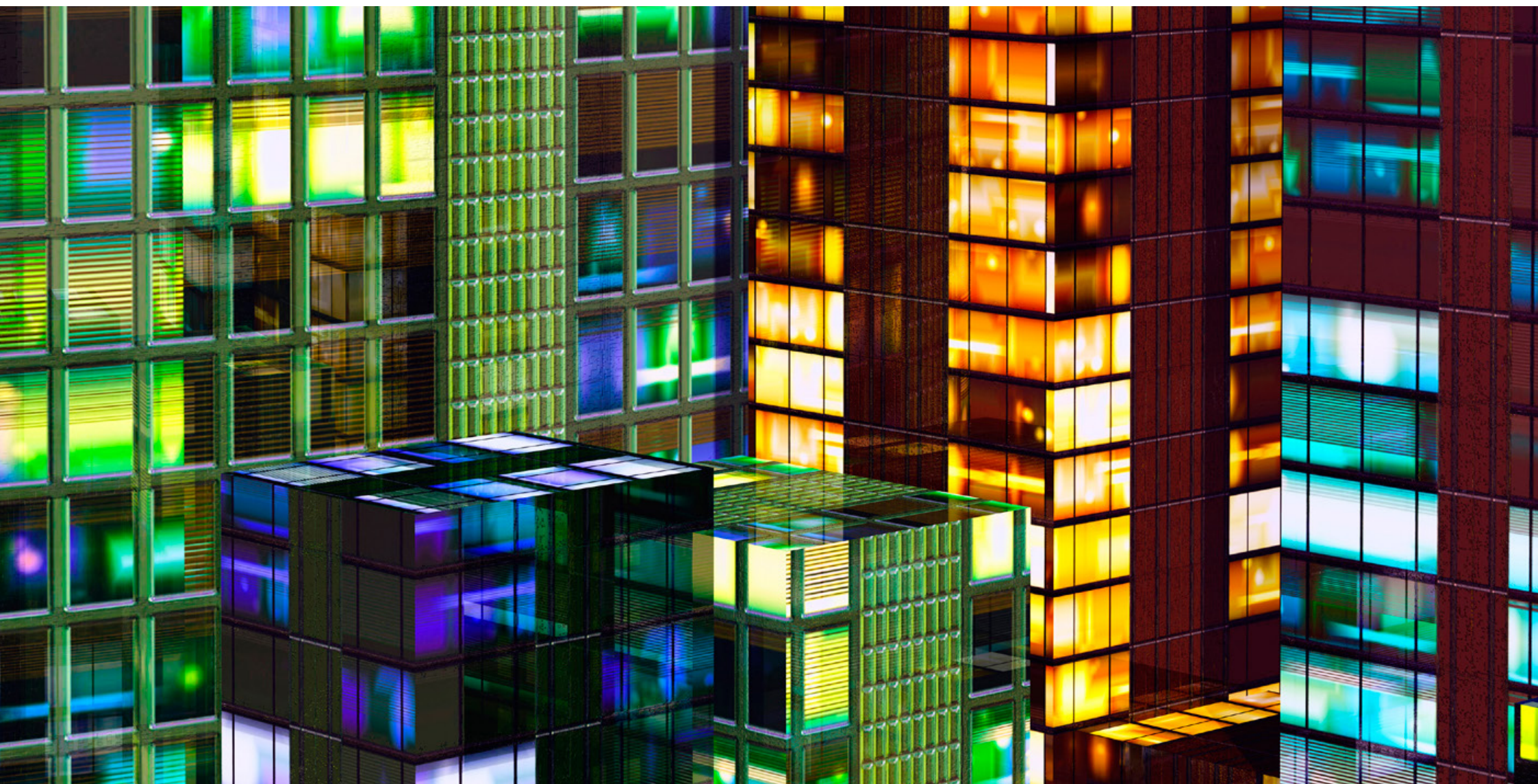
Insurance groups in CEE

Bank	Country	AT	BG	CZ	HR	HU	PL	RO	SK	SI
Vienna Insurance Group	AT	●	●	●	●	●	●	●	●	●
UNIQA	AT	●	●	●	●	●	●	●	●	
KBC	BE	●	●	●						
Euroins	BG		●					●		
Groupama	FR		●			●		●	●	
Allianz	DE	●	●	●	●	●	●	●	●	●
ERGO	DE	●		●	●	●	●	●	●	●
Talanx International	DE	●				●	●		●	
Generali	IT	●	●	●	●	●	●	●	●	●
Aegon Group	NL			●		●	●	●	●	
Nationale Nederlanden	NL		●	●		●	●	●	●	
MetLife Europe Limited	US		●	●		●	●	●	●	

Financial Sectors Overview



AUSTRIA



AUSTRIA

Number of:

Banks (2015)



42

Insurers (2013)

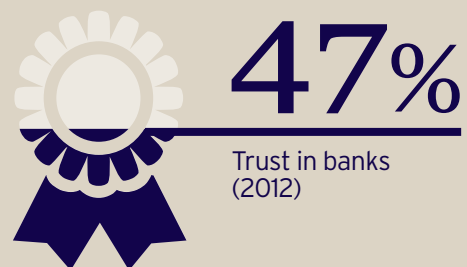
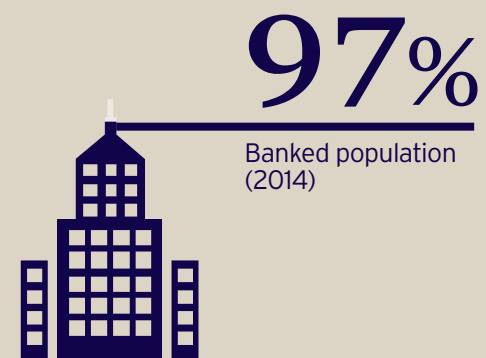


69

Asset management
companies (2015)



29



Source: All information in this chapter is based on publicly available sources (databases, press releases, articles, annual financial reports of financial institutions, reports of financial supervisory bodies)

Financial sector

Banking

Market Outlook

In recent years, Austria's top five banks increased their share of the sector's total assets to 73.4%, although their assets decreased by 5%¹

The Austrian banking sector is dominated by local players. Leading banks include the domestic Raiffeisen Group and Erste Bank, which both have a strong presence throughout CEE

The sector remained stable throughout the post-2008 crisis, partially due to the activity of the Vienna Initiative – a public-private forum gathering key stakeholders in the EU-based cross-border bank groups that are active in emerging Europe (mainly CEE countries)

NPL is stable, averaging 4.5% in recent years²

Regulatory Environment

Finanzmarktaufsicht (FMA) is the sole financial supervisory authority

FMA made a decision to dissolve the HETA Asset Resolution bank, and it affects Austria's attractiveness as a financial centre

Future Development

Risks to the Austrian banking system include:

- The large size of the banking system in comparison to other European countries
- The weak profit performance of domestic businesses

Banking sector - TOP5 players

Bank	Assets [EUR bn]	CAGR '12-'14*	Net banking income [EUR bn]	Ownership
ERSTE Bank**	196.3	(4.2%)	6.6	Austria
Bank Austria**	189.1	0.3%	5.9	Italy
Raiffeisen Bank International**	121.6	(5.5%)	5.4	Austria
Raiffeisenlandesbank Oberosterreich	38.5	(2.6%)	0.5	Austria
Bawag PSK	34.7	(8.4%)	0.9	USA

* Assets

** Values are consolidated for the whole capital group

AT BG HR CZ HU PL RO SK SI

Insurance

Market Outlook

The sector is strongly consolidated, with the top five insurers accounting for over 50%³ of the sector's total gross written premiums in 2014

The sector is dominated by national players (three players in the top five)

Stable growth can be seen in the gross premium sector, where the total value increased by 12% between 2012 and 2014⁴

Regulatory Environment

In 2015, the Austrian FMA became the national resolution authority within the new European regime for bank recovery and resolution

Future Development

The property and casualty insurance sector is expected to grow in 2015, but the life insurance business is likely to decrease by 2%

Insurance sector - TOP5 players

Insurer	Gross premiums [EUR bn]	CAGR '12-'14*	Ownership
GENERALI Versicherungen	3.0	0.1%	Italy
UNIQA	2.5	(5.6%)	Austria
Wiener Staetdtische Vienna Insurance Group	2.3	1.9%	Austria
ALLIANZ	1.4	1.3%	Germany
Vienna Insurance Group	0.9	0.5%	Austria

* Gross premiums

AT BG HR CZ HU PL RO SK SI

Asset management and capital markets

Market Outlook

The CAGR of the sector's net assets was stable between 2012-2015, amounting to 4.4%⁵

The total number of funds exceeded 2,000 in 2015⁶

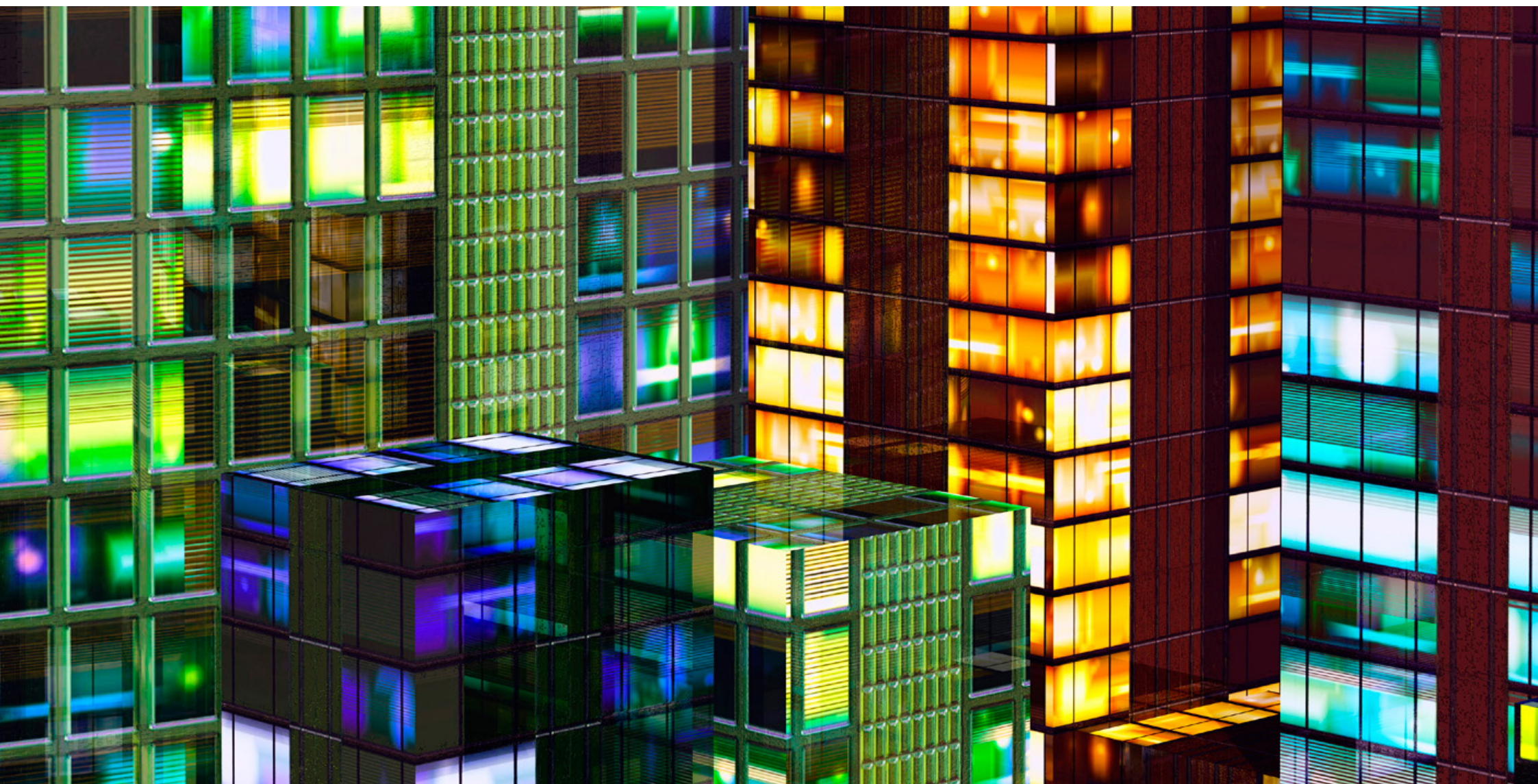
Assets under management (AuM) value at the end of 2012 was EUR 81.4 billion, and the average AuM per asset manager was EUR 2.9 billion

The Vienna Stock Exchange is the only stock exchange in Austria and is operated by the Wiener Boerse AG. The most significant index is the Austrian Traded Index (ATX). After a negative performance in 2014, the ATX showed positive development in 2015

In 2012, 58 of the 96 trading members on the Vienna Stock Exchange were foreign-owned. These continue to account for more than two-thirds of total trading volume in equities, with a share of 67.2%⁷



BULGARIA



BULGARIA

Number of:

Banks (2016)



28

Insurers (2016)



59

Asset management
companies (2016)



34

Brokerage firms (2016)



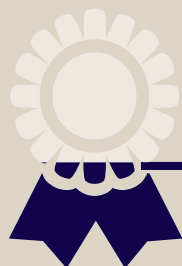
52

Source: All information in this chapter is based on publicly available sources (databases, press releases, articles, annual financial reports of financial institutions, reports of financial supervisory bodies)



63%

Banked population
(2014)



34%

Trust in banks
(2012)



Financial sector

Banking

Market Outlook

Bulgaria's top five banks represented 56% of the sector's total assets and 89% of its net profits in 2014⁸

70% of the banking sector's assets belonged to foreign-owned banking groups (four of the five biggest banks were foreign-owned in 2014)⁹

The Bulgarian National Bank introduced negative interest rates in November 2015

The Bulgarian banking system was affected by important legislative and regulatory developments in 2014 (including the implementation of the EU capital requirements regulation and directive, as well as the introduction of amendments to bankruptcy legislation for the banking sector)

Regulatory Environment

The country's major financial regulatory authorities include the Bulgarian National Bank, the Financial Supervision Commission and the Bulgarian Deposit Insurance Fund

Future Development

In 2016, Bulgarian banks will be subject to the first ever Asset Quality Review (AQR), which will verify the stability of the Bulgarian banking system

The banking sector in Bulgaria is expected to be consolidated due to the potential divestment of Greek-owned institutions

Banking sector - TOP5 players

Bank	Assets [EUR bn]	CAGR '12-'14*	Net banking income [EUR bn]	Ownership
UniCredit Bulbank	8.2	(12.3%)	0.4	Italy
DSK Bank	5.1	6.9%	0.3	Hungary
First Investment Bank	4.5	11.9%	0.2	Bulgaria
United Bulgarian Bank	3.4	1.8%	0.2	Greece
Raiffeisenbank (Bulgaria)	3.1	(1.6%)	0.2	Austria

* Assets

AT BG HR CZ HU PL RO SK SI

Insurance

Market Outlook

The top five insurers (life and non-life) accounted for 50% of the sector's total gross written premiums in 2014. Although these leaders incurred losses of over EUR 6 million, the sector as a whole reported positive results¹⁰

Bulgaria's non-life segment accounts for almost 80% of all insurance premiums underwritten by the industry¹¹. The motor vehicle line accounts for approximately 68% of all non-life premiums

Regulatory Environment

The major financial regulatory authority is the Financial Supervision Commission

Future Development

Implementation of the Solvency II Directive is set to be a significant challenge for the Bulgarian insurance sector.

Growth in the non-life segment will be constrained by slow macro-economic growth

An increasing number of mergers and acquisitions is expected to take place among Bulgarian insurers

Insurance sector - TOP5 players

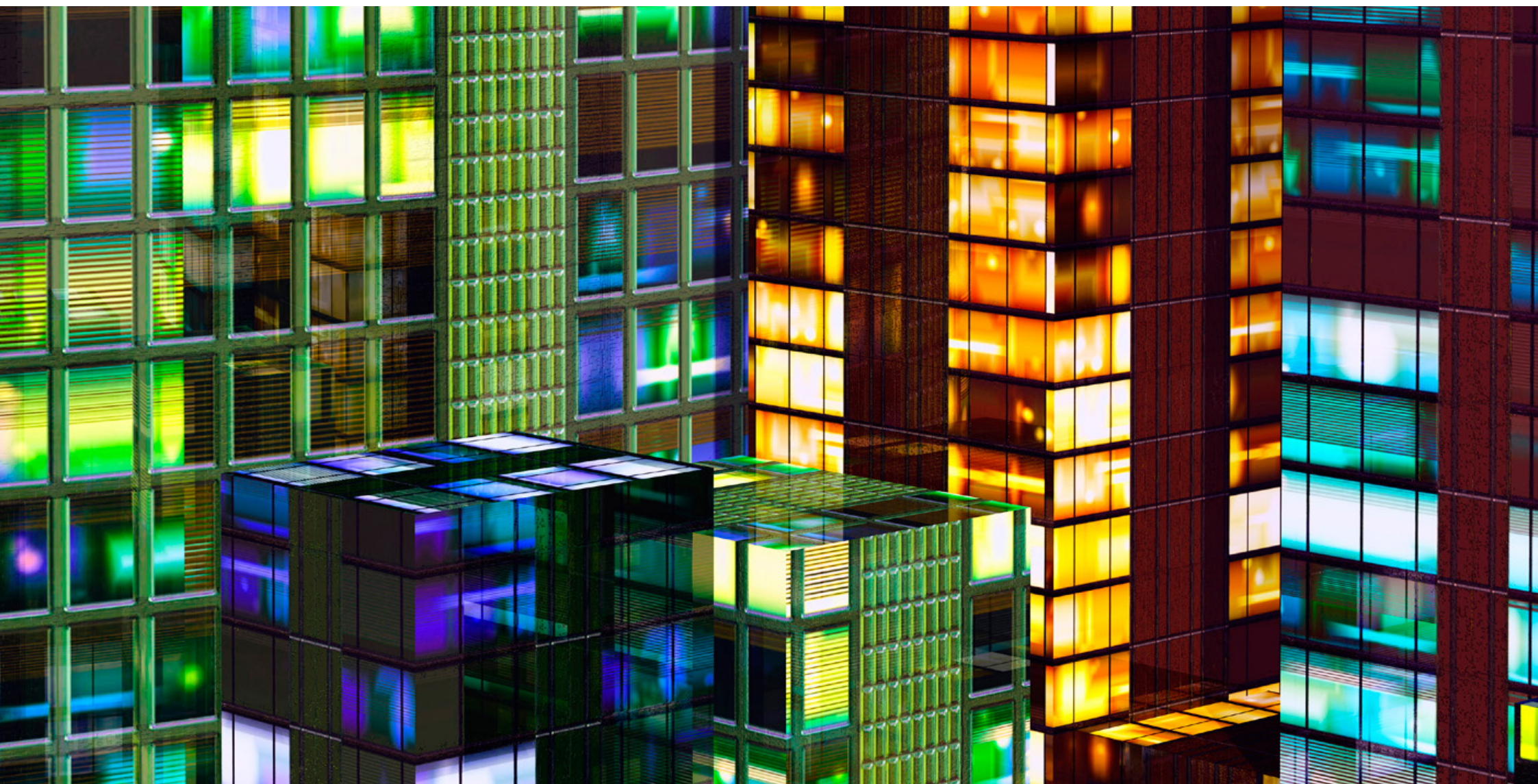
Insurer	Gross premiums [EUR bn]	CAGR '12-'14*	Ownership
BULSTRAD VIENNA INSURANCE GROUP	0.12	17.0%	Austria
Armeec	0.10	7.3%	Bulgaria
LEV INS	0.09	3.6%	Bulgaria
DZI Insurance	0.08	(5.9%)	Belgium
Allianz Bulgaria	0.07	2.3%	Germany

* Gross premiums

In January 2016 on both stock exchanges there were 372 listed companies¹³



CROATIA



CROATIA

Number of:

Banks (2016)



28

Insurers (2016)



24

Asset management
companies (2016)



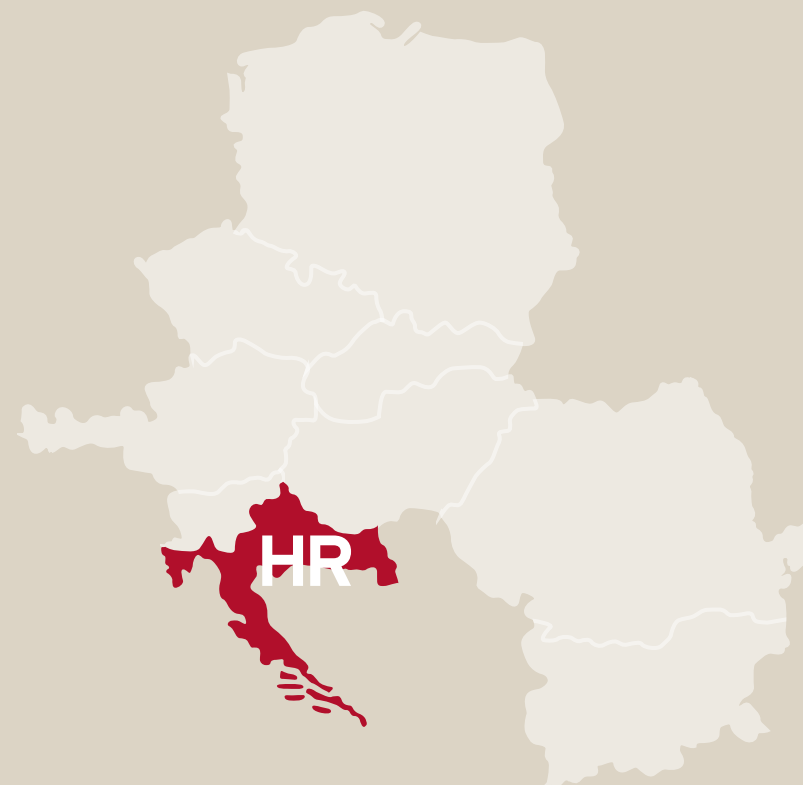
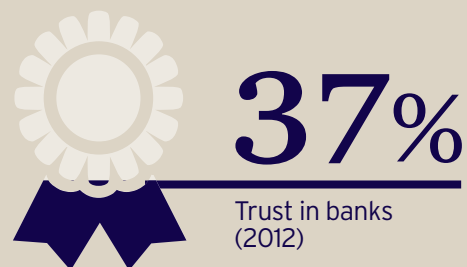
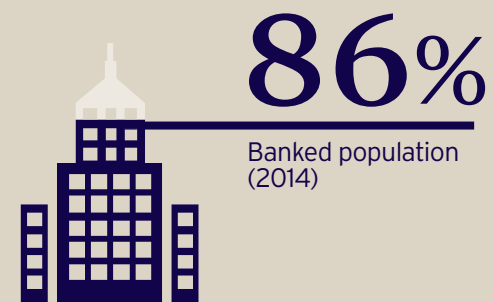
28

Brokerage firms (2016)



19

Source: All information in this chapter is based on publicly available sources (databases, press releases, articles, annual financial reports of financial institutions, reports of financial supervisory bodies)



Financial sector

Banking

Market Outlook

A process of consolidation has been underway in the Croatian banking sector for the last decade

The top five banks represented 74% of the sector's total assets in 2014¹⁴. Foreign-owned assets make up over 90% of the banking sector (data for 2014¹⁵)

The profitability of the banking sector in terms of net profit increased year-on-year by 220% in 2014¹⁶

Due to the financial crisis, the share of NPLs increased from 7.7% in 2009 to 17.1% in 2015¹⁷

The Asset Quality Review showed the strong capital position of Croatian banks in managing the risks faced by the banking industry

Regulatory Environment

The sector's major financial regulatory authority is the Croatian National Bank

Future Development

In 2015, Croatia's parliament introduced legislation allowing Swiss-franc loans to be converted into euros. Banks have therefore had to convert the principals of loans in francs into euros, and to provide borrowers with new plans for the repayment of their loans

Banking sector - TOP5 players

Bank	Assets [EUR bn]	CAGR '12-'14*	Net banking income [EUR bn]	Ownership
Zagrebacka banka	13.4	(0.8%)	0.3	Italy
Privredna banka Zagreb	9.0	0.8%	0.4	Italy
Erste & Steiermaerkische Bank	7.9	1.4%	0.2	Austria
Raiffeisenbank Austria Zagreb	4.1	(6.0%)	0.2	Austria
Splitska banka	3.8	4.5%	0.1	France

* Assets

AT BG HR CZ HU PL RO SK SI

Insurance

Market Outlook

The five largest insurers made up 62% of gross written premium in 2014¹⁸

Two of the five biggest insurers are owned by Croatian capital groups, while the remaining three are foreign-owned

Regulatory Environment

The major financial regulatory authority is the Croatian Financial Services Supervisory Agency

Future Development

2014 was marked by the liberalisation of regulations governing car insurance prices, which ultimately led to a 6% decrease in gross premiums compared to 2013¹⁹

The liberalisation brought also various opportunities to personalise prices (accounting for age and driving frequency) and to grant additional discounts (such as for responsible drivers)

Insurance sector - TOP5 players

Insurer	Gross premiums [EUR bn]	CAGR '12-'14*	Ownership
Croatia osiguranje	0.3	(15.2%)	Croatia
Allianz Zagreb	0.2	5.9%	Germany
EUROHERC osiguranje	0.1	(5.5%)	Croatia
UNIQA osiguranje	0.1	32.8%	Austria
WIENER osiguranje	0.1	16.9%	Austria

* Gross premiums

Asset management and capital markets

Market Outlook

The five leading asset management companies accounted for 49% of the sector's total net assets value in 2014

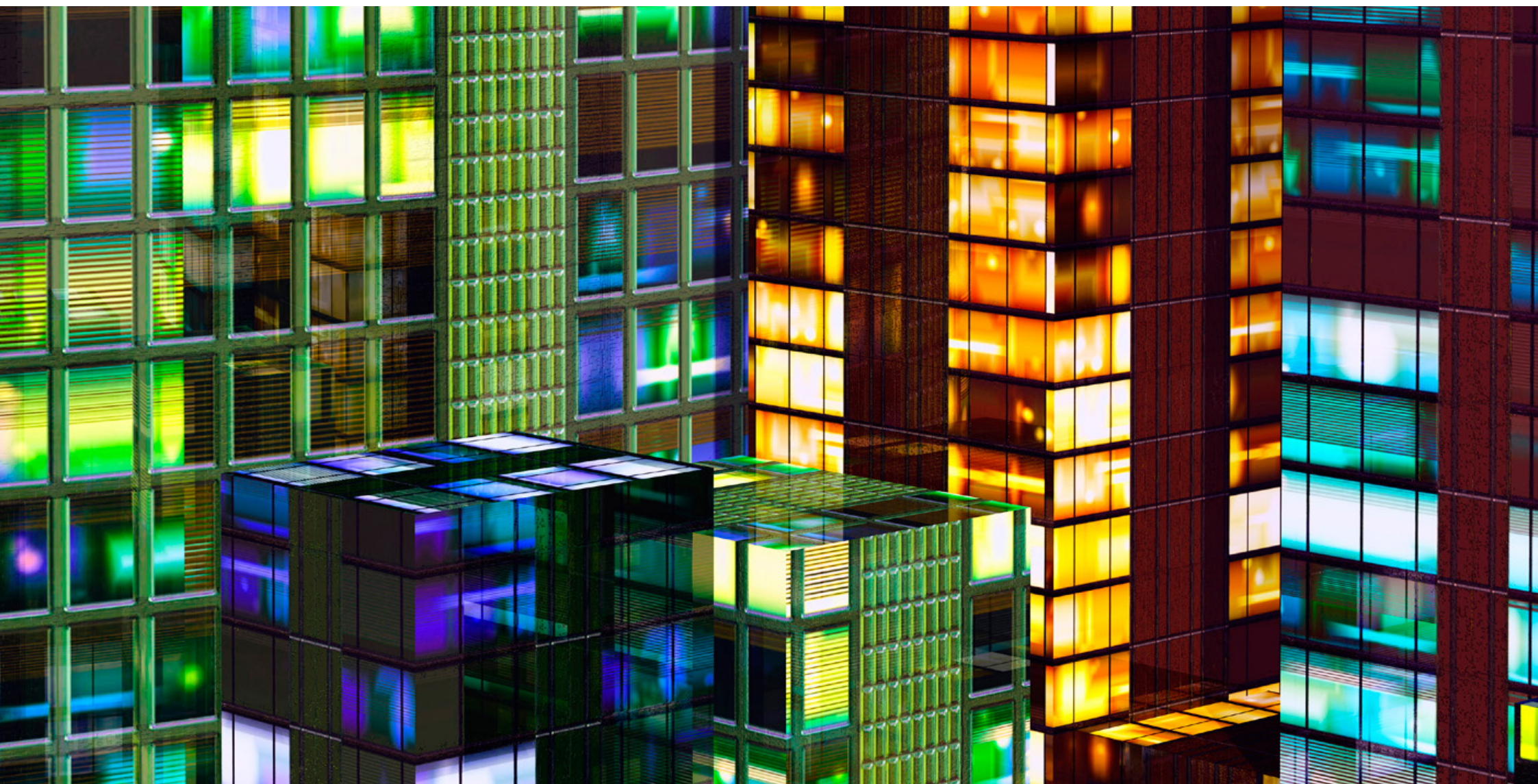
The Zagreb Stock Exchange (ZSE) acquired the Ljubljana Stock Exchange in late 2015. Collaborative efforts include the sharing of trading technology and common IT services

Over 150 listed companies and 350 securities are on the ZSE²⁰

Over the past five years, the ZSE has implemented new products such as market making, operating a multilateral trading facility and structured products trading



CZECH REPUBLIC



CZECH REPUBLIC

Number of:

Banks (2014)



23

Insurers (2014)



52

Asset management
companies (2014)



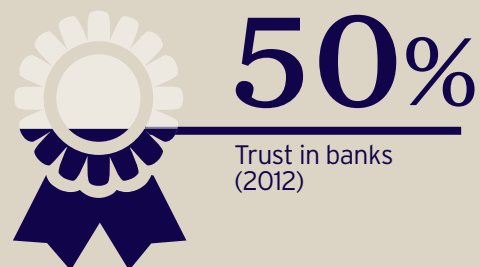
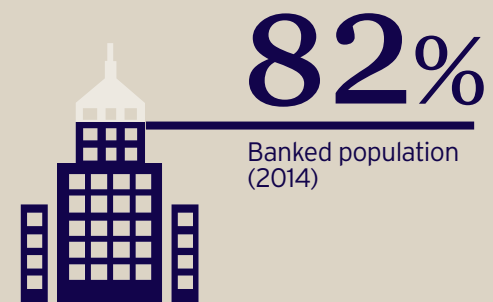
26

Brokerage firms (2016)



17

Source: All information in this chapter is based on publicly available sources (databases, press releases, articles, annual financial reports of financial institutions, reports of financial supervisory bodies)



Financial sector

Banking

Market Outlook

The five leading banks in the Czech Republic represented 64% of the sector's total assets in 2014, and foreign-owned assets accounted for 88% of the total²¹

Profitability of the banking sector in terms of net profit increased by 3.9% year on year in 2014²² following a 4.5% drop the previous year²³. Czech banks achieved 11.4% ROE in 2014, compared to the EU average of 3.0%²⁴

The latest AQR tests confirmed that the Czech financial system was stable and resilient to several risk scenarios. Aspects contributing to the overall sector stability compared to some CEE countries are a generally lower LTD ratio, almost non-existent household foreign-currency loans and a very good capitalisation of the sector (CAR > 15%)²⁵






Regulatory Environment

Major financial regulatory authorities include: the Czech National Bank (supervisor) and the Ministry of Finance (regulator responsible for legislation). The Czech Banking Association represents almost all banks in the sector

Future Development

Market consolidation has been rather limited, particularly due to the dominance of established foreign banks controlling almost two thirds of the market. Organic growth and focus on existing customer portfolios will therefore feature strongly in large banks' strategies. There has been movement in the sector: Citi sold its retail business to Raiffeisen, Zuno was put up for sale by RZB and GE Money Bank is due to be sold in 2016

Banking sector - TOP5 players

Bank	Assets [EUR bn]	CAGR '12-'14*	Net banking income [EUR bn]	Ownership
Komerční banka	 34.4	10.1%	1.1	France
Ceská spořitelna	 32.6	(1.0%)	1.5	Austria
CSOB	 31.2	(3.9%)	1.1	Belgium
UniCredit Bank Czech Republic and Slovakia	 18.3	26.3%	0.5**	Italy
Raiffeisenbank	 8.2	6.9%	0.1	Austria

* Assets

** Value comprises net banking incomes of UniCredit in both the Czech Republic and Slovakia, however the first one is dominating

The retail banking market has been recently shaped by new direct banking entrants like Air bank and Equa bank and emerging cross-industry distribution alliances

Mortgage loans have been the fastest growing product with volumes already exceeding 2007's all-time record

AT BG HR CZ HU PL RO SK SI

Insurance

Market Outlook

The five leading insurers represents 80% of the market with the top two insurance groups²⁶, Generali and Vienna Insurance Group, controlling almost a third of the market measured by gross written premium. The rest of the market is more fragmented, with Allianz and KBC being the largest medium-sized players. Consolidation is progressing with some small players leaving the market (the German W&W has recently sold its insurance subsidiaries to Allianz, for example)

Foreign-owned insurance groups control more than 95% of the Czech insurance market (measured by GWP)

The net profit of the sector in 2014 fell by 37.1% year on year

Regulatory Environment

Major financial regulatory authorities include: The Czech National Bank (supervisor) and the Ministry of Finance (regulator responsible for legislation). The Czech Insurance Association represents almost all insurers in the market

Future Development

Gross written premiums accounted for 3.7% of Czech GDP (2014)²⁷, a little more than half of the EU average. This suggests considerable room for growth as the standard of living is converging with that in Western Europe

Although the life insurance penetration of 1.7% of GDP is well below the EU average and has significant potential for growth, premiums decreased in 2012-15 as the market suffered from churn and a low quality of sales. The non-life market with penetration of 2% of GDP is now more stable although Motor Third Party Liability (MTPL) insurance margins are shrinking²⁸

Insurance sector - TOP5 players

Insurer	Gross premiums [EUR bn]	CAGR '12-'14*	Ownership
Ceska pojist'ovna	1.0	(4.2%)	Italy
Kooperativa pojist'ovna	0.8	1.5%	Austria
Allianz pojist'ovna	0.4	6.6%	Germany
Generali pojist'ovna	0.3	2.3%	Italy
CSOB pojist'ovna	0.3	(2.6%)	Belgium

* Gross premiums

Asset management and capital markets

Market Outlook

The five largest asset management companies accounted for 78% of total sector assets managed in 2014

The value of total sector net assets grew by 70% in 2012-2015²⁹

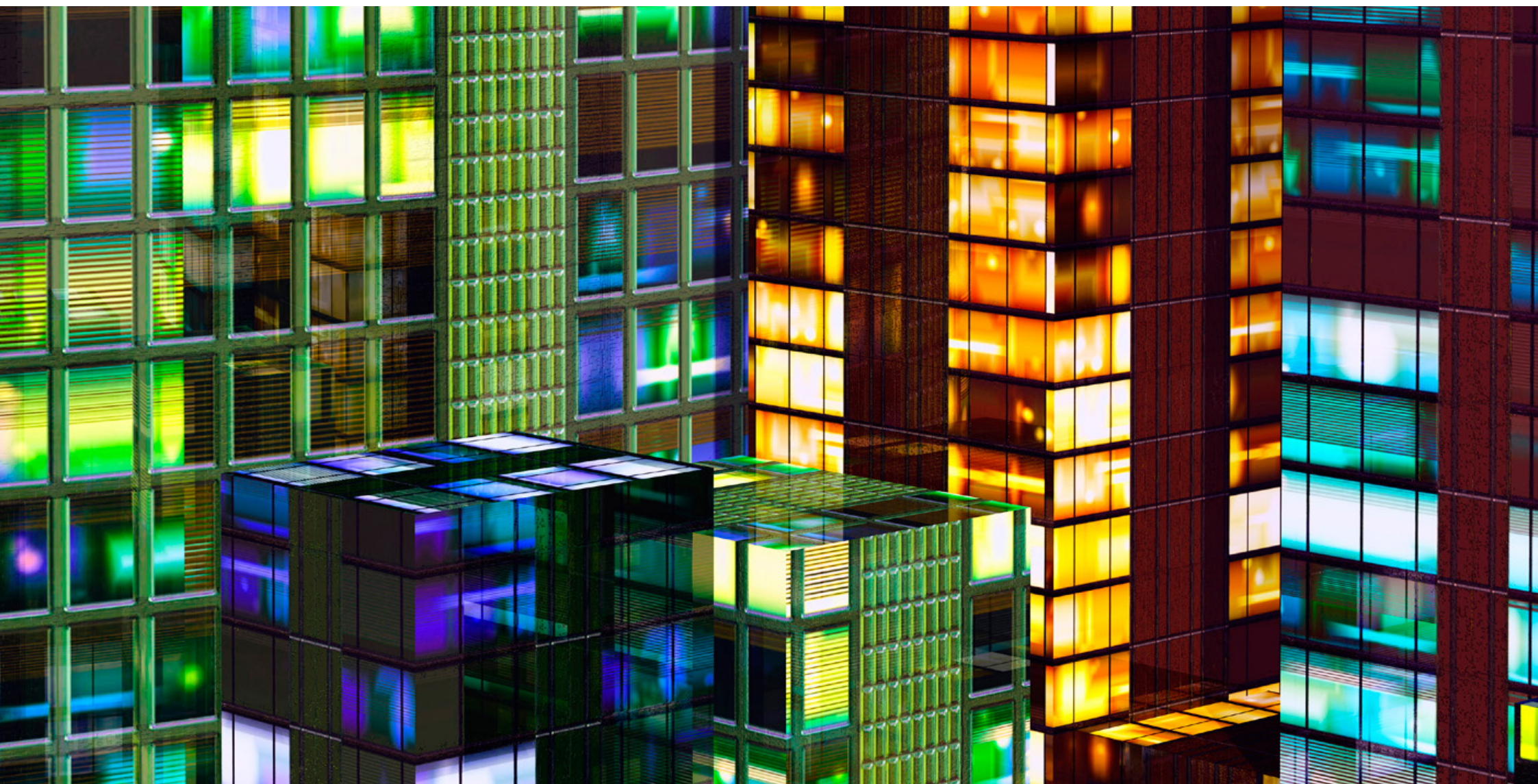
The main securities market is the Prague Stock Exchange (PSE), owned by the Wiener Börse (Austria)

The PSE is organised in two tiers: the Regulated Market for traditional trading and the unregulated Multilateral Trading Facility (MTF), which is split into a Free market and a Start market for start-up firms. The number of securities issuance has been falling, to date there have been only 25 domestic equity issues traded on the PSE³⁰

Positively influenced by the prevailing low interest rate environment, investments into investment funds have recently gained momentum – showing double-digit gains. The total volume of assets grew by 20% in 2015 alone



HUNGARY



HUNGARY

Number of:

Banks (2015)



44

Insurers (2015)



34

Asset management
companies (2015)



23

Brokerage firms (2015)



24

Source: All information in this chapter is based on publicly available sources (databases, press releases, articles, annual financial reports of financial institutions, reports of financial supervisory bodies)



72%

Banked population
(2014)



27%

Trust in banks
(2012)



Financial sector

Banking

Market outlook

The top five banks represented 55% of the sector's total assets in 2014 and incurred half of the sector's losses³¹

2014 brought significant losses (totalling EUR 1.6 billion)³², mainly due to impairments on non-performing loans (NPL) and provisions to cover losses incurred through the government's debt relief on foreign currency mortgages

Hungarian banks have not as yet fully recovered from the financial crisis. In 2010, the Hungarian government imposed a bank levy to help reduce the fiscal deficit. As the economy improves, the levy is to be gradually reduced in 2016 and 2017

International players dominate the market, although the biggest bank, controlling 25% of the sector's assets, is Hungarian-owned

The sector is consolidating, with the Hungarian government tightening its grip on banks through the acquisition of MKB and Budapest Bank (and soon a stake in the top five-ranked Erste Bank)






Regulatory Environment

The main financial regulatory authority is the National Bank of Hungary

Future Development

Although banks are committed to innovation, managing NPL and the resulting difficulties in making ends meet seem to be a more pressing issue

Banking sector - TOP5 players

Bank	Assets [EUR bn]	CAGR '12-'14*	Net banking income [EUR bn]	Ownership
OTP Bank	 23.2	6.4%	1.8	Hungary
KBC	 7.9	0.5%	0.7	Belgium
UniCredit Bank	 7.2	16.0%	0.4	Italy
Raiffeisen BANK	 6.8	0.9%	0.4	Austria
ERSTE Bank	 6.1	(16.2%)	0.5	Austria

* Assets

Insurance

Market Outlook

The insurance sector in Hungary is fairly concentrated and dominated by foreign companies, a trend that was reinforced after EU accession in 2004

Although the top five insurers (life and non-life) made up 50% of total sector gross premium in 2014, their share is gradually decreasing as smaller insurers continue to strengthen their position, particularly in the non-life market

Regulatory Environment






The key regulator is the National Bank of Hungary, which took over responsibility from the Hungarian Financial Supervisory Authority (dissolved in 2013)

Future Development

Commissions are expected to decline; process optimisation and digitisation may be beneficial in this changing environment

The National Bank of Hungary has recently approved new rules for calculating life insurance policy costs. The Total Cost Indicator (TKM), along with a mandatory questionnaire for customers, will improve the transparency of the insurance sales process and protect customers against making uninformed, high-risk purchases

Insurance sector - TOP5 players

Insurer	Gross premiums [EUR bn]	CAGR '12-'14*	Ownership
Allianz Hungaria Biztosito	 0.4	-3,48%	Austria
Generali Biztosito	 0.4	2,24%	Italy
Groupama Garancia Biztosito	 0.3	5,21%	France
Aegon Magyarország Általános Biztosító	 0.3	5,09%	Netherlands
ING Biztosito	 0.2	6,42%	Netherlands

* Gross premiums

Asset management and capital markets

Market Outlook

The top five investment fund companies accounted for 72% of the sector's total assets in 2014. They are owned by commercial banks and brokerages

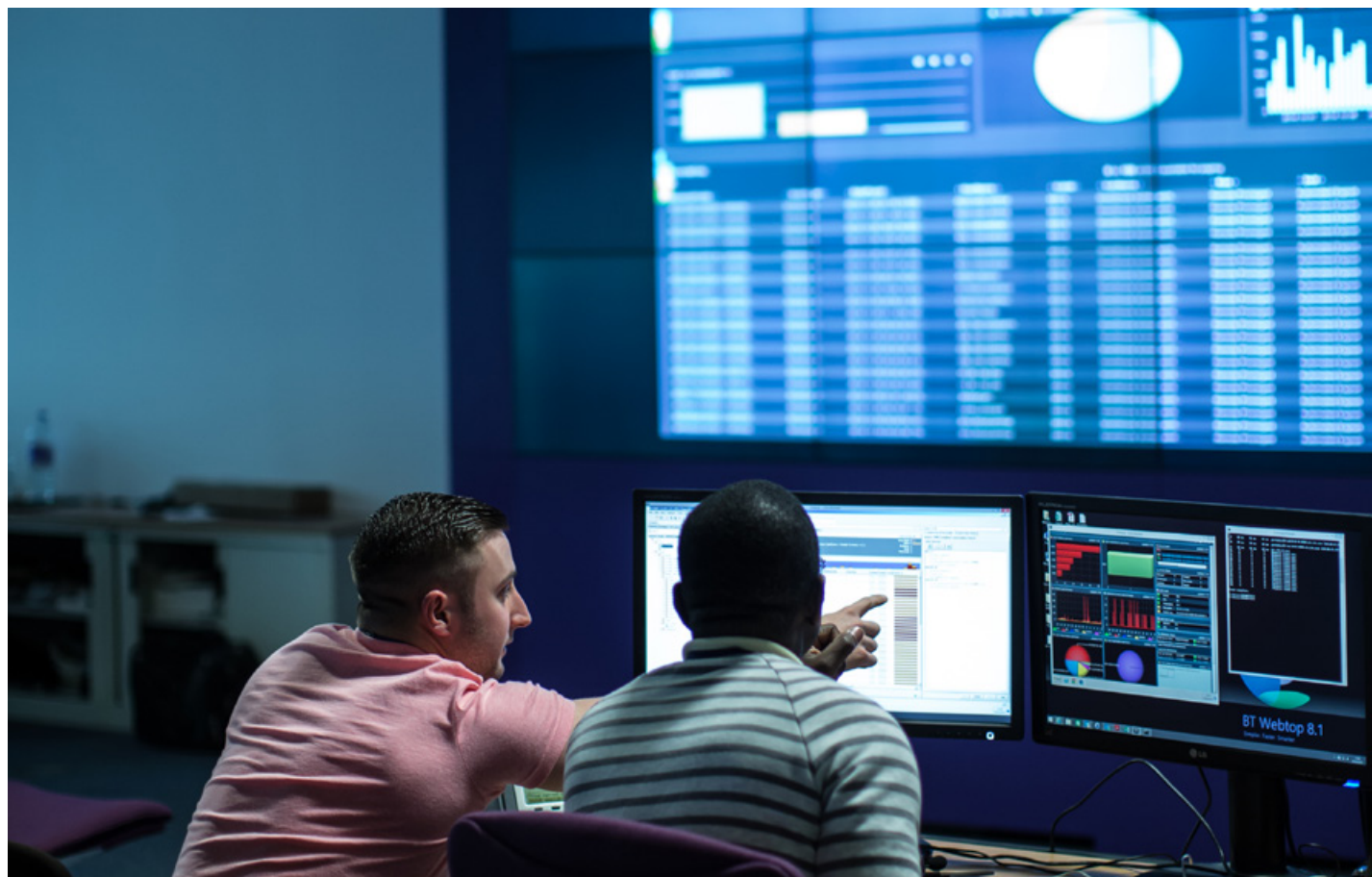
Total sector net assets have grown each year by an average of 16% from 2012-2015³³

The Hungarian investment fund market is fairly small, mainly due to low levels of disposable income and the resulting low propensity to save

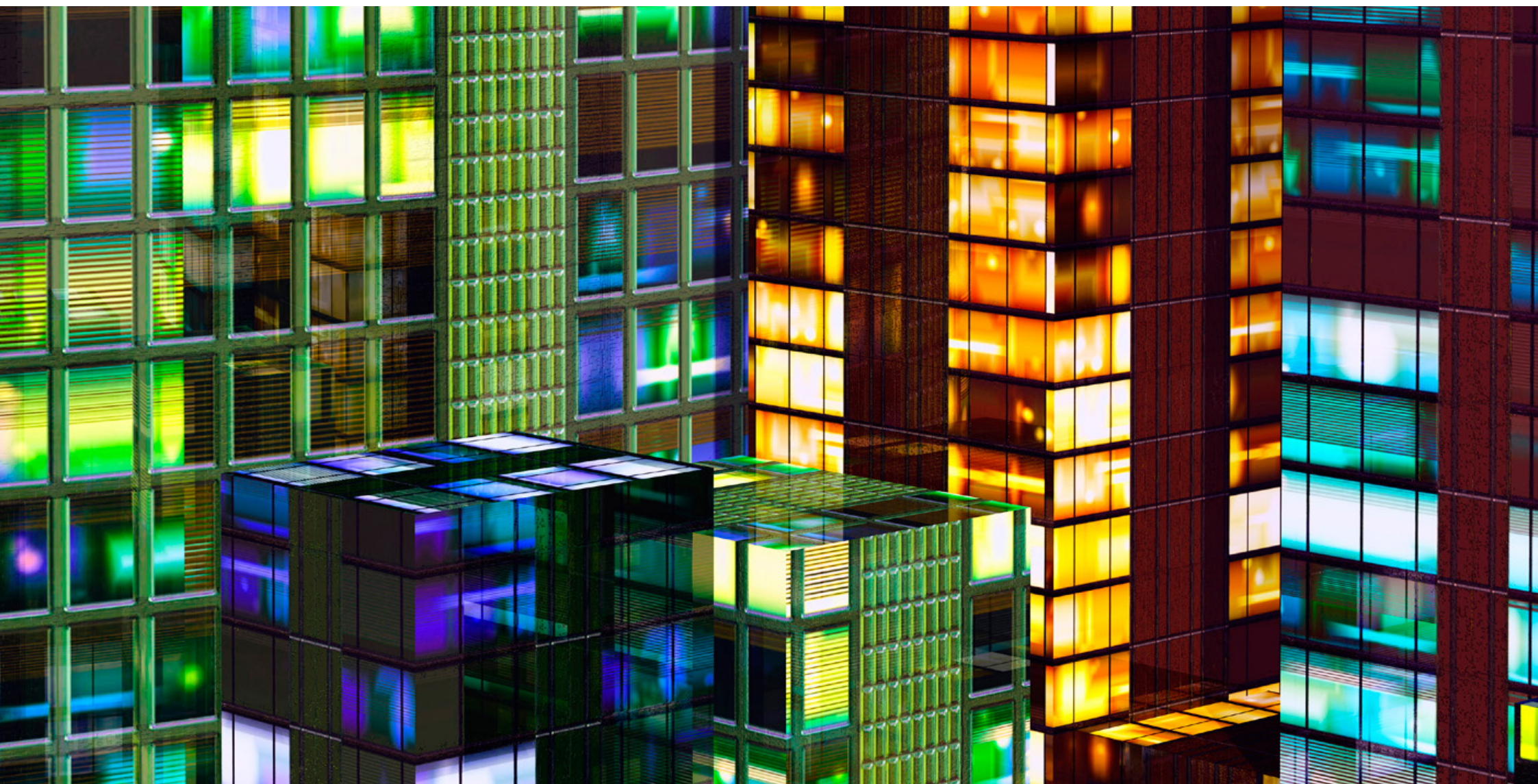
The capital market is divided according to the size of the listed company - the premium market for the biggest players and the standard market for smaller companies

The Hungarian Stock Exchange is illiquid, trading around EUR 25 million each day; only 52 companies are listed

The brokerage segment is suffering from a crisis of confidence, due to the default of two large players (Buda-Cash and Quaestor), allegedly the result of frauds



POLAND



POLAND

Number of:

Commercial banks (2015)



38

Insurers (2015)



59

Asset management companies (2015)



58

Brokerage firms (2015)

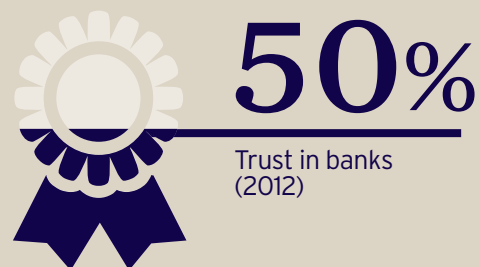
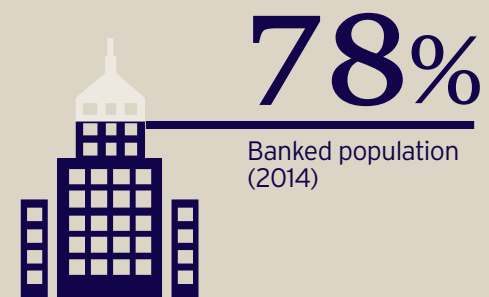


53

Cooperative banks which are members of 2 groups: (1) PBS and (2) SGB



565



Source: All information in this chapter is based on publicly available sources (databases, press releases, articles, annual financial reports of financial institutions, reports of financial supervisory bodies)



Financial sector

Banking

Market Outlook

The Polish banking sector is consolidating: there have been 10 major bank mergers since 2009

The top five banks represented 50% of the sector's total assets in 2014 and 64% of net profits³⁴

Two thirds of the banking assets in the country belong to foreign-owned banking groups (four of the five biggest banks are part of international banking capital groups)

Regulatory Environment

The major financial regulatory authorities include: National Bank of Poland, Polish Financial Supervision Authority, Banking Guarantee Fund

Future Development

Banking incomes are under pressure (and forecast to decrease in years to come) due to³⁵:

- Falling interest rates
- A potential law to convert Swiss franc mortgages (could mean up to EUR 10 billion in losses for the banking sector)
- Implementation of the bank levy: 0.44% of a bank's assets - applicable to banks with assets exceeding PLN 4 billion (~EUR 1 billion)
- Increased obligatory contributions to the Banking Guarantee Fund (the consequence of defaults by several co-operative banks)

As a result, banks have started to seek additional revenue in increased fees and commissions (eg on mortgages, current accounts, ATM withdrawals etc.)

Banking sector - TOP5 players

Bank	Assets [EUR bn]	CAGR '12-'14*	Ownership
PKO Bank Polski	58.3	8.8%	Poland
Bank Pekao	39.3	3.6%	Italy
Bank Zachodni WBK	31.6	30.9%	Spain
mBank	27.7	4.9%	Germany
ING	23.4	8.5%	Netherlands

* Assets

AT BG HR CZ HU PL RO SK SI

Insurance

Market Outlook

PZU, the biggest Polish insurer, accounts for 30% of the sector's total gross premiums and 66% of net profits (2014)³⁶

Top five insurers (life and non-life) made up 57% of total sector gross premiums in 2014 and 88% of net profits (four of the five biggest insurers are part of international financial capital groups)³⁷

Banks have a strong role as insurance intermediaries in the life segment (bancassurance generated 38% of GWP in the life segment in Q3 2015³⁸, but its share is decreasing)

Regulatory Environment

The insurance sector's authorities and regulators include: Polish Financial Supervision Authority, The Polish Insurance Association

Future Development

The expected challenges include:

- Income levels of major insurers will be affected by the introduction of additional tax (0.44% on assets over PLN 2 billion³⁹)
- New regulations, such as the implementation of Recommendation U (regulating the bancassurance market), restrict banks from being the insurer and the insured at the same time and require banks to give customers transparent product information along with freedom of choice regarding the insurer

Insurance sector - TOP5 players

Insurer	Gross premiums [EUR bn]	CAGR '12-'14*	Ownership
PZU	3.9	(2.5%)	Poland
ERGO HESTIA	1.2	12.6%	Germany
WARTA	1.2	(9.1%)	Germany
COMPENSA	0.6	15.3%	Austria
Allianz	0.6	(10.2%)	Germany

* Gross premiums

Asset management and capital markets

Market Outlook

The top five asset management companies accounted for 45% of total sector assets in 2014. They are owned by Polish capital groups

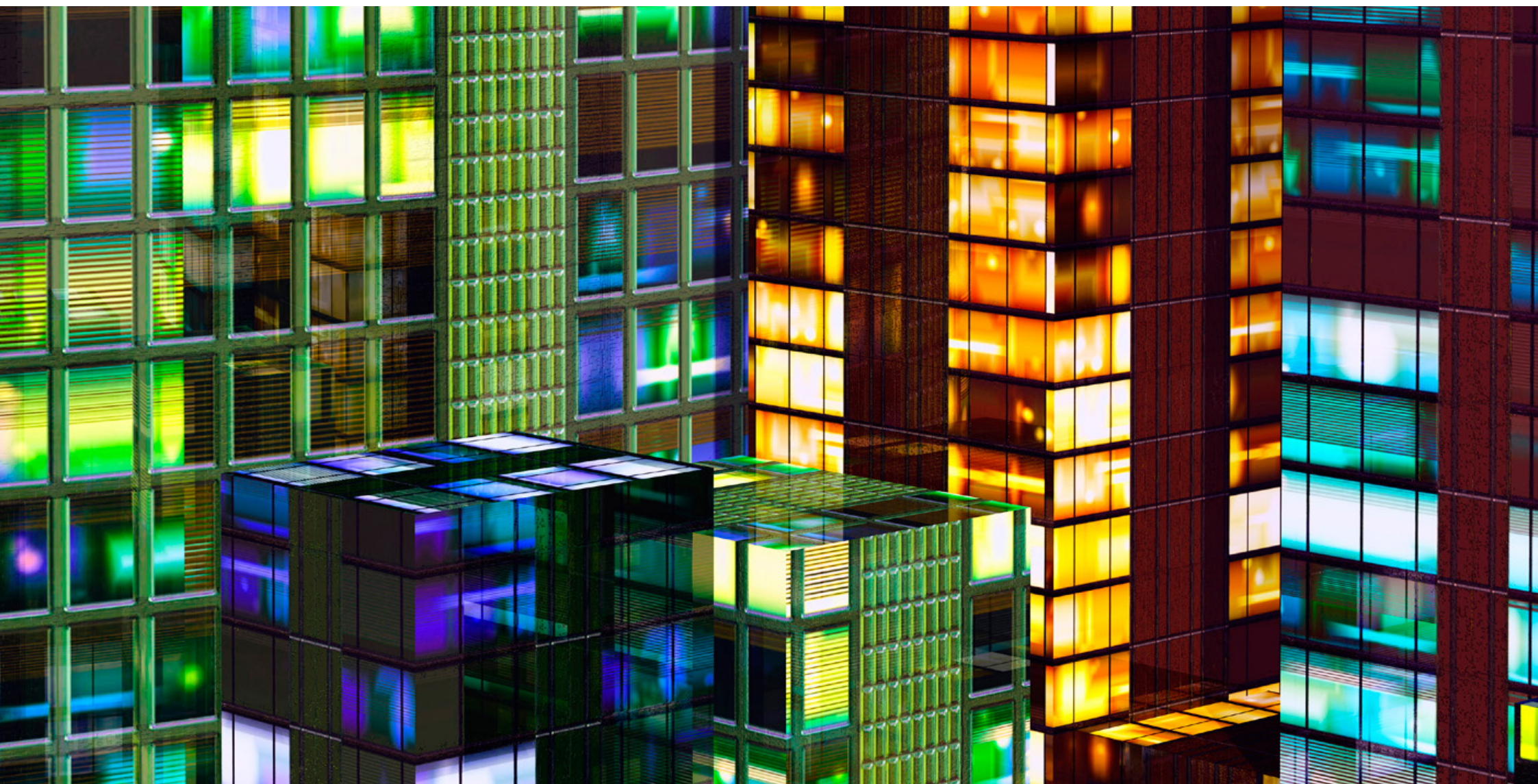
Total net assets grew by an average of 20% between 2012 and 2015⁴⁰

The capital market is divided according to the size of the listed company: larger established firms are listed on the regulated market (the Warsaw Stock Exchange), while smaller companies are listed on the alternative stock exchange (New Connect)

In 2015, 487 companies (including 57 foreign entities) were listed on the Warsaw Stock Exchange⁴¹



ROMANIA



ROMANIA

Number of:

Banks (2015)



40

Insurers (2015)



35

Asset management
companies (2015)

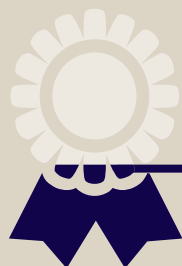


26



61%

Banked population
(2014)



30%

Trust in banks
(2012)



Source: All information in this chapter is based on publicly available sources (databases, press releases, articles, annual financial reports of financial institutions, reports of financial supervisory bodies)

Financial sector

Banking

Market Outlook

The top five banks represent 48.7% of total sector assets⁴². The sector is consolidating rapidly, with key acquirers (Raiffeisen, Banca Transilvania, UniCredit and OTP) expressing interest in further M&A activity. The banking sector provides about 91% of the total financing granted within the Romanian financial system

The Romanian banking sector is dominated by international players - 90% of the banking sector's assets are held by institutions with foreign capital⁴³

Regulatory Environment

Financial regulatory authorities are: National Bank of Romania (NBR), Romanian Financial Supervisory Authority, Bank Deposit Guarantee Fund

Future Development

The performance outlook of banks operating in Romania is slowly improving, due to strong decisions taken to complete the clean-up of their portfolios. 2015 was the best year for banks since the crisis

The main challenges facing the Romanian banking sector include:

- Management of non-performing loans, with a special emphasis on the legacy of forex loans
- The direct supervision of banks by ECB and NBR
- The misuse of insolvency procedures as protection against creditors (applicable to corporate clients)
- The pursuit of cost efficiency, profitability and economies of scale which might translate into further acquisitions

Banking sector - TOP5 players

Bank	Assets [EUR bn]	CAGR '12-'14*	Net banking income [EUR bn]	Ownership
Banca Comerciala Romana	13.2	(8.5%)	0.8	Austria
BRD	10.1	(2.9%)	0.6	France
Banca Transilvania	8.0	9.7%	0.5	Romania
Raiffeisen Bank	6.5	10.3%	0.5	Austria
UniCredit Tirioc Bank	6.5	7.0%	0.3	Italy

* Assets

AT BG HR CZ HU PL RO SK SI

Insurance

Market Outlook

In 2015, the Romanian insurance market recorded its first year of growth since the crisis (8% higher gross premium than in 2014)⁴⁴; three of the top five insurers still incurred losses, however

The top five insurers (life and non-life) accounted for 41% of total sector gross premium in 2014⁴⁵. (All are parts of international financial capital groups)

The Romanian insurance sector is currently underdeveloped (there is a limited range of products and only selected risks are covered)

Insurance penetration in Romania is below the European average (1.24% as a ratio of GDP in 2014 as compared to 7.46% across the EU in 2014)⁴⁶

Gross written premiums are concentrated in Bucharest (50%)

Regulatory Environment

The financial regulatory authority is Romanian Financial Supervision Authority

Future Development

Foreign insurers are set to gain easier access to the Romanian Motor Third Party Liability market due to the cancellation of certain legacy requirements

Price competition and over-capacity will be the main challenges in the near future

Insurance sector - TOP5 players

Insurer	Gross premiums [EUR bn]	CAGR '12-'14*	Ownership
Asigurari Allianz-Tiriac	0.2	4.6%	Austria
OMNIASIG	0.2	4.0%	Austria
Groupama Asigurari	0.2	(6.2%)	France
Euroins Romania Asigurare Reasigurare	0.1	3.3%	Bulgaria
UNIQA Asigurari	0.1	(9.7%)	Austria

* Gross premiums

Asset management and capital markets

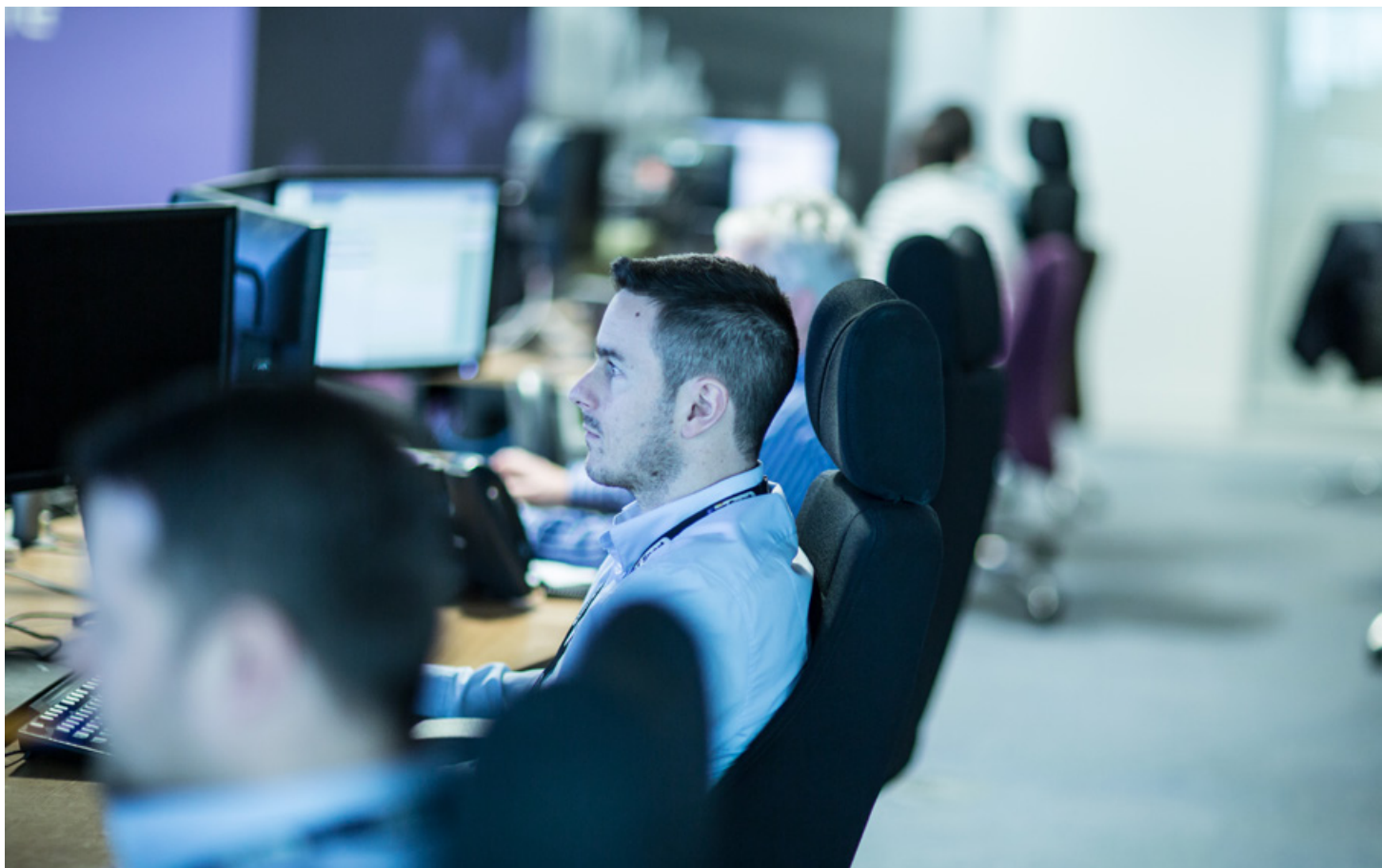
Market Outlook

Romania's top five asset management companies accounted for 72% of total sector assets at the end of 2015. They are all owned by global players, and three of them belong to banks.

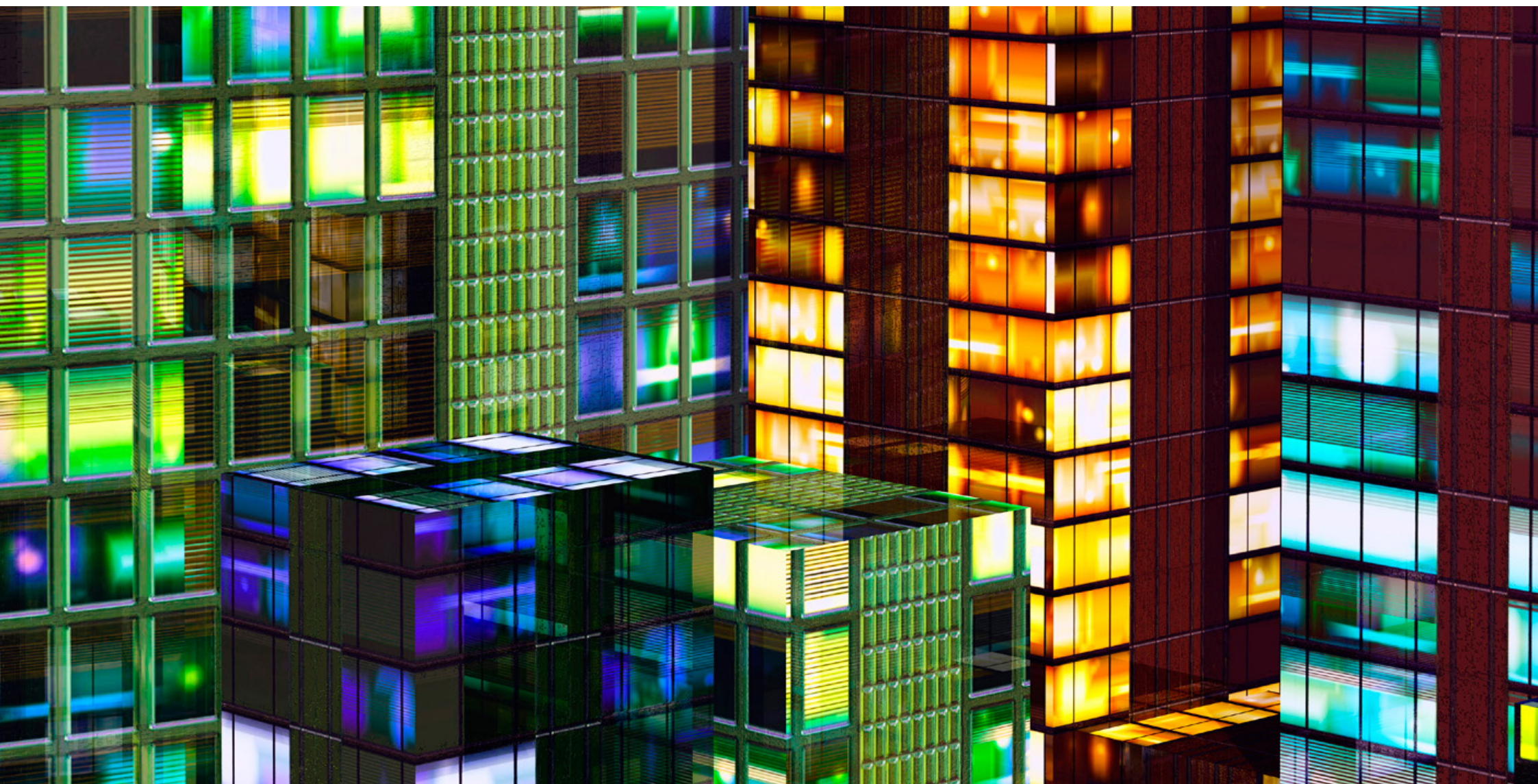
Total sector net assets have grown on average by 23% annually since 2012⁴⁷

The Bucharest Stock Exchange is the third biggest in the CEE region (after those in Warsaw and Prague) with a market capitalisation of over EUR 18 billion

In 2015, 84 listed companies were on the main market⁴⁸. The capital market is divided according to the size of the listed company (the Regulated Market for the biggest corporations and the AeRO market for smaller entities). There is also a separate market for derivatives - SIBEX



SLOVAKIA



SLOVAKIA

Number of:

Banks (2015)



28

Insurers (2013)

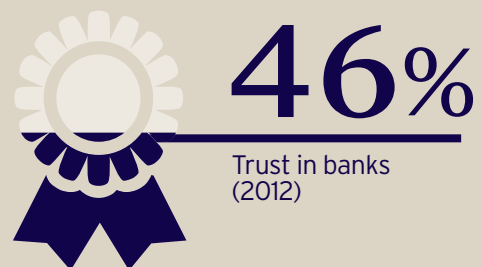


21

Asset management
companies (2015)



32



Source: All information in this chapter is based on publicly available sources (databases, press releases, articles, annual financial reports of financial institutions, reports of financial supervisory bodies)

Financial sector

Banking

Market Outlook

The Slovak banking sector is dominated by international players - over 90% of the banking sector's assets are owned by foreign capital

The top five banks represent 87.9% of total sector assets and share 91.5% of net banking income⁴⁹

The banking sector is enjoying healthy, stable growth (5% CAGR 2012-2014)

The sector's average capital-adequacy ratio was 17.4%⁵⁰ at the end of 2014

The NPL ratio has remained stable at around 5.4%⁵¹
The financial crisis hit the banks hard (with a 50% fall in net profits), but the sector recovered within a year

Regulatory Environment

The main national regulatory body is the National Bank of Slovakia. Due to its participation in the eurozone, Slovakia is also subject to the Single Supervisory Mechanism comprising both the ECB and national banks

Future Development

Key challenges for the Slovak banking sector include:

- Bank levy (currently 0.2% on all bank deposits) providing a financial buffer for potential future bail-outs. Once receipts total EUR 750 million, the levy will be decreased to 0.1%

Banking sector - TOP5 players

Bank	Assets [EUR bn]	CAGR '12-'14*	Net banking income [EUR bn]	Ownership
Slovenska sporitelna	12.9	5.0%	0.6	Austria
VUB Banka	11.2	1.6%	0.4	Italy
Tatra banka	9.7	3.4%	0.4	Austria
CSOB	6.0	5.4%	0.2	Belgium
Postova banka	4.2	10.7%	0.2	Czech Republic

* Assets

AT BG HR CZ HU PL RO SK SI

Insurance

Market Outlook

The top five insurers (life and non-life) accounted for 74% of total sector gross premiums in 2014⁵²

The non-life segment dominates the sector, with motor and property insurance making up close to 80% of GWP

The strong presence of leading international insurers means the Slovak insurance offering is relatively well developed

The GWP collected by most players has decreased since 2012, as a result of increased competition

The financial crisis went almost unnoticed in the sector, with only a marginal (~3-4%) fall in profits

Most insurers do not have an economic presence in Slovakia but operate through branches, thus bypassing local financial supervision

Regulatory Environment

The financial regulatory authority is the National Bank of Slovakia

Future Development

Development outlook:

- Increasing price competition between players
- Some insurers will try and target their offering at selected groups of customers (such as safe drivers)
- In 2015, the Slovak National Council passed a new insurance act, dealing with solvency capital requirement, risk management and transparency

Insurance sector - TOP5 players

Insurer	Gross premiums [EUR bn]	CAGR '12-'14*	Ownership
Allianz - Slovenska poistovna	0.5	(4.9%)	Germany
Kooperativa poistovna	0.5	(1.4%)	Austria
Generali poistovna	0.2	(2.4%)	Austria
Komunalna poistovna	0.2	2.9%	Italy
MetLife poistovna	0.1	(1.4%)	USA

* Gross premiums

Asset management and capital markets

Market Outlook

Total sector net assets have grown on average by 15% since 2012⁵³

The asset management sector in Slovakia is dominated by bank-owned companies - more than 90% of net assets are managed by subsidiaries of the largest Slovak banks (Tatra banka, VUB, Slovenska sporitelna)⁵⁴

The Bratislava Stock Exchange is one of the smallest in the region, with a market capitalisation of EUR 4.3 billion. Trading is heavily dominated by banks or their subsidiaries. Most of the non-bank brokers specialise in wealth management or investment advisory and do not trade on the Slovak stock exchange

The capital market is divided into a quoted market and a regulated free market. The former is broken down into two segments - main and parallel, for the largest and smaller companies accordingly

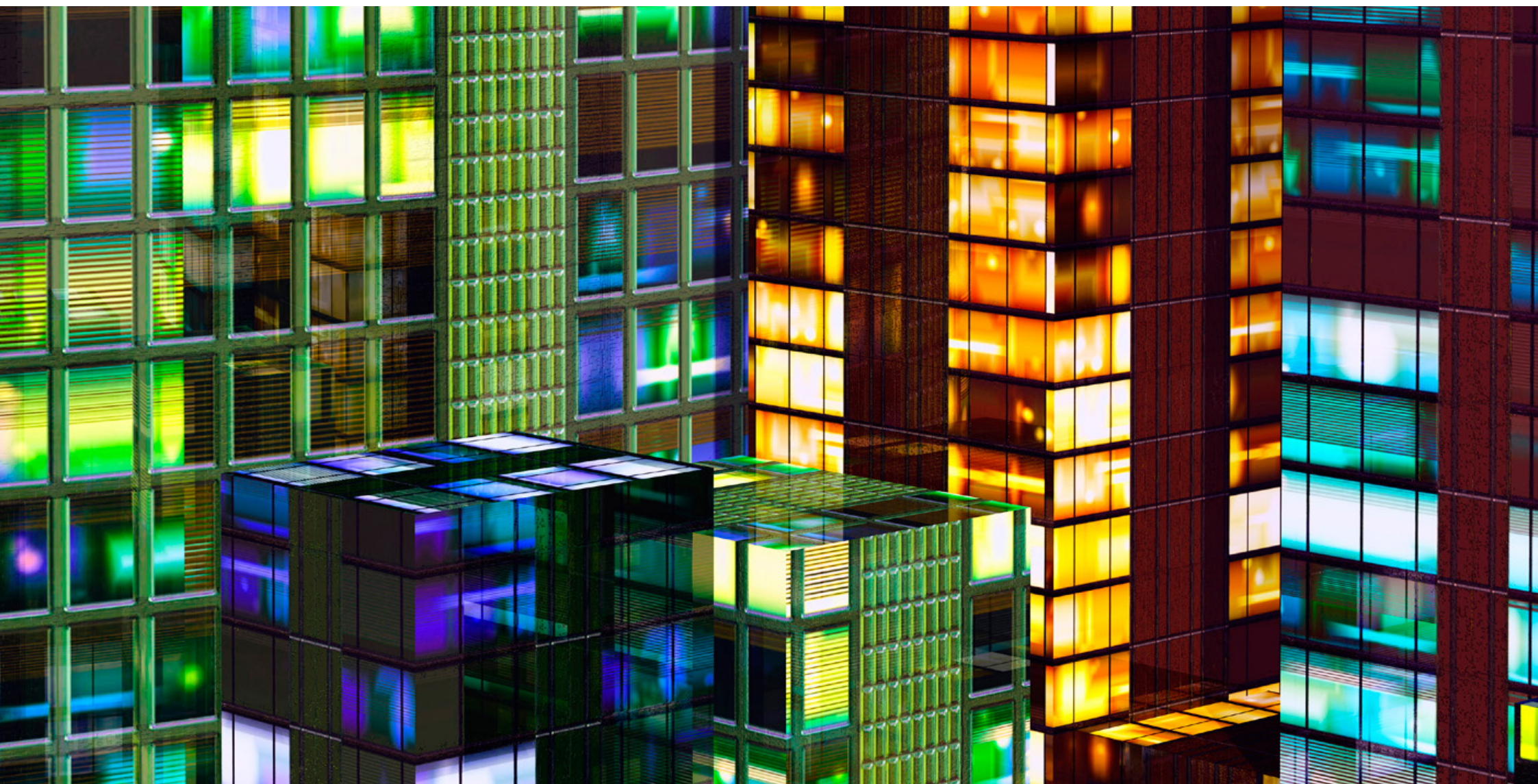
In 2015 there were 37 listed companies on the main market

Future Development

Slovak companies are more likely to seek a listing on larger stock exchanges (such as Vienna or Warsaw)



SLOVENIA



SLOVENIA

Number of:

Commercial banks (2015)



18

Insurers (2015)



17

Asset management companies (2014)



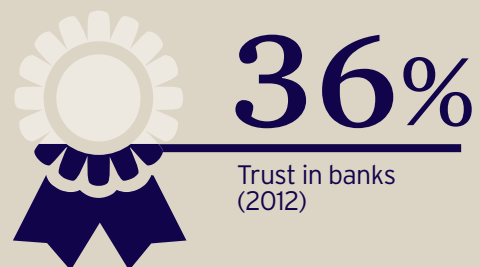
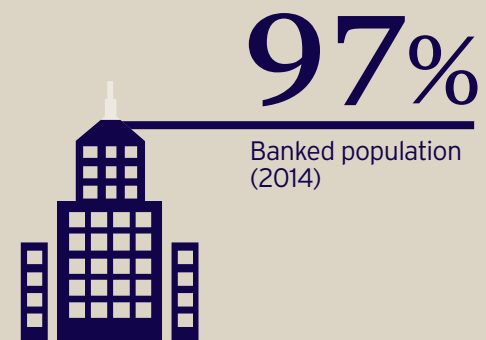
10

Members of stock exchange (2016)



16

Source: All information in this chapter is based on publicly available sources (databases, press releases, articles, annual financial reports of financial institutions, reports of financial supervisory bodies)



Financial sector

Banking

Market Outlook

The top five banks in Slovenia represented 55%⁵⁵ of total sector assets in 2014, and net loss for the banking sector was EUR 113 million⁵⁶

The proportion of equity held directly by government stood at 64% in 2014⁵⁷

The Slovene banking sector is under pressure resulting from economic downturn after problems which almost resulted in an international bailout in 2013

The situation is improving thanks to the recapitalisation of some banks and the transfer of their non-performing loans (NPLs) to the Bank Assets Management Company (BAMC)

The sector is consolidating, with examples including the liquidation of Factor and Probanka, the merger of Abanka and Banka Celje and the upcoming merger of Nova KBM, Postal bank and Raiffeisen. Some banks are looking for investors

NPLs accounted for 11.5% of total gross loans in 2015⁵⁸

Regulatory Environment

The main financial regulatory authority is the Bank of Slovenia

Future Development

More and more customers are taking the security of their savings into consideration when selecting their banking partner or investment type, due to post-crisis anxiety

In 2015, the Bank of Slovenia set up a special fund to address banking issues. Banks established in Slovenia are obliged to pay in assets (1.3% in cash contributions and 1% through liquid investments)

Banking sector - TOP5 players

Bank	Assets [EUR bn]	CAGR '12-'14*	Net banking income [EUR bn]	Ownership
NLB	8.9	(12.0%)	0.4	Slovenia
Nova KBM	3.6	(8.8%)	0.2	Slovenia
ABANKA	2.6	(15.0%)	0.01	Slovenia
UniCredit Banka Slovenija	2.6	(4.3%)	0.1	Italy
SKB	2.5	(0.9%)	0.1	France

* Assets

AT BG HR CZ HU PL RO SK SI

Insurance

Market Outlook

The top five insurers (life and non-life) accounted for 78% of the sector's total gross premiums in 2014 (with the largest insurer representing 31% of the market)⁵⁹

The five biggest insurers are owned by Slovenian capital groups (both private and state-owned)

Agents of Slovenian insurance companies generated two thirds of the market's total insurance premiums in 2014

Regulatory Environment

The main financial regulatory authority is the Insurance Supervision Agency

Composite insurance and non-admitted carriers are not allowed in Slovenia

Future Development

Growth slowed in recent years due to the negative economic environment particularly affecting life insurance

Small players are starting to compete with established companies, boosting the growth of the entire sector

Insurance stress tests indicate that Slovenian insurers are well prepared for the introduction of Solvency II (which came fully into effect on 1 January 2016)

Insurance sector - TOP5 players

Insurer	Gross premiums [EUR bn]	CAGR '12-'14*	Ownership
Zavarovalnica Triglav	0.6	(4.3%)	Slovenia
Adriatic Slovenica	0.3	5.2%	Slovenia
Vzajemna zdravstvena zavarovalnica	0.3	(2.4%)	Slovenia
Zavarovalnica Maribor	0.2	(2.7%)	Slovenia
TRIGLAV, Zdravstvena zavarovalnica	0.1	n/a	Slovenia

* Gross premiums

Asset management and capital markets

Market Outlook

The top five asset management companies, all owned by Slovenian capital groups, accounted in 2014 for 95% of total sector assets under management of Slovenian asset managers

The sector's total net assets value grew by 26% between 2012 and 2015⁶⁰

The Ljubljana Stock Exchange consists of three markets. Listing criteria are based on a given company's liquidity and the transparency of its operations. There is a separate market listing for other securities (such as bonds, open-end funds, close-end funds and structured products)

In 2015, 46 companies were listed on the market. Of these, Krka accounted for 31% of total turnover⁶¹



Analysis of FinTech Markets in CEE Countries

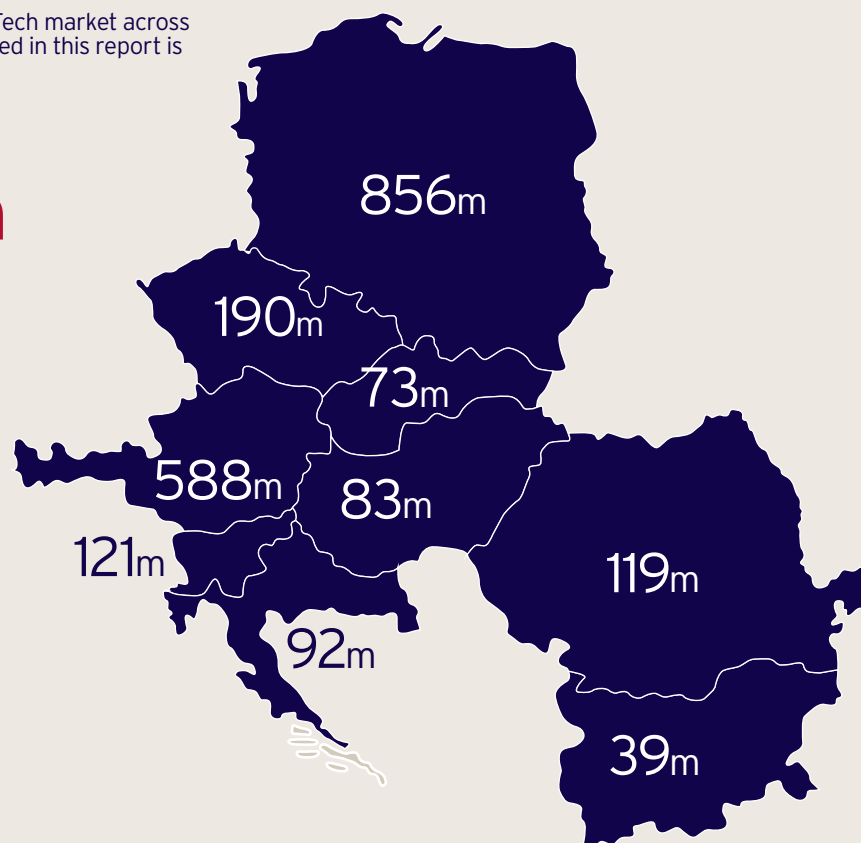


CEE FinTech market size

The estimated size of the FinTech market across the nine CEE countries featured in this report is

EUR

2.2 bn



Source: Deloitte analysis

AUSTRIA



FinTech market outlook

Deloitte expert opinion

Financial services in Austria is a traditional, conservative industry, but that is evolving. Austrian banks are becoming increasingly focused on building their customer relationships, particularly via online and mobile capabilities (such as the digitisation of banking functions and payments) and harnessing the power of their data.

Many understand that their business models must change to keep up with ever-evolving technology and customer needs; these banks are beginning to build up teams and structures to allow for the necessary changes. They are starting to seek partnerships and co-operation with FinTechs - one of the largest Austrian banks recently set aside EUR 100 million for such activities.

The insurance sector appears to be less active on the FinTech and digitisation front. Asset managers have not widely incorporated FinTechs into their business processes, but a niche group of companies is working to make markets more accessible to the people.

Austrians are typically conservative savers - they tend to save via building societies and shy away from riskier investments (for example, only approximately 1 in 20 Austrians own shares). They value trust and security highly, but they are not blinkered to new ideas that will enable them to consume cheaper and higher quality services.

Vienna consistently ranks at the top of quality-of-life surveys, but high Austrian corporate taxes are reducing Austria's attractiveness to companies looking for a suitable location for their headquarters. Regulation can prove stifling.

Austria is not a hotbed of FinTech activity, but the population is not averse to changes that will ease their current interactions with the financial services industry - even if that does mean a total rethink of those interactions, provided the changes are presented in a logical and trustworthy manner.

Innovations in the banking sector

Recent Developments

Technology from the banks, for the banks

Banks are the most innovative players in the financial sector. In a relatively conservative environment, the emphasis is squarely on trust as a core value in banking. Local and global players alike are present on the national technology scene. The largest banks have their own IT and data subsidiaries, a distinctive feature of Austrian banking as compared to other CEE countries. The most popular solutions focus on storage and the processing of banking information (such as CRM, billing and compliance).

Many established IT vendors have banking origins:



- Software Daten Service, a subsidiary of T-Systems, is a leading international software solution company specialising in the development of standardised banking software, in particular for processing securities for international markets and financial services providers. Key clients include Bank Austria (UniCredit Group) and Raiffeisen Group.
- s IT Solutions Austria, part of the Erste Group network, provides IT banking solutions to banks as well as real estate, insurance and leasing enterprises. Its product portfolio includes net-banking, self-service support and branch office applications, as well as data warehouse services, document management and archiving solutions. Clients not only include entities of the Erste Group in CEE, but also Bawag, VIG, OMV and Generali Bank.
- UniCredit Business Integrated Solutions Austria (UBIS) provides services to UniCredit's local banks, meaning the banks can focus on their core business and the whole group can leverage economies of scale and standardisation. Company specialists contribute to the development of technology solutions in banking (for example, they are currently working on the application of blockchain in banking services)

- Raiffeisen Informatik provides IT solutions both to the Raiffeisen Group and to other companies (including those in non-financial industries). Its product offering covers: data centres, integrated applications (from cloud solutions to the integration of mobile end devices and apps into the existing IT landscape), business process outsourcing, data administration, billing solutions and IT consulting
- Raiffeisen Group also uses the services of Raiffeisen Software and Raiffeisen e-force; the latter supports e-business and mobile offerings for the Raiffeisen Banking Group Austria

As well as the above examples, a number of companies are currently either delivering niche banking solutions or are in the process of bringing their ideas to market. Some offer an alternative approach to the idea of banking and aim to meet the needs of specific groups of customers. These include:

- Number 26 – a 100% branchless mobile bank, without fees for account management, transfers, debit cards or cash withdrawal. Its business model is based on gaining merchant fees from card transactions, interest on deposits managed by a banking partner and revenues from overdrafts (an additional feature to the bank account). As well as being provided with an intuitive, free account, Number 26 users receive notifications regarding transactions and have an immediate Overview of their account balance. The company is based in Germany but was founded by Austrians
- Sweep – calls itself a “bank of the future”; it is managed entirely by smartphone to address the needs of Millennials. The solution is to be launched in the near future
- Holvi – the Finnish provider of a business current account with its own international bank account number (IBAN). Targeted at entrepreneurs and freelancers, it can be accessed online on any mobile device.

Key points

-  Austrian IT companies serving banks usually are themselves part of banking groups
-  There are numerous FinTech companies co-operating and competing with the established financial sector

Unique features include: paperless bookkeeping, invoicing and a built-in online store, all within the same Holvi account. Simplicity was a key concern of the company's founders, and an account can be opened within minutes. BBVA purchased Holvi at the beginning of March 2016

- Bank für Gemeinwohl – a project that takes a new attitude to banking. Its goal is to build a co-operative bank driven by social welfare values. The initiative expects to be granted a banking licence under the Financial Services Authority later in 2016. The goal for 2017 is to have 40,000 backers and EUR 15 million in starting capital for the bank to launch its operations⁶². The rules behind the bank's functioning will be social-oriented rather than profit-driven. The bank plans to support sustainable initiatives through investments in ecology, organic food, social affairs, education, renewable energy, culture, social housing and more.

Another group of FinTech players, particularly sensitive to user experience issues, is delivering solutions that help banks to improve their offering, advance their digital capabilities and reach out to Millennials. Examples include:

- NF Innova - headquartered in Vienna, the company provides banking clients with iBanking, an interactive banking online portal. In addition to improved financial modules and integration with heterogeneous systems, iBanking enables data collection and analysis for the purpose of quality reporting and use in marketing campaigns. The information display is adaptable to customer preferences, segments and the channels used. The application design can be adapted to the bank's corporate standards (such as the brand). Key clients include: Raiffeisen Bank, Societe Generale and Banca Intesa Sanpaolo
- FintecSystems - an online-banking based information and payment system from Germany. The solution connects payment services providers, banks and other financial entities with their customers' online-banking accounts, so that they can make payments or receive financial statements. This facilitates real-time loan application processing, since applicants' financial data is forwarded directly from their online bank account
- Assentis Technologies - a Swiss software solutions provider specialising in Customer Communication Management (CCM) and with a focus on the financial services industry. The company works to improve the exchange of information with clients. Individualised communications - client reports, proposals, notifications and contracts - can be delivered in batches, ad hoc or in interactive modes
- Baningo - a browser for finding online banking advisers. All advisers have a profile outlining their competencies, expertise, previous career and availability. Customers can filter the database by location, bank, area of expertise and language. Current partners include Bank Austria, Raiffeisen, WSK Bank and Oberbank.
- BeeOne - Erste Group's digital innovation hub. Their mission is to deliver solutions on par with lean start-ups. An excellent example of the results is George - see more in Chapter Austria - Capital raising and personal finance.

To Enter or Not to Enter

Austrian banks are becoming increasingly focused on easing the customer's relationship with the bank. Some banks have made it clear that they are on the lookout to partner or collaborate with FinTech start-ups – Bawag, for example, has recently announced plans to invest up to EUR 100 million in FinTech start-ups as part of its revamped digital initiative. Banks are particularly looking to FinTech players to increase revenues and differentiate themselves from competitors. Such a model is also safest for emerging players, who can use the association with a big bank as protection against risk.

Some companies believe they can provide banking services better than banks and have centred their businesses around innovative ideas. These entrants should be aware that although Austrians are open minded about innovation, the nation as a whole is rather conservative and pays special attention to trust and security. To make profits outside of the established financial sector, trust and security must be emphasised and shown to have been properly addressed.

“

Although Vienna consistently tops quality of life charts, Austria's expensive corporate tax policy will continue to make it difficult for start-ups to flourish there.

With interest rates having effectively hit 0%, banks need to change their business plans and bring in new ideas in order to be profitable.

The Austrian regulatory environment is especially slow and cautious. While digital business is thriving when operating at large scale – consider all the information to be gained by building a platform across a number of banks to provide customers with an Overview of all their accounts and true financial status – regulators are pushing back hard.

Keep your eyes on PSD 2 – it's going to bring about a lot of change.*

Representative of an Austrian bank

* PSD 2 is the Revised Directive on Payment Services, adopted by the European Parliament in October 2015, written to help ensure that electronic payments in Europe become more secure and convenient for European consumers. It has been hailed as “a step towards a digital single market”, and further opens the payments market to new and innovative players.

Innovations in the banking sector

Market outlook

Subsegment outlook

Austrian banks are increasingly focusing on streamlining their customer relationships, especially via online/mobile capabilities such as the digitisation of banking functions and payments, and by harnessing the power of their data. Banks are willing to collaborate with FinTech entrants. In the near future, the Austrian market will take notice of the inflow of FinTech companies, a number of which will work closely with the established banking sector.

Competitive landscape

The Austrian banking sector differs from those in other European countries. Austria's banks have developed their own IT and data subsidiaries. Several established IT vendors have their origins in banking. These are focused mainly on standardised banking software, but can also develop new solutions such as the application of the blockchain record-keeping technology in banking services. As well as established players, numerous companies deliver niche banking functionalities. Solutions on offer are aimed at addressing the needs of Millennials, mobility in particular. Smaller players have significant chances of success.

Key barriers



The nation is rather conservative, strongly appreciating security in financial services



Wealthy Austrian customers are less price sensitive than those in other CEE countries

Innovations in the insurance sector

Recent Developments

Still far behind the bankers

Insurance is hardly an innovative sector in Austria. Similar to the banking sector, the biggest players use services provided by their own IT companies (including Uniga IT Services, Generali IT solutions, and Generali VIS Informatik) or software from well-known, international vendors like SAP. As for niche technologies, the market is not nearly as well developed as in the neighbouring Czech Republic. Local innovations focus on comparison engines between products offered by insurers. Telematics and body-monitoring trackers are beginning to appear on the industry agenda, but they are not likely to be widely used in the near future.

The most popular insurance comparison engines include Versichern24 and Durchblicker. The latter also compares finance products, gas and electricity prices from selected suppliers and the offerings of telephone and Internet providers.

"Gut oder Schlech" functions along the same lines as Baningo (see Austria - Innovations in the banking sector), enabling customers to find the right adviser for insurance products.

L'amie direct is the first 100% online direct insurance provider in Austria, offering Atomversicherung (insurance against nuclear accidents) as well as home and household insurance.

WIENER STAEDTISCHE Versicherung AG Vienna Insurance Group offers video meetings for clients via a service launched in September 2015.

Few FinTech solutions have to date been tested on the market. This may provide the opportunity innovative entrants are seeking, should they manage to lure customers away from established players with long traditions. Partnerships and co-operative working with incumbent insurance companies may also prove successful.

Innovations in the insurance sector

Market outlook

Subsegment outlook

The Austrian insurance sector is highly conservative and contains a limited range of innovative solutions. Customers pay close attention to trust and security. However, they are also beginning to look for an improved digital offering and a better user experience. FinTech companies can fill this growing niche in the market, both by challenging existing players and by collaborating with them, which is certain to happen more in the future.

Competitive landscape

Few FinTech companies deliver innovative solutions for the Austrian insurance sector. Leadership positions are occupied by established international players or IT companies owned by insurance providers. FinTech solutions have already been tested in the market but have not achieved widespread popularity. The market remains unsaturated in terms of innovative solutions.

Key barriers



The Austrian insurance sector is perceived as one of the most conservative in the Austrian financial marketplace



Innovations that have appeared in the market have not gained widespread popularity to date

Innovations in asset management and capital markets

Recent developments

Full of "ITeas"

Most asset management companies use the services and products of large, established technology vendors. The most regularly quoted names include Murex, Kondor+, Wall Street Systems and SunGard.

At the same time, the niche IT market offers a few interesting examples of bringing asset management closer to ordinary investors. This is particularly needed: Austria is quite a conservative market and one of the most popular methods of saving is via building societies. Approximately one in 20 Austrians owns stocks, and just one in eight holds stock funds, bond funds or investment funds of any kind.

As Asset management and capital markets do not play a leading role in Austria and are not used by most people, getting more customers to make investments might lead to the best returns. Companies that have already decided this is the case include:

- Wikifolio – a leading social trading platform with the goal of "democratising" the investment business. The platform brings together traders and individual investors and presents their decisions regarding trading in a completely transparent manner. Over 10,000 wikifolios are available to customers. All registered users can compare themselves with others and are provided with access to financial data in real-time. At the same time, they can identify and follow the best investors. Traders can turn their wikifolios into financial products listed on the Stock Exchange. So far, the solution is only available in DACH-region (Austria, Germany and Switzerland) countries. It has already proven to be a success, however, due in part to the fact that the three countries involved form the biggest market for retail investment in Europe.
- Boerse Social Network – this website provides the latest stock market news, constantly updated via automatic

exchange reports, in partnership with many leading banks and companies in Austria. The founders of this solution have developed another idea supporting financial education: their financial literacy app Runplugged gives users access to stock exchange information while on the move

- Valutico offers technology-driven, simple and affordable business valuation tools. It provides the tools to build a business plan (including the adjustment of key parameters and testing of various scenarios)
- Novofina – an asset management company offering high-tech quality trading systems to all clients, including private investors. Such products had previously been exclusively available to certain elite clients and institutional investors. The products developed by Novofina are continuously optimised and implemented by fully-automated trading systems and algorithms which minimise risk while maximising trading effectiveness. Novofina's owners claim that their product is panic-proof thanks to modern risk management
- The Dutch BUX platform has been available in Austria since December 2015. The platform enables new traders to test out their ideas and practise with the use of virtual money (funBUX) before being encouraged to move on to the real world of finance. In order to promote responsible trading, the platform offers limited leverage as opposed to similar solutions of competitors
- The German DR Investment Control company's justETF solution provides individual investors with proven trading strategies. Using low-cost investment products based on Exchange Traded Funds and equipped with planning and monitoring tools that facilitate the close control of their funds, customers enjoy a secure model of investing. They can also use advice provided by online brokers

Austrians are conservative but have savings and are on the lookout for yield, especially given the extremely low interest rates provided by traditional savings products.

Key points



Developing solutions for individual investors seems to be the future development direction for the Austrian FinTech market

20%

of Germany's professional asset managers show their strategies on the Austrian-founded Wikifolio

Broader education of the market will further develop the niche investment product segment and could perhaps create opportunities for more FinTech entrants.

Even if the typical Austrian does not trade on the capital markets, an Austrian company has developed a stand-alone application dedicated to individual and corporate investors – Agena Trader. Besides its fully or semi-automated trading offering, the platform enables integration with several brokerage firms and scans thousands of instruments in real time.

Innovations in asset management and capital markets

Market outlook

Subsegment outlook

The growth of the Austrian asset management market is being driven by extremely low interest rates on traditional saving products. Hoping for higher yields, conservative customers are looking for alternative solutions. Established players providing asset management services use technology delivered by large vendors. However, the most innovative solutions are created by FinTech players and targeted directly at individual investors. Further education in the area of capital markets will be an important factor in supporting the development of the investment product sector. Austria might emerge as one of the best CEE markets for this particular branch of the FinTech sector.

Competitive landscape

Solutions for asset management companies are mainly delivered by established vendors. FinTech players are an emerging force in the area of functionalities designed for individual investors. Several solutions have been developed to support investment decisions, such as social trading platforms, technology-driven valuation tools and trading systems. German companies deliver numerous solutions in this area, as economies of scale are evident (thanks to the vast number of investment portfolios for analysis).

Key barriers



Large and established technology vendors are the priority choice for most asset management companies



Austrians are reluctant to make risky investment decisions

Payments

Recent developments

Well-equipped but conservative

Smartphone penetration in Austria stands at 86%⁶³, positioning the country as a leader among CEE countries. Most debit cards in circulation are already contactless. However, Austria is by no means considered a top player in the area of innovative payment solutions. Only 18% of surveyed citizens said that they had ever used a mobile payment app, and only 50% use or expect to use mobile banking⁶⁴.

It therefore comes as little surprise that innovations in the Austrian payments area would not always be seen as game-changers in other CEE countries. This is not to say that the local market is lagging far behind its peers. On the contrary, it is catching up fast.

Such conservatism has its positive aspects. While individuals from more progressive banking nations like Poland or the Czech Republic might consider abandoning their banks and switching to financial services delivered by the likes of Facebook, such global giants will not find it so easy to enter the Austrian financial market. Eight out of ten Austrians wouldn't buy a financial product from Amazon, 88% would not do so via Google and 94% would not purchase through Facebook⁶⁵.

The future is contactless

Several companies have recently provided their customers with the ability to use a mobile device as a payment tool. Payment Services Austria (the central company behind all debit cards in Austria) promotes its Bankomatkarte mobil initiative, which was rolled out across the country in late 2015.




The solution is spreading thanks to the rapid adoption of the technology by local banks: Bank Austria (with a pioneering solution called BankCard Mobil), Oberbank (with its Oberbank Bankomatkarte Mobil) and Raiffeisen (with ELBA-pay). Another success factor could be the participation of Austria's favourite payment card - Maestro.

At the same time, some providers have gone beyond offering a simple m-payment facility. Mobile network operator Drei launched its e-wallet, 3Geldbörse, where customers can not only register debit card data but also store information on loyalty cards. The app is free for the first two months of usage and then costs EUR 1 per month. Along the same lines, Wallegro has enriched the m-payment app with the integration of loyalty cards.

kWallet makes the best of both worlds by combining a digital wallet with loyalty card storage. Mobile payments are processed using Bluetooth Low Energy (BLE). The app offers interesting bonus features, such as the collection of kPoints, which can be redeemed against gifts, and a special functionality for tipping at restaurants. Customers can protect access to kWallet with Touch ID (fingerprint recognition) or with a five-digit kWallet code.

BlueCode (previously known as Veropay) facilitates mobile payments with a smartphone using a barcode which is accessed in a dedicated app. The payment method is available to all customers, regardless of their banking services provider, but Erste Bank and its Sparkassen have recently become the solution's strategic partners. The solution owner, Secure Payment Technologies, also supports payment via Apple Watch. BlueCode is steadily expanding its acceptance network.

Key points

-  Austria is catching up with the latest payment trends already popular in other CEE countries
-  Contactless payments are on the rise, with e-wallets gaining particular attention from the market
-  Society needs to realise the benefits of online and m-payments, both in e-commerce and brick-and-mortar stores

Solutions for specialists

Some companies focus on a very narrow segment and deliver software dedicated to very specific needs. Fonmoney enables fast and intuitive mobile phone top-up online, while Dimoco offers carrier billing solutions in the area of micropayments. Komfortkasse manages the payment process for e-commerce businesses, and Orderbird provides ordering and payment solutions for restaurants, integrated with the cash register. Coinfinity focuses on Bitcoin users, offering them access to buying the cryptocurrency by using dedicated ATMs, and online service or Bitcoinbon vouchers. On the vendor side, Nexperts provides white-label e-wallet solutions for banks, mobile network operators, merchants and ticketing companies.

The Anyline solution facilitates OCR text recognition on smartphones and may prove useful in the payments area. However, no such applications have been launched as yet.

Payments Market outlook

Subsegment outlook

The Austrian payments market is catching up with innovative solutions from other CEE countries. An initiative to popularise mobile payments is spreading across the country, creating a promising area for new entrants. Already popular m-payments will be further developed and enriched with additional functionalities. Potentially, they will also at some point be offered free-of-charge, as is the case in the rest of CEE. The consolidation of the Austrian payments market is anticipated, as currently there is a relatively large number of companies offering products catering to specific needs (such as tickets and top-ups). Super wallets may therefore find their way on to the market in the future. Most innovations will probably be driven by banks and established players, as Austrian customers tend to be and initially untrusting of social media-related solutions to deliver financial services.

Competitive landscape

Payments solutions are mainly delivered by banks and other established players. Austrian customers are unlikely to abandon their bank accounts and switch to alternative financial service suppliers. Several companies have already provided their customers with m-payments solutions, and the first players offering additional functionalities in this area have also arrived. The Austrian market draws inspiration and often imports solutions from Germany.

Key barriers



The conservative attitude of Austrians about who should provide financial services may impede development of the FinTech market



The country's relatively small population (as compared to Poland or Romania) translates into small-scale business, a major disadvantage in the payments area

Capital raising and personal finance

Recent developments

Attached to the banks

Austrians tend to turn to the bank when it comes to raising capital. However, a number of firms have emerged that tap into the idea of making credit more easily available and cheaper, particularly for small businesses. Of over 300,000 SMEs, 30% say they have a lack of access to bank finance (due to unacceptable conditions, rejection or the belief that the loan would not be granted)⁶⁶.

How to earn more

Savedo is a German company that also serves the Austrian market. It allows Austrians to put their money on deposit in another country, so providing them with higher interest rates. This approach benefits from the particularly low interest rates available in Western Europe, meaning customers can be sure of receiving better rates than those available in banks. The platform enables investment in companies from the DACH-region.

Another way to grow

Conda is Austria's largest crowd-investing platform. It has attracted EUR 8.47 million in invested capital to date and claims to have successfully funded 42 projects⁶⁷. Investors can allocate sums starting from EUR 100 to support businesses of their choice that are currently seeking funds on the platform. In turn, they receive the right to future dividends and can also become entitled to additional bonuses from start-ups (such as gifts, discounts and special offers).

Debitos is Germany's first online exchange, on which companies can trade any type of receivables for cash. By auctioning off their invoices, companies gain fast access to working capital on their own terms. Currently more and more deals are being offered with debtors outside Germany, including those in Austria, Spain and the Netherlands.

Finnest offers businesses the opportunity to obtain alternative financing from individuals and corporate entities. Donors offer companies the loan terms of their own choice (covering factors like value and interest rate). Borrowers then select the best offer. The selected lender receives a fixed interest rate (once per year) and their money back by the end of the agreed term. Borrowers on Finnest are usually well-established, financially stable firms looking to diversify their portfolio of creditors and gain independence from bank financing. This is particularly important in the face of reduced lending by banks after the crisis. In exchange for cheaper funding, companies seeking loans need to disclose their key financials and provide a business plan. Both parties incur costs - the lender pays the platform a one-off sum equivalent to 1% of the loan granted, while the borrower pays 2.75% of the sum and some EUR 1,500 to cover documentation verification.

Peer-to-peer

The Germany-based Lendico is the most popular peer-to-peer lending platform in Austria. It provides the digital alternative to banks by allowing individuals to request a loan and then pairing them with investors - all this without bank interference, with lower rates and via a much faster process.

Key points



It appears that there is still room for new entrants, possibly for players offering even lower intermediation fees



The country's only well-known PFM solution is delivered by a bank

Another German player active in the Austrian P2P lending market is Auxmoney. The number of registered users exceeds 1.3 million, and more than 73,000 financing needs have been successfully met⁶⁸.

A local P2P platform, Credi2, was founded in late 2015 and should be operational later in 2016.

Little Helpers

George is a digital personal finance management (PFM) application designed, programmed and provided by Erste Bank. George facilitates everyday banking usage based on simple improvements: it categorises spending, provides a money transfer browser based on hashtags and regular keywords, and enables direct contact with the bank outlet or card-management module. Although such functionality would not strike a Polish citizen, for example, as particularly innovative, Austrians see George as “the most modern bank”.

Payolution facilitates e-commerce by offering customers the ability to pay for items after they have been delivered. Two payment options are available: by instalments or upon receipt of an invoice. The company serves as a middleman, securing immediate payment for the merchant while extending credit to the e-shopper. This simple factoring mechanism is useful in Austria, where payment on delivery is a popular choice among online buyers.



Capital raising and personal finance

Market outlook

Subsegment outlook

The preference among alternative entities is likely to continue. Keener interest in alternative forms of capital raising is expressed by companies, small businesses in particular. Limited access to bank finance is having a significant influence on the emerging scene for FinTech players and there is still scope for new entrants - possibly for players offering lower intermediation fees than the incumbents. Personal Finance Management is a poorly developed field in the Austrian market, which spells excellent opportunities for FinTech start-ups.

Competitive landscape

Most financing is provided by banks. However, there are several FinTech companies that provide alternative sources of funding. Solutions developed by German companies are clearly present in the Austrian market. It is yet to be seen how the country's first local P2P lending platform will work out. The country's only well-known PFM solution is delivered by a bank and provides basic functionalities that are already popular in more innovative European countries.

Key barriers



Austrians tend to turn to the bank when it comes to raising capital



Customers are not aware of the need for advanced PFM solutions

Data and Analytics

Recent developments

Analyse Customer Behaviour

Banks and insurers are increasingly aware of the incredible value of the data they possess. However, it seems that they are not utilising its potential to the fullest extent, and many banks do not have their own data scientist teams. The data and analytics market in Austria is mainly served by established players (like IBM and SAS) rather than smaller companies.

Austrian executives see great opportunity in data analysis, as it provides valuable insights to help make business decisions. Erste Bank, to integrate all sales channels in real time, has chosen to implement SAS Customer Decision Hub. This software platform brings together all relevant information about the customer into one manageable interface. Erste Bank can therefore make decisions based on customer behaviour in real time.

Consulting Providers

A number of consulting firms in Austria provide data and analytics services. Much of the work done is bespoke and not automated – once the project is over, results are not refreshed.

Predict your Personal Cash Flows

Some companies question how to go beyond the typical personal finance management (PFM) tool, where basic functionality is aimed at tracking past personal spending, and predict the future (such as calculating the next mortgage). predictR addresses these predictive questions and integrates its answers into online banking systems. The distinctive feature of predictR is its use of state-of-the-art algorithms – it combines advanced pattern recognition with sophisticated mathematics. predictR can be integrated in a white-label model.

Compliance with Regulations

As banks are obliged to manage internal risk, they need to conduct periodic stress tests. This obligation comes from Basel II / III regulations. The stress tests, based on standardised scenarios, indicate macroeconomic developments to shocks (such as sudden changes in currency and interest rates). Bawag P.S.K., one of the biggest Austrian banks, has begun working with SAS. SAS provides them with the dedicated PaaS solution, which streamlines the bank's stress tests. The platform also simulates the results of changes in the bank's strategy and products and shows how it would affect its overall portfolio.

Data and Analytics

Market outlooks

Subsegment outlook

The need for deep analysis of customer data is creating a window of opportunity for FinTech entrants. The potential for growing revenue through the recognition of data patterns is still unexploited by the Austrian financial sector. Consulting services are not systemic, meaning their results quickly become outdated. Banks need more robust predictive models that facilitate customer profiling and the launch of target marketing campaigns.

Competitive landscape

Data and analytics services in Austria are mainly delivered by established vendors. The need to conduct periodic stress tests is also addressed by large players. There are numerous companies providing consulting services in the area of data analysis, but there is a lack of automated solutions. FinTech companies are slowly emerging in the field of advanced PFM tools, based on cutting-edge quantitative analyses.

Key barriers



Banks mostly choose international players to provide them with analytics solutions



When it comes to application of data analytics tools and methods, banks still seem reluctant to do so

BULGARIA



FinTech market outlook

Deloitte expert opinion

In general, the Bulgarian financial technology market follows the trends set by larger Central and Eastern European countries. The sector therefore is a step behind the most innovative countries, partly due to the tax regulations governing the technology sector.

The majority of banks are foreign-owned, and the technology they use matches that deployed across their group at the time of investment. Many of these systems are due for upgrade by 2020. Organisations from a number of countries use Bulgaria as a back office and technology centre for Europe, including some financial institutions. The result is that their Bulgarian operations can be used as pilot locations to implement new core banking systems and other specialist technology products.

The high-tech market is dominated by the major global players, with only a few niche competitors. This is partly due to the relatively low penetration of internet banking and even lower penetration of mobile banking. The level of trust in the local banking market is another factor in making consumers more conservative about adopting more innovative products, particularly from relatively unknown companies.

However, there are Bulgarian companies that focus on specific areas of the financial market, providing solutions in areas such as consumer loans, debt collection, insurance and more. A number of innovative IT companies based in Bulgaria mainly focus their efforts on Western European and North American markets, where the value return is much higher.



Gavin Hill
Partner
Deloitte Bulgaria

Innovations in the banking sector

Recent developments

Low base and high growth

Bulgaria has the second lowest ratio of banked population (63%⁶⁹) of all CEE countries and the second lowest penetration of online banking (5%)⁷⁰. However, almost all banks offer their customers e-banking systems. It seems that banks are aware of changing customer needs and shifting preferences, focusing mainly on digital channels, just as in other CEE and Western European countries. On the one hand, therefore, banks are constantly developing established financial technologies; on the other, however, they are starting to seek innovation through the use of emerging financial technologies (such as host card emulation - HCE in FiBankin FiBank).




Delivery models are mostly based on outsourcing, mainly to local players. Among these is Dais Software with its self-developed core solution -eBank.net. The solution covers online and mobile banking channels and is used by four of the five leading banks in Bulgaria⁷¹. The solutions portfolio of the next local player - Interconsult Bulgaria - includes cash-processing software called Safe Family (implemented by Unicredit Bulbank), and a CRM system based on Microsoft Dynamics 2011 called VeriTouch. Currently, to keep the business running, banks are mainly focusing in their IT project pipelines on enhancing security and risk management, as well as improving product quality. The main areas for the future development of banking business are mostly focused around mobile technologies, CRM systems, data and analytics solutions and virtualisation.

Example of local innovation

Most banks in Bulgaria are just starting to implement innovative products and services such as HCE, personal finance management applications, and accounting services within the e-banking system. These solutions are well-known and widely-used in more mature markets. DSK Bank, on the other hand, can be considered a genuine trendsetter - in 2013, it launched a mobile savings application called DSK Gameo that builds on gamification. The solution was built using Mysis' BankFusion Gameo module. Besides the basic characteristics of gamification, the solution delivers value from insights that can be drawn from the analysis of customer behaviour. By performing common personal finance banking activities such as saving money or setting financial goals, customers have the opportunity to be rewarded with in-app points, which can be redeemed for prizes such as vouchers or sports tickets.

Tracking customer behaviour in this way also supports the bank in the preparation of effective marketing campaigns. On top of that, the bank has positioned itself as a digital player and is enjoying first-mover advantage.

Key points

-  Even though most banks have e-banking systems, online banking penetration in Bulgaria is very low (5%)
-  Most IT development is outsourced to local vendors
-  Banks concentrate on mobile technologies, CRM systems, data and analytics solutions and virtualisation

Attracting customers by offering advisory services

It seems that the simplest way of explaining the difference between a bank and a financial adviser would be to say that the first one by offers financial products / services by attracting customers, while the second one attracts customers by offering financial products / services.

In 2013 Unicredit Bulbank launched a virtual version of the financial adviser. The solution is based on dedicated, questionnaire-based website, split into nine categories connected with personal finance. Options include payments, savings, investments and health. For instance, if a customer decides to make an investment, he/she defines their age, marital status, net income etc. Based on the answers, the decision-engine prepares an individual financial tailor-made offer, such as personal financial plan for a real estate purchase to be paid off within 15 years.

“

In terms of technology, the financial sector in Bulgaria is lagging a couple of years behind the rest of Central Europe, mainly because of lax regulations on technology. Most of the banks belong to global groups and inherit technology solutions from them. Some of the groups have local technology and BPO centres, and we've seen cases when Bulgarian branches are used as pilot projects for implementing new core banking systems. There are no development and maintenance companies that specialise in core banking solutions, but we are seeing such companies focusing on different FSI areas such as consumer loans, debt collection, insurance and more.”

Peter Kirkov
Manager, Deloitte Bulgaria

Innovations in the banking sector

Market outlook

Subsegment outlook

Bulgaria, with the lowest banked population ratio of all CEE countries and the second-lowest online banking penetration ratio, appears set to remain an unsaturated market in the years to come. Add to this the fact that Bulgarians have relatively low GDP per capita, and it seems likely that banks will potentially focus their offer around delivering low-cost and easily accessible banking services. They will also seek to extend their current customer base by focusing on attracting business from the unbanked population.

Although the technology architecture of core banking systems will continue to be based on those solutions transferred from the parent companies of local subsidiaries, local system vendors may have opportunities to deliver more business-edge systems, such as quality management solutions or security-related technologies.

Competitive landscape

A few Bulgarian banks offer solutions that may be considered innovative in more developed markets, in areas including host card emulation (HCE), PFM and accounting services within transactional system and gamification. Innovation is particularly apparent in payments-facilitating technologies such as HCE - the Bulgarian Fibank was one of the first banks in the CEE region to roll out an HCE-enabled mobile wallet. Overall, the technology used in banks in Bulgaria and other more developed CEE markets is continuing to evolve.

Key barriers



Low internet and mobile-banking penetration players specializing in innovative customer-facing and internet-based solutions This means that banks are tending to focus on larger companies when selecting vendors



A significant tranche of the Bulgarian banking sector is foreign-owned, promoting the usage of those established global solutions used by parent companies and hampering the adoption of local technologies

Innovations in the insurance sector

Recent developments

Globally-renowned, locally-originated

Although the Bulgarian insurance sector is relatively small – EUR 0.9 billion of gross written premiums⁷² – it is also a market in which the Fadata company originated. This is a leading vendor of software solutions for financial business in Europe, providing insurance technology solutions internationally for large and medium-sized general, life and health clients. The company's flagship product – INSIS – generates 75% of all its revenues. It is "a flexible state-of-the-art modular software solution that provides full coverage of all aspects of the insurance business area – both horizontally and vertically"⁷³. INSIS can be purchased as a complete end-to-end solution or as a separate module, such as one dedicated to handling non-life insurance products. In Bulgaria, the solution has been implemented by the Bulstrad Vienna Insurance Group, State Insurance Institute and Armeec. In total, there are more than 60 installations of the INSIS solution across five continents, both in the insurance and banking sectors.

Time to go mobile for insurers

Customers of insurance companies, especially busy individuals, are demanding more and more accessibility to information on their policies. One situation when customers most need this is in the event of a car accident, when the user experience and overall satisfaction with the offer are subject to the toughest test and any inconvenience or difficulty will be remembered.

Generali Bulgaria provides a dedicated mobile application, the first of its kind on the Bulgarian market, which supports customers immediately after an accident. In such an event, customers can fill in a user-friendly request form (including

all the data required in a claims process, such as photos of any damage) and send it via mobile phone. After the accident, customers can also contact either the Generali Customer Service Center or the national emergency number 112 via a one-touch calling button. Next, they receive prompt information about what steps to take and what documents to prepare. The app also allows customers to track their claims status, contact Generali experts, manage personal policy data and locate the nearest medical facilities.

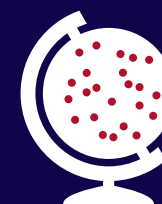
Another insurer, the Bulstrad Life Vienna Insurance Group, offers its health insurance customers a mobile application that facilitates the booking of appointments for medical check-ups. The B-Assist app also allows documentation to be sent in the case of a specialised check-up. The app tracks any changes on the insurance policy and stores the full history of insurance cover, claims, the medical services used and more. B-Assist also has a map showing the locations of partner hospitals in Bulgaria.

Insurers' digitization – just a few steps behind the banks

Digitisation is entering the insurance sector, but at a rather slower pace than the banking industry. It is driven mainly by the character of the contact between the client and the insurer, which is far less transactional and less frequent than making a bank transfer or even depositing money. Generali Bulgaria is the first insurer in Bulgaria to launch a fully online portal enabling the purchase of insurance policies. So far, the online offering covers third-party motor and travel insurance products.

Key points

-  Bulgarian companies are particularly recognised on global markets in the area of IT systems dedicated to the insurance sector
-  Insurers share mobile apps offering functions that might be useful in emergency situations
-  Bulgarian insurers understand the need for digital transformation and automated sales processes



INSIS is utilised in more than

60

locations across five continents

Innovations in the insurance sector

Subsegment outlook

The insurance sector, mainly foreign-owned, is still catching up with banking in terms of technological innovation. This will potentially create significant space for new entrants delivering nimble and cost-effective insurance-related solutions. Some thinking must take place before making any investment in the local market, however. This is illustrated by locally-based software provider Faddata, which has not as yet gained a strong presence in the Bulgarian market despite delivering a state-of-the-art solution in more than 60 locations across the world.

The growing number of mergers and acquisitions may create business opportunities. There are likely to be contracts available for local system integrators and body-leasing companies offering post-merger integration services. Price appears to be the key success factor in the Bulgarian insurance market, due to the relatively small scale of the country's insurance business (measured by the insurance market's total gross written premiums). This could pose a severe limitation to achieving acceptable return on investment.

Competitive landscape

The Bulgarian insurance sector is one of the smallest of all CEE countries in terms of total written gross premiums. However, Bulgaria is home to Faddata, one of the most globally established and recognised companies delivering innovative insurance-related systems.

Key barriers



Being CEE's smallest insurance market may restrict certain business opportunities, due to the relatively higher requirements for meeting the ROI threshold

Payments

Recent developments

Mobile Wallet by the Telecom

According to research from Unicredit Bulbank, Bulgarians' spending through the use of contactless cards increased by 28% between 2013 and 2014, while the total number of transactions rose by 33%⁷⁴. Furthermore, since the beginning of 2016 all new payment terminals installed by Bulgarian banks have been contactless. Society is becoming more and more cashless, which should translate into the development of the FinTech industry as well as supporting the government's fight against the grey economy.

An alternative to smart cards is available to the customers of Telenor, the second-largest Bulgarian GSM operator. Called G-Wallet, this mobile app is based on a dedicated SIM card, giving customers the ability to pay bills and purchase goods and services via mobile phone by using NFC technology. Security of all transactions is based on a PIN code for the service and a personal mobile electronic signature on the SIM card.

Like-a-gift Remittance

Since 2001, the number of Bulgarians with the right of residence in the UK has increased from 5,351⁷⁵ to an estimated 65,000⁷⁶ (2014). So, looking just at the UK case, the number of Bulgarians living abroad is already significant and could grow in the future. Generally, people like giving gifts to others, especially to close friends or family. However, they do not like giving cash (or making bank transfer to a friend's account), but would rather give non-cash presents. This is how a company offering gift cards connected with international remittance found its niche. Cashwave states on its website that it offers "the fastest and cheapest way to send money for everyday shopping to family and loved ones in Bulgaria from anywhere in the world"⁷⁷. Operating it is quite simple, and the recipient of the remittance can use the gift card the day after the transfer of the money. Before they can go shopping, recipients receive a phone call from Cashwave and an SMS with a unique code. Then they can pick-up the voucher, which can be used at more than 5,000 stores in Bulgaria. As the store in which the recipient can spend money is defined by the sender, this service could be useful for parents who want to control their children's spending.

Key points

-  The Bulgarian payments market is set for strong growth
-  The second largest telecom in Bulgaria is offering its clients an e-wallet that uses NFC technology, through this dedicated mobile app they can pay bills and more
-  A Bulgarian-based FinTech company is providing an innovative solution to support customers with making cross-border remittance in form of gift cards.

Payments Market outlook

Subsegment outlook

Although the innovativeness of the Bulgarian payments market is still lagging behind the rest of CEE, basic functionalities like contactless cards will be promoted hard. Two factors might facilitate the further development of payment solutions in Bulgaria: Bulgarians' openness to innovation and the provision of a full contactless payment infrastructure (from 2016 all new POS installations are contactless).

Because the first step in implementing HCE technology in Bulgaria has been taken by a local bank, other banks will probably follow this example. There may be opportunities for smaller payments-focused entrants to offer a localised mobile seamless-payment application based on HCE technology.

There are two potential market-development scenarios: first, payment services will be consolidated by the banking sector; second, new entrants (including well-established companies and smaller start-ups) will take advantage of the payments market's current momentum and outpace the banking players.

Competitive landscape

Bulgaria's second-biggest telco - Telenor - provides a SIM card-based near-field communication (NFC) solution. HCE-based NFC technology, on the other hand, is not wide-spread in Bulgaria. The great majority of solutions are drawn from other CEE countries, particularly by global players operating in Bulgaria such as Visa and MasterCard, which have rolled them out in other, more innovation-oriented markets.

Key barriers



Low smartphone penetration hampers the wide uptake of mobile payment solutions



The smallest GDP per capita of all CEE countries limits the average value of payment transaction which negatively affects low-margin, high-volume payments business

Capital raising and personal finance

Recent developments

Eco-friendly Crowdfunding

The number of eco-focused crowdfunding platforms is growing. These projects aimed at reducing negative environmental impacts on the local communities, such as carbon mitigation, wastewater treatment and hydro energy. One eco-crowdfunding platform, Green Hero, originated in Bulgaria. As a result, most donations go directly to the projects for support, with the platform collecting 8% on every transaction.

Combining P2P Lending with Finance Management

Klear offers a state-of-the-art solution based on the combination of a personal finance management (PFM) tool and a P2P lending platform. This young FinTech targets customers who are keen to enhance their financial situation, including borrowers who would not receive the loans they want from traditional financial institutions like banks or credit institutions.

The synergies are based on the financial education of people who have too much debt. Some borrowers do not have an adequate credit score to qualify for a loan, even on P2P platforms (which have lower minimum creditworthiness requirements than a bank). The habits of these customers are gathered by the PFM app and become an essential element of the credit-scoring process. Debt prevention is also crucial - the PFM tool supports customers by tracking their spending, managing their budget more effectively, and avoiding financial trouble.

Key points



Klear utilises customer information gathered through its dedicated personal finance management (PFM) application to leverage credit-scoring processes

Capital raising and personal finance

Market outlook

Subsegment outlook

There are currently no specific regulations explicitly governing crowdfunding finance, which may in future add to the present uncertainty surrounding the set-up of crowdfunding businesses. The potential implementation of relevant regulations would impact investors, lenders and providers of crowdfunding platforms. Market growth is also likely to depend on the levels of trust in this kind of business, which is currently associated in the minds of many with the financial 'pyramid' scam (Bulgaria was one of the countries most affected by the financial impact of this economic crime in the 1990s).

Bulgaria has one of the lowest levels of public trust in banks among CEE countries. There is therefore an opportunity for the Bulgarian non-banking capital-raising market to grow as an alternative to banks for meeting lending needs. On the other hand, some more established financial players like banks, will probably try to seize the emerging opportunity by providing dedicated credit products eg through creation of separate non-banking entity. All market players are likely to focus on internet and mobile as the main means of communicating with digitally aware customers.

Competitive landscape

The crowdfunding market is relatively saturated, with two new platforms operating on a healthy scale. These concentrate on financing social goods and social entrepreneurship initiatives.

Key barriers



The lack of regulation of crowdfunding activities raises concerns over factors including intellectual property and the contractual relationships between investors and platforms

CROATIA



FinTech market outlook

Deloitte expert opinion

The FinTech market in Croatia is mostly dominated by big banks, whose innovations lead the market. The technological awareness among customers is not particularly high, although the Millennial population is expected to bring about a dramatic shift in this area.

Although market leaders and established FSI players produce most FinTech innovations, and their “mother companies” have significant influence, more and more local players are emerging with a focus on the market who are more than capable of delivering inventive FinTech products. In Croatia, big banks and insurance companies tend to have strong IT departments and considerable internal development capability, currently mainly focused on e-banking and m-banking solutions (such as online branches, online credit requests and calculators and new functionalities for applications etc). This leaves considerable opportunity for emerging FinTech companies to offer their services or solutions to smaller players on the market.

There is also a trend in government towards enabling users with tokens or accounts from e-banking solutions to use such credentials to log into government services. This indicates that the government is ready to adopt technologies and services that help them, opening a whole new niche market for FinTech companies.

The FinTech market in Croatia is still in its early stages, and while there are many possibilities for new and innovative ideas, there are also many obstacles regarding legislation. We could say that this is not the easiest market to enter, but once that has been achieved the options are numerous.



Dalibor Kovacevic
Manager
Deloitte Croatia

Innovations in the banking sector

Recent developments

A fit - and fat - innovator

The biggest Croatian bank - Zagrebacka banka (part of the UniCredit Group) - has been selected by EMEA Finance as the Most Innovative Bank in CEE & CIS. The bank received the Innovation Award due to a series of ingenious products and services which improved customer experience. These are as follows:

- m-buy - seen as a cutting-edge concept in Europe, this solution enables mobile payments in Croatia's biggest retail network. The payment process consists of just two steps: (1) confirmation of payment in bank's mobile app, followed by the generation of a barcode; (2) the scanning of the barcode by the merchant
- Financial Planner - the first comprehensive e-service for PFM in Croatia, enabling users to define short-term or long-term goals, allocate funds into savings, monitor their own financial performance and set spending limits

While ATMs with EUR dispensers are standard in some CEE countries, this solution was introduced in Croatia only in 2016 by Zagrebacka banka. The new ATMs are perceived as an innovation and have a 'touchscreen' display.

Global banks working on local systems

Despite the foreign origins of key banking players and global vendors (like Infosys and IBM), local players provide a considerable share of core IT systems. Croatian ICT companies offer their own solutions that can be used as separate modules facilitating core banking business functions such as debt collection management. A major example is COMBIS - the leading ICT service provider in Croatia⁷⁸ and one of the leading companies in the Adriatic region⁷⁹.

IN2, another local company, offers a tool supporting the management of financial assets (used in Croatia banka). Incendo, which provides systems dedicated to treasury, custody, pensions and back-office departments, works with Splitska banka.

There are also some regional players, including Asseco (which provides software to most Croatian banks, including Zagrebacka banka) and Comtrade (which works with Hypo Alpe-Adria-Bank).

Although the Croatian Fintech market is dominated by established ICT providers, there is still room for smaller entities. An example is Infinum, which was included the 2015 Deloitte Technolog Fast 50 ranking. The company's portfolio includes services such as the delivery of mobile applications for the local branches of Erste Bank, Raiffeisen Bank and other regional banks (Abanka, NLB and HPB).

A number of banks develop and maintain their systems in-house (core banking systems in particular).

Key points

- ✚ The biggest bank in Croatia is also one of the most innovative
- ✚ Although banks employ core banking systems originated by their mother companies, they then carry out continuous development and maintenance in-house
- ✚ Online banking penetration is among the lowest in CEE

Online banking – yes, but branches are still needed

Even in the age of the growing popularity of online banking, Croats still depend on bricks-and-mortar banking facilities. While online banking penetration in Croatia fell from 20% to 18% between 2010 and 2014, the same figures for Slovakia were 32% and 41% respectively⁸⁰ and 22% and 47% for the Czech Republic. Even though the numbers for Croatia are relatively low in comparison to other CEE countries, banks in Croatia should consider transforming their business model to become more digital⁸¹.

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Key players in the banking sector belong to global banking capital groups. Therefore, core banking systems are similar to the solutions used in the mother company. In some cases, local legacy solutions are user-friendly and cost-effective, so postponing the consolidation trend. However, delivery models aiming at continuous development and maintenance are based on co-operation with local vendors who offer competitive prices and employ native IT specialists.”

Mario Bonic

Deputy Executive Director, Strategy and IT Controlling, Hrvatska postanska banka

Innovations in the banking sector

Market outlook

Subsegment outlook

Although online banking penetration in Croatia is still below the CEE average, a shift towards digital banking is inevitable. As so-called Millennials are becoming a more and more profitable part of the banks' customer base, leading players will start to implement increasingly innovative and digitalised channels of communication. On the other hand, there are currently some smaller banks that have not as yet rolled out m-banking. In all likelihood, they will try to implement a rather less comprehensive and more cost-effective mobile banking experience due to their limited resources and smaller potential for a rapid return on investment.

It is planned that the banking sector will support the ongoing implementation of e-government services through initiatives including the usage of a common identification key to access bank account and e-services systems. Banks will need to adjust their current systems to achieve this. The scale of changes will also depend on the scope of services that co-exist between government and the financial sector.

Competitive landscape

Since the top-tier banks are part of the large financial groups that cover the CEE region, their core banking solutions are similar to those used by their parent companies. However, some banks utilise more user-friendly and cost-effective local legacy-developed systems. Development and maintenance services are built around contracts with local IT outsourcing companies staffed by native IT experts.

Key barriers



Croatia has one of the smallest banking markets in CEE, which might cause extended payback periods for investments



The region's lowest proportion of citizens subscribing to fast broadband internet connection is restricting easy access to online and mobile banking services



The relatively low penetration of digital banking channels compared with other CEE countries could inhibit willingness to make changes in a customer-facing technology landscape

Innovations in the insurance sector

Recent developments

A steady growth market

The market for technology solutions dedicated to the insurance sector is currently growing at a slow pace, reflecting the sector's overall condition (despite substantial changes in the regulatory environment – see chapter Croatia - Financial sectors overview – gross written premiums remained stable between 2012 and 2014). The delivery models in insurers' IT departments are based on in-house development as well as those solutions provided by established local and regional vendors. The majority of insurers use their own, internal software to support core insurance functions. Less frequently, insurers decide to leverage IT systems provided to them by their mother companies.

Insurers believe that market opportunities could emerge for smaller, non-established players. To succeed, these should concentrate on delivering separate modules which have the ability to integrate with current IT architecture, rather than fully-fledged end-to-end IT systems.

The main regulatory changes include Solvency II and the recent liberalisation of regulations controlling car insurance prices. While the changes in IT systems triggered by the first of these regulations are handled mainly by internal specialists, the latter has required more capacity. This was secured by external vendors supporting the development of changes required to adjust to new regulations.

Travel Angel

How might an insurance company give added value to its customers? The answer has been found by Croatia osiguranje, the largest and oldest insurance company in Croatia. Having offered a mobile app – Putni Andeo (Travel Angel) – whose main role is to provide security in the case of a car accident, the insurer is not only building its market position, but is also reducing claims connected with post-accident treatment. Based on changes in the vehicle's speed, noise and other parameters, the app detects when a traffic accident takes place and then notifies the emergency services.

The mobile app fully complies with the latest European standards. According to the decision of the European Commission made in October 2015, all new cars in the EU should be equipped with a system to call for help in case of a car accident, the so-called eCall.

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Croatian insurers have already started considering financial technology innovation, especially in the area of digital distribution channels. They may be open to new solutions. However, since the lion's share of IT development is outsourced to local players, foreign entities should seek to establish partnerships with local vendors to enter the market.”

Ivan Jonjic

IT Director, Hrvatska osiguravajuća kuća

Key points



FinTech solutions dedicated to the insurance sector are becoming popular, but the market is at an early stage of development



The biggest insurer in Croatia works with small Fintech companies, offering a mobile app monitoring drivers' behaviour. In the event of an accident, the mobile app notifies the emergency services

Innovations in the insurance sector

Market outlook

Subsegment outlook

The IT architecture of insurers is in many cases built around legacy systems, with high replacement costs and long implementation times. This potentially creates an opportunity for smaller IT vendors offering seamlessly integrated insurance-related modules, such as claims or underwriting. Insurers will probably behave similarly to those in other CEE markets, particularly the more developed ones, by leveraging growing demand for digitally-focused services through the implementation of mobile-friendly applications and responsive websites.

Competitive landscape

Given most companies are locally owned (and not part of global groups) they tend to utilise regionally-developed systems to support the core insurance functions, instead of globally-renowned solutions. Delivery models are usually based on the use of in-house resources.

Key barriers



The high willingness of insurers to work with local IT companies is a barrier to the entry of foreign players who do not already have impressive credentials in the Croatian market

Payments

Recent developments

Beyond contactless cards

Although the number of cards in circulation in Croatia reached 8.7 million at the end of 2014 – the highest ratio of cards per capita in CEE (2.02)⁸² – cash is still the country's leading payment method (representing 85% of transaction volumes)⁸³. The number of card transactions per capita is almost half the EU average (51 vs 93)⁸⁴.

The situation could improve in years to come, however, due to the default caps set on interchange fees for domestic and cross-border European transactions that came into effect in December 2015. Interchange fees in Croatia had previously been higher than the EU average, which might have prevented merchants from accepting card payments.

A favourable environment was probably one of the drivers which pushed the PBZ Group to be the first company in Croatia to implement the cutting-edge HCE mobile payments solution – PBZ Wave2Pay – for its American Express and Visa cardholders. PBZ Group was also the first to launch online and mobile banking, mobile payments, Visa contactless cards and stickers. PBZ is the second largest banking group in Croatia, a member of the Intesa Sanpaolo Group.

In addition to standard HCE payment functionalities, the PBZ Wave2Pay service provides an Overview of transactions made with emulated cards, and displays the geographic POS location of every transaction.

Despite all these abovementioned innovations in payments, to date PBZ Group has not shared the ability to activate HCE functionality online or through mobile. This is in line with the general trend affecting Croatian banking market – a lack of ability to open a current account fully online.

Supporting merchants and acquirers

The Croatian Webteh company achieved sixth place in the CEE ranking of The Deloitte Technology Fast 50 in 2013, due to its dynamic growth. The firm offers payment and software solutions to merchants and banks. Its offering includes proprietary WebPay platform, which is delivered under the Platform-as-a-Service (PaaS) model. The company also provides end-to-end payment gateway integration services and compliance, as well as consultancy to ensure that banks' and merchants' payment technology systems are compliant with the Payment Card Industry Data Security Standard (PCI DSS).

Photo-secured payments

The first step towards making payments more secure and user-friendly was taken by Digitalni Mobilnik, the provider of FacePay. This is an authorisation and authentication system for processing financial transactions, whose innovative payment method consists of two key elements:

- A mobile wallet for customers – beyond the standard functionalities of e-wallets, the app provides information on promotions and discounts using map localisation. The app also facilitates NFC payments, as well as those based on QR codes
- A terminal for merchants – an application utilised by merchants to accept payments. It aims to replace POS terminals through the ability to use the application across a range of operating systems and devices, including PCs, tablets and smartphones. Its distinguishing feature is a photo of the customer displayed on the terminal screen for the purpose of additional authentication.

Key points



Although the number of cards per capita is one of the highest in CEE, Croats still prefer cash to other payment methods



HCE technology is on the rise. The second biggest bank has introduced this technology for its VISA and American Express cardholders

Swiping through your bills

Having less and less time, people are seeking tools that make their lives easier, especially to carry out undesirable activities like paying bills. Microblink, with a project created in 2012, decided to meet those expectations by providing customers with functionalities that eliminate the need to enter data manually into a transactional banking system. They developed PhotoPay, a technology in the form of a software development kit, which uses a picture of a paper bill to automatically fill in the appropriate fields in a bank transfer. Microblink targets banks and mobile banking software providers, who then implement this technology in their own mobile banking apps.

PhotoPay is available through the apps of many banks in Croatia, including Erste Bank, Zagrebacka Banka and Raiffeisen Bank. It shows how technology can increase the number of interactions with banking apps – for example, after the implementation of PhotoPay functionality in Erste Bank's mobile app, the annual number of transactions made by the bank's customers grew 100-fold (from 1,600 to 160,000). Also, the share of the bank's total number of transactions made using a mobile app went up from 0.5% to 13.5%⁸⁵.

Payments Market outlook

Subsegment outlook

Following the implementation of regulations governing maximum interchange rates, the volume of non-cash payments is expected to grow in years to come. This is likely to accelerate the rate of POS installations and the issuance of debit and credit cards, which will ultimately drive increased numbers of transactions per capita and a decrease in the use of cash as a payment method.

A potential next step for players in the payments market would be the further implementation of HCE technology. (To date, just one top-tier bank has decided to offer it.) Wide roll-out would be supported by growing numbers of contactless points of sale and changes in customer preferences and behaviour.

As long as it remains impossible to open a bank current account through a fully digital process, it is feasible that customers seeking payment services with no credit or deposit-taking functionality might be willing to consider non-banking solutions.

Banks will potentially leverage more widely the OCR functionalities offered by the local PhotoPay company or its likes.

Competitive landscape

Payments services in Croatia are mainly delivered through banks and established non-banking players. To date, only one bank - PBZ Group - has implemented HCE technology. Participants in the Croatian payments market (banks and merchants alike) leverage the platform-as-a-service infrastructure provided by the market leader in payments solutions (Webteh) to streamline transaction-related activities such as gateway integration or compliance processes

Key barriers



The low usage of non-cash payment methods may impede the implementation of payments-related products and services



The small market size may restrict the uptake of the low-margin, high-volume payments business model

Capital raising and personal finance

Recent developments

Remedy for underdeveloped IT in developing countries

Having set the goal of serving 100 million families and impacting over half a billion people globally in the next five years, the Croatian FinTech start-up Oradian is fighting to enable financial inclusion in order to alleviate one of the most pressing economic problems of today's world. (Around 38% of adults in the world do not use financial services provided by institutions licensed by a central bank and more than a half of adults in the poorest households are unbanked⁸⁶.)

The company is doing this by providing a multi-award winning core-banking platform for financial inclusion called Instafin - Oradian's flagship product and the only Software-as-a-Service core-banking platform focused on microfinance^{87 88}.

By providing Instafin, Oradian empowers microfinance institutions, co-operatives and credit unions to deal with and manage effectively rural areas. Instafin is delivered in a cloud model and is available through web and mobile channels. This model allows users to address the operational and infrastructural issues (including low-performing IT architecture, insufficient real-time access to data, high initial and maintenance costs and a lack of scalability) that such financial institutions face in their day-to-day business.

Oradian began its operations in its core market, Nigeria, where it is currently providing services to over 300,000 clients. It has rapidly expanded into other countries across West Africa since 2012⁸⁹.

Oradian's competitors include established vendors such as Infosys, with its well-known and widely used leading core-banking system Finacle. However, Finacle is costly and requires high-level in-house experience to implement, which could limit its adoption in developing countries. On the other hand, there is also software aimed at the budget sector, such as Mambu or Fern Software, which seem to be more affordable and adaptable to use within the underdeveloped banking systems in developing countries.

Key points



The Croatian Oradian company is helping undeveloped countries in their fight for global financial inclusion. It delivers SaaS-based IT systems that enable the running of a microfinance institution in a few days



PhotoPay, a software development kit that can be implemented in banking systems, is used by the largest banks in Croatia

Capital raising and personal finance

Market outlook

Subsegment outlook

There are currently no key players with substantial market share in the capital-raising market. The sector will probably therefore grow around the banks, both for personal loans and micro-finance products. On the other hand, it is possible that regional players will treat it as an uncontested 'Blue Ocean' market space, and decide to enter the Croatian market.

To date, personal finance management (PFM) facilities have been embedded into just a few banking transactional systems. Therefore, in line with the general trend towards growing demand for PFM functionality, banks may develop these facilities within their online and mobile front-end systems.

Competitive landscape

The capital-raising market is mainly catered for by the banks. There are two non-banking key players operating in the microfinance market, concentrating on the provision of financial and non-financial products and services to customers who have limited access to formal financial services.

Key barriers



The dominance of banks in terms of capital raising could hamper the market entry of non-banking players who specialise in personal loans and micro-finance

Cybersecurity

Recent developments

Local security

The financial sector is one of the industries most subject to frequent illegal activities and fraud. It is a tremendous challenge for banks and insurers to successfully confront these actions and protect their information systems and users from unauthorised frauds. Growing demand for those services helps Croatian companies to build the competitive offering that finds favour with local financial players. Providers in the area of security include IT Sistem, INFIGO IS and SV Group. Basic services include the implementation of information security management systems, data leakage prevention systems, penetration testing and security assessment services, and PCI DSS consultancy. Clients think that banks are able to protect their privacy completely and that banks are doing their best to improve confidentiality of online transactions. On a scale of 1 to 7, the average score for the statement 'I trust in the ability of bank to protect my privacy' was 6.2⁹⁰. This appears likely that security should be considered as a permanent part of the business landscape, especially if financial institutions do not want to lose their positive image.

The noticeable improvements in the area of security came from new regulations introduced in 2010 by the Croatian National Bank. The changes covered the issues connected with the management of IT systems in banks. They resulted in a mandatory IT audit of the banks' IT architectures, which subsequently brought about significant improvements in IT security. This helped banks to achieve the maturity of IT security that they currently possess.

.com alarm

As companies' website are considered to be one of their most valuable digital assets, all companies should ask themselves some key questions: Is my website down? Is my IP blacklisted? Are my domains and SSL certificates expiring? A Croatian start-up, WhoAPI, having raised US\$ 250,000 from seed capital and business angels, is helping to address these questions by providing a solution that monitors companies' websites. This is helping them to protect their brands, invest in better domains, and act faster on various domain-related threats. Erste Bank Group is among the firm's clients from 26 countries. One example of the serious implications that result from disregarding domain issues is the US-based Regions Bank, whose website stopped functioning altogether.

Key points



Solutions for cybersecurity are delivered mainly by local players. Banks' clients have confidence in Croatian banking services



One of the most prominent FinTech companies from Croatia has found a niche, offering a solution that monitors solution that monitors clients' websites and sends notifications in the event of issues such as domain expiry

Cybersecurity Market outlook

Subsegment outlook

Because of the dynamically changing threat environment facing players in the financial sector, demand for cybersecurity solutions will probably continue to grow in years to come. To protect the positive image of secure financial institutions, Croatian banks are likely to keep their investments in security solutions at least at the same level as today. Such solutions will potentially include information management systems, solutions preventing data leakage, and services for penetration tests.

Following the success of WhoAPI, a Croatian-based company that specialises in monitoring banks' websites to prevent their expiry and stop their IP from being blacklisted, this new kind of service may be on the increase.

Competitive landscape

The market for cybersecurity solutions is mainly occupied by local IT services providers. The growing market for cybersecurity solutions has helped them to build competitive advantage, largely thanks to their localised offering and costs that are lower than those of global players.

Key barriers



The provision of cybersecurity services is concentrated around local players, which may be a barrier to foreign players



Many investments in the area of security were made after the implementation of new regulations covering internal IT audit. Most banks have therefore secured their IT systems, which may slow down large-scale investments in this area

Data and analytics

Recent developments

Big data analytics-as-a-Service

Big data analytics is especially important and useful in industries generating data meeting the so-called three V's - volume, variety and velocity (the speed of data generation). It seems that the value of big data analytics, measured by metrics such as ROI, has not been yet quantified in a comprehensive way. In such a case, companies can use analytics in an as-a-service model, which does not require a high initial investment. It reduces the otherwise large initial investment in technology infrastructure and skilled technology resources.

On top of many traditional services connected with data analysis, the Zagreb-based Poslovna inteligencija (Business Intelligence) company - one of the leading vendors for implementation of analytical systems in South East Europe - offers a BDaaS (Big Data Analytics-as-a-Service) solution called Pandora. The solution consists of three layers: storage (a database solution based on open-source Hadoop); engine (rules based on which data is extracted, transformed and loaded with powerful analyses and visualisation); and access (administration and monitoring).

Key points



To provide a solution connected with big data analysis without high initial investment, Poslovna inteligencija offers its own-developed solution - Pandora - in the big data analytics-as-a-service (BDaaS) model

Data and analytics

Market outlook

Subsegment outlook

As more and more financial institutions are concentrating on delivering personalised offers to their customers, banks will probably start to implement systems based on big data analytics. As banks in Croatia generally prefer to work with local companies, analytics solutions may be implemented by local integrators.

Competitive landscape

The market is relatively competitive, with several companies offering a long list of services for financial solutions including data and analytics. In addition, the regional market leader - Poslovna Inteligencija - offers analytics solutions based on big data delivered as a service

Key barriers



Projects aiming to implement data and analytics capabilities usually involve significant investment. As a result, the country's mostly foreign-owned banks and insurers, where investment decisions are made at parent-company level, may not be allowed to implement such projects

CZECH REPUBLIC



FinTech market outlook

Deloitte expert opinion

The Czech financial services market is highly competitive, with several recent online entrants having launched low-cost products and introduced innovative new approaches. The market for financial technology solutions are considered as innovative and open to the adoption of emerging technologies and business models.

Traditional financial services providers tend to be conservative in the selection and adoption of new technologies and solutions, as they still mainly rely on services delivered by established vendors. Most of them, however, especially large banking institutions, have started to pay more attention to increasing their customer focus and so ensuring an improved omnichannel experience and hence greater loyalty. That effort has resulted in investments in multichannel digital platforms and advanced CRM, customer analytics and real-time marketing solutions to act as enablers for identifying customer needs and targeting them with more focused and personalised offers through their preferred channels.

This clear shift of attention from product to customer is providing FinTech companies (new local vendors and FinTech start-ups in particular) with a wide range of opportunities to launch innovative new authentication and security solutions, social and behavioural data analytics solutions, customer engagement and advisory apps, distribution concepts and flexible portal solutions.

Financial institutions are continuously considering how to acquire new clients while retaining those they already have. However, those categorised as Millennials and Generation Z are starting to prefer user-friendly FinTech solutions to traditional banking services. As a result, established players are starting – and will continue – to consider how to integrate FinTech solutions and apps more closely with their core services to build customer loyalty from scratch – for example by experimenting with mobile payments and mobile wallets. Away from the global Visa and MasterCard products, Twisto and Valuto can be highlighted as successful, innovative solutions that originated in the Czech Republic.

With upcoming changes in legislation like PSD 2 and eIDAS, all players will invest significant resources in digital transformation, building next-generation open API platforms and implementing modern, highly secure and customer-friendly authentication approaches using technologies such as biometrics with fingerprint or voice recognition.



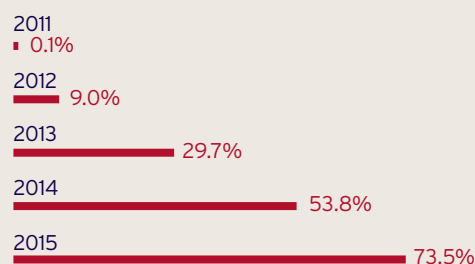
Yauheni Blahanravau
Manager
Deloitte Czech Republic

All of this makes us perfectly confident that the FinTech market in the Czech Republic will grow rapidly over the years to come and that there will be enough space for new market entrants. However, who will succeed and who will lose out will depend on the ability of FinTech players to offer breakthrough solutions, flexibility and attractive pricing models.

Innovations in the banking sector

Recent developments

Financial contactless smart cards in circulation (share of total financial cards)



Source: Euromonitor International

Mature players for a mature market

The Czech banking sector can certainly be considered as one of the most innovative of all CEE countries. One example is contactless cards, which have become synonymous with innovation, especially in CEE. According to Visa Europe the Czech Republic leads the CEE region with 3.3 transactions per month per capita, ahead of Poland (2.4) and Slovakia (1.3). However, those figures are still below the scores being witnessed in Western European countries (such as the UK's 30 transactions per month). In terms of value, Czechs spend on average EUR 64 per month per issued card, more than in Spain (EUR 16) and Poland (EUR 15)⁹¹.

As banks tend to be conservative in terms of the selection and further adoption of new technologies and solutions, they still mainly use services delivered by established vendors. In practice this means that solutions in key areas such as core banking systems, CRM, call centre platforms and trading platforms come from well-known international players. The list includes SAP, Oracle, Infosys, Misys, Siebel (owned by Oracle), Microsoft, Unica (owned by IBM), IBM, Avaya, Cisco, Teradata, SAS, Dimension Data, SunTec and the Central European company Asseco. Local players include the likes of Arbes and BSC (the provider of the leading statutory reporting solution in the Czech Republic - my|BI) and Zentity (mobile banking solutions). There are also some emerging players such as iDa mobile which focuses on the latest trends such as mobile banking and PFM, delivering them as turn-key modules.

An IT sourcing strategy that focuses on established players is to a great extent the result of the fact that most banks have run their businesses for two decades, building IT ecosystems using often group-wide in-house or established technologies and solutions. As a result, major changes to IT infrastructure would require significant initial capital expenditure. In addition, issues like customer privacy, data protection, security concerns and existing legislation are hampering the faster adoption of emerging, often cloud-based technologies. Examples of the first forays of key banking applications into the cloud could be various attempts to base CRM on the Salesforce.com platform.

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As an established bank, we are active on many fronts: we are working to get well connected with the start-up community; we have facilitated innovation by creating an Innovation Hub, where we are focusing on the development of new mobile banking solutions and on enabling the API economy; and we support development and data hackathons. This is clearly the direction we are following to support the convergence of Fintech trends with traditional banking services to the benefit of our customers.”




Representative of a large Czech bank

“

Financial services institutions are finally starting to change their belief that "the safest solution is placed behind the corporate firewall, and cloud solutions are the worst thing for business". In the current overregulated environment, cloud solutions are a kind of antidote. In-house development is extremely expensive for banks and does not bring much competitive advantage. So the question is not "whether" data and services will someday be moved to the cloud, but rather "when" it will become a reality.”

CIO of a technology company

Key points

-  Czech banks use services delivered by both global and local players. In most cases, these are established vendors, rather than smaller companies
-  Security concerns and data protection are still hampering the wide uptake of cloud-based solutions
-  The award-winning FinTech SDK.Finance delivers a state-of-the-art solution that allows the rapid creation of new FinTech companies

FinTech for FinTechs

It was to be expected that the buzz around FinTech would attract a number of start-ups with interesting and innovative ideas. As a result, it will create new business models aimed at servicing those aspiring disruptors.

Such an innovative business model was built in the Czech Republic and is the winner of FinTech start-up in the 2015 Central European Startups Awards. SDK.finance is a software development kit developed and delivered by Cyber Force Group, which allows the solutions such as a new e-wallet 10 times cheaper in terms of initial investment and four times faster in terms of time-to-market⁹². The solution is delivered as pre-fabricated modules, which can be interfaced with other internal or external systems, facilitating the development of required functionalities. Because it is based on the SDK delivery model, start-up founders can use it to create new finance-related businesses like loyalty programmes, payment systems, e-wallets, P2P and lending platforms, mPOS acquiring tools, Bitcoin-based services, billing systems and currency exchange platforms, all of which are very easy to roll out.

In times of the application program interface (API) economy, banks aim to be recognised more as a trusted brand than just a profitable business model with high levels of ROE and ROA. With changes in the regulatory environment connected with PSD 2 on the way, it looks as though SDK.finance could be a good method of building FinTech businesses above the garage.

“Companies providing online financial services are experiencing significant growth, and this trend will just continue. In the last couple of years a significant group of active mobile banking users has formed in the Czech Republic. This is not only driven by a more convenient way of managing your finances, but is also influenced by the lower prices of mobile internet and the popularity of smartphones.”

Representative of a large Czech bank

“Some of the most important factors behind the popularity of a mobile banking solution is the right architecture and how mobile banking applications are implemented, especially in relation to the multi-factor authentication of customers and their transactions.”

Representative of a large Czech bank

Innovations in the banking sector

Market outlook

Subsegment outlook

A shift in the preferences of customers towards a full omni-channel experience, rather than a focus on pure banking products, will potentially force banks to adopt and use new systems. However some issues could arise because the current technology stack of the banks is somewhat legacy-based. New IT architecture will probably consist of powerful and flexible API layer, multi-channel digital platforms, advanced platforms for digital products and offers, advanced CRM, real-time customer analytics and marketing automation.

As the Czech banking sector is one of the most innovative in the CEE region, many globally-utilised customer-facing products and services have been already implemented. Banks will probably start looking for new business opportunities (also outside traditional banking segment) in co-operation with FinTech companies working as the facilitators of innovation. They might potentially leverage user-friendly mobile apps handling payments services, personal finance management processes or out-of-the box mobile wallets. Thanks to the open API of these solutions, banks will be able to integrate them seamlessly with their IT systems and, what is most important, create new monetization strategies and open new sources of revenue. This would be required also by the implementation of the EU Directive on Payment Services (PSD2).

Competitive landscape

Because most of their current IT architecture is based on legacy systems built two decades ago by globally known IT vendors, banks tend to continue development of new systems basing on solutions provided by those vendors. Some banking solutions – such as mobile banking and PFM – which they offer under a commercial off-the-shelf model.

Key barriers



The high inventiveness of the Czech banking sector could be an unsurmountable issue for new FinTech entrants, who would like to provide solutions that the banks already offer



IT systems providers, offering new, light-weight non-legacy solutions, may be inhibited by the current banking IT landscape that mainly consists of legacy systems provided by global players (IBM, Misys, Cisco, SAP etc)

Payments

Recent developments

To be like a bank

What could you do if on a Saturday evening your current account was not working and you needed to make or receive a bank transfer in the quickest possible way? Worldcore, an internet-based financial service solution, owned and operated by the Prague-based start-up EUPSPProvider, has tried to resolve this issue. Upon submission of an application including required documents, an operational account is provided within six hours on a weekday and within 12 hours at the weekend.

As stated on the company's website, the tool was the result of a year's research into leading online payment solutions. In the end, it has brought a new quality to the payments area, providing an alternative to the traditional approach that at the same time does not contradict it. Its primary services, shared through both an RWD-based website and a mobile app, cover bank transfers (both ways), loading credit cards, making online payments (such as for e-commerce) or paying bills. Additionally, Worldcore provides its own prepaid card.

As well as such B2C functions, Worldcore is developing B2B functionality such as funding Worldcore accounts in over 10 currencies. The founders have provided an intuitive user interface and hassle-free account-opening process (including KYC and AML verification). Apart from these innovations, the company is also planning to launch voice biometrics-based authentication system to strengthen its security system.

One place for all e-purchases

In 2015, the Czech e-commerce market was worth EUR 3 billion, with a year-on-year increase of over 20%, and accounted for 8.1% of total retail turnover in the country. This year it is expected to grow by at least 15%⁹³. Czech e-shoppers constitute a strong market segment, with impressive spending per online shopper of EUR 845 (as compared to EUR 618 in Poland, for example)⁹⁴. The changing preferences of customers, who are more and more frequently choosing online shopping over physical stores, was the reason behind the launch of Twisto payments. The solution comprises three core technologies:

- Shopping Account – an e-commerce finance manager automating the settlement of purchases, payments, instalments, returns and collections. All of these activities are turned into a once-a-month click-and-done action
- Nikita – a digital fingerprinting and multidimensional proprietary risk assessment engine, with up to 95% of credit approval processes proceeded automatically
- Express Checkout – instant payments processing, smooth checkout completion and the aggregation of all available payment methods

Key points

-  Worldcore offers an alternative to the traditional bank account. The solution facilitates most current-account related activities (including payments and credit cards) without the need to own one
-  A one-stop-shop solution, provided by Twisto payments, allows all online purchases made on credit to be gathered and repaid in a once-a-month click-and-done action
-  The Czech Republic FinTech market has originated several innovative Bitcoin-related solutions, such as a display device that enables offline payments using the bitcoin

Small market, big thing

According to Google Trends, the Czech Republic generates the third-highest volume of Bitcoin-related web searches in the world⁹⁵. Moreover, the country is home to the world's first Bitcoin Mining Pool, "a way Bitcoin miners pool their resources together and share their hashing power while splitting the reward equally according to the amount of shares they contributed to solving a block"⁹⁶. This is SlushPool, delivered by SatoshiLabs. The company also offers the first hardware-supported Bitcoin wallet in the world – Trezor. The solution is based on a display device enabling offline Bitcoin transactions. The Bitcoin offline wallet is managed through the dedicated myTrezor service. The Czech Republic is also home to the globally known WBTCB (a partnership allowing customers to purchase Bitcoins in every post office and lottery terminal) and General Bytes, a manufacturer of Bitcoin ATMs.

“

A trend in years to come will be the development of combined payment solutions from start-ups in partnership with major Czech banks. Financial institutions will remain a key pillar of financial services, but for routine transactions people will more and more often use FinTech firms that are working with their banks. We estimate that within the next five years, up to 50% of all transactions could be processed through non-banking channels.”

CEO of a mobile payments start-up

Payments Market outlook

Subsegment outlook

As the Czech e-commerce market is one of the most developed in the CEE region and is expected to grow in years to come, digital payments methods are also set to be on the rise. Growing numbers of online shoppers will potentially attract the attention of new payment-based businesses, including payment processors, payment-aggregating platforms and instalment providers.

The high levels of maturity and innovation shown by banking products and services will potentially still continue to expand, albeit at a slower pace than in previous years and it will change the direction towards fully digital products and services. On the other hand, more and more start-up FinTechs offering new financial services outside the banks may emerge, driven by the constantly growing demand of Czechs for cutting-edge, user-friendly financial services. One FinTech representative estimates that half of all payment transactions may be processed through non-banking non-banking channels in the near future.

Competitive landscape

Several alternative payments schemes – Paysafecard, Ukash, PayPal and MasterPass – have emerged due to the growth of the e-commerce market. Leading banks have adopted contactless systems. Payments can be accepted at most Czech points of sale, with three in four having the requisite functionalities. As main competitors in payments area banks now see rather technology companies like Apple, Google or telco operators, than traditional financial institutions.

The FinTech start-up landscape is still expanding, mainly due to the positive Czech attitude to new and innovative financial technologies, which increasingly are delivered outside the banking sector. An innovation hub and conferences support the FinTech community and its development.

Key barriers



The strong position of banks, which provide innovative means of payment through mobile applications and user-friendly online banking platforms, could slow the development of FinTech start-ups



There is intense competition between FinTech start-ups

Capital raising and personal finance

Recent developments

Finance tracking

Following emerging trends, Czechs are eager to track their spending. This was observed by young start-ups, which decided as a result to develop their own PFM mobile applications. One of them, Spendee, designed by Czechs from CLEEVIO, has been named as “the favourite financial app on Google Play for managing your personal finances on the go”. Most of its functions are fairly standard for PFM applications, but the app’s strengths are its simplicity, security and an intuitive user experience even for customers who are new to financial management.

Another PFM app, available through both mobile and personal computers, has been developed by Budgetbakers. The walletapp, is one-of-a-kind in the Czech Republic thanks to its potential for integrating with banks (to date with the systems of Fio Bank, Air Bank, Equa Bank, and soon expected to be integrated with those of Česká spořitelna and CSOB). Data from current accounts is exported and uploaded into the app automatically. However, walletapp does not require any sensitive information from users, such as login data. Data transfer is confirmed by using a bank’s tokens or pre-generated QR codes. If the user has several accounts in different banks, all information is aggregated, categorised and shared through the user-friendly interface. It seems that under some circumstances, the open API delivery model could be utilised by banks, especially in the personal finance management area, so they do not need to build their own solutions within a legacy IT environment.

Finance raising




The rapid evolution of investing schemes, which are starting to be P2P contact-based rather than on agreements with financial institutions, has helped some platforms to establish a strong market position. Czech P2P lending platforms include Zonky, Pujcmefirme, Kreditni Klub and Bankerat. While the first of these is focused on individual clients in a standard P2P lending-platform business model, the second targets small and medium-sized companies. Those who apply for credit have to provide their account data and permit all credit-related information to be checked in required registers such as credit bureaus and business information agencies. The platform sets the maximum amount of the loan and an interest rate cap before starting the auction to find investors.

To find a potential investor and avoid financial institutions’ commissions, companies can use crowdfunding platforms. Czech-based examples are Startovac, Podpor, Nakopni.Me and Daruj spravne. The estimated amount collected through crowdfunding platforms in the Czech Republic was around EUR 800,000 (data as of October 2014)⁹⁷.

Financial education

Banks are constantly considering how to acquire new clients while retaining their current ones. However, those people categorised as Millennials and Generation Z are starting to prefer FinTech solutions to old-fashioned banking services. Banks are therefore now paying more attention to youngsters in order to build their loyalty from scratch, such as by using financial education.

Key points

-  Czech banks are implementing tools for personal finance management, based both on in-house developed solutions and off-the-shelf solutions delivered by start-ups
-  The P2P lending market is quite well developed, both for individual borrowers and small and medium-sized companies
-  The UPUP platform will provide a means of teaching young Czech people how to manage their finances. The solution can be implemented into banks’ IT systems

Such a solution, which can be seamlessly integrated with current banks’ IT ecosystems, is delivered by the UPUP platform. It is provided as a “plug & play” platform that allows banks to deploy their own co-branded products with a rollout process that takes less than a month. The platform is offered in the form of a mobile app installed on mobile phones of parents and children. Through the platform, parents can provide children with a payment card and use internal chat to discuss and transfer pocket money. The solution is currently under development and is planned to be implemented in several European countries.

Capital raising and personal finance

Market outlook

Subsegment outlook

In line with the emerging trend towards tracking personal finances that can be observed in more developed markets, Czech customers will potentially start to seek products that help them manage their daily expenditure and plan their budgets for months ahead. Seeing this trend as an opportunity to boost profits from low-margin products such as the current account, banks will probably take the opportunity to implement PFM modules within their online and mobile banking products. They are likely to partner with non-banking PFM service providers to improve their time-to-market.

The global hype surrounding P2P lending and crowdfunding platforms will also potentially come to the Czech Republic, strengthening existing players and creating space for new ones. The market appears set to grow thanks to greater awareness of risks and benefits and more competitive offerings. Funds will be collected, not only by private clients to finance personal aspirations, but also by companies to provide short-term financing (such as settling an invoice) and long-term financing (such as capital investment in a new production line).

Competitive landscape

Most online and mobile banking platforms of the top-tier Czech banks include personal finance management functionality. Two different approaches have been used in implementing these PFM modules: development from scratch, or the integration of existing FinTech solutions with banks' IT systems. The two most recognised PFM start-ups for end users are Spendee and Budgetbakers. For the enterprise customers Meniga PFM / BFM could be considered as the most recognised solution.

The funding platform market, including P2P and crowdfunding businesses, consists of several players with significant market share. The market is divided into two segments of P2P platforms, for private and for corporate investors.

Key barriers



The high number of companies operating in the capital-raising market (P2P and crowdfunding platforms) might discourage the potential entrance of new players



The PFM market appears to be saturated, as most leading banks provide such functionalities within their digital banking platforms while two well-recognised start-up players also offer separate PFM mobile apps

Cybersecurity

Recent developments

Keeping deposits safe

Banks, widely considered to be institutions of public trust, regulated and supervised by financial regulatory authorities, are expected to guarantee a high level of security for their systems and operations. This has recently gained in importance, in this era of global cyber threats.


With the ongoing digitisation of delivery and services, banks have started focusing on new authentication solutions that enable security in a modern and client-centric way, such as using biometrics with fingerprint or voice recognition.

Banks are still working on the non-client-facing side of security. Back-end security systems are usually developed by external vendors and implemented in co-operation with internal IT or security departments. A number of Czech-based companies also specialise in banking-dedicated solutions (including MONET+, Flowmon and AEC). Among many other solutions countering advanced persistent threats, the key players provide the automated management of client applications and central modules for electronic signatures, electronic identity cards and documents, the management of network behaviour analysis and anomaly detection and DDoS protection.

Established global players also have their place on the market. Cisco and IBM can be seen as a direct competition for smaller local players.

As well as the traditional security solutions mentioned above, some globally emerging trends are also to be seen. Banks are starting to concentrate their efforts and resources on the delivery of centralised security solutions that bring convenient new ways of customer authentication and authorisation across all channels. These solutions are usually built on federation principles and create a consistent user experience across all touch points by implementing authentication and authorisation methods such as SmartOTP (mobile tokens delivered to a smartphone) instead of SMS, and mobile PKI solutions for corporate clients. Czech banks are also starting to consider biometrics (including voice recognition) and the use of external cyber-intelligence providers.

Key points

-  The market for security solutions is divided between global players (eg IBM) and local firms (eg MONET+, Flowmon)
-  Czech banks are starting to consider biometrics as the emerging global trend and centralised authentication security solutions

Cybersecurity Market outlook

Subsegment outlook

Because of the increasing number of touchpoints where customers can interact with the banking system - internet, mobile, wearables, ATMs - cybersecurity concerns will become even more important for bank executives. Banks are starting to build facilities that allow them to manage customer authentication and authorisation across all channels. Another advanced technology that is moving into the limelight is biometrics (enhancing security by using eg voice recognition or fingerprint). Banks will also start to use external cyber-intelligence services. In addition, in the near future banks will be still working on enhancing the non-client facing side of security

Competitive landscape

The market for security solutions consists of global players like IBM, Cisco and local companies such as MONET+ and Flowmon. Both types of company provide similar security products, such as the automated management of client applications, central modules for electronic signatures, electronic identity cards and documents, the management of network behaviour and protection against DDOS.

Key barriers



The strong market position of current security solution-providers might restrict the entrance of new, earlier stage and innovative companies

Data and analytics

Recent developments

Data analytics projects go to global players...

Even as the data and analytics market keeps growing, the biggest slice of the pie is still in the hands of established players such as SAS (a provider of market-leading analytical modelling platforms and campaign-optimisation tools) which is used by the risk and sales departments of most large Czech banks; and Tableau (a data visualisation and reporting solution that is popular with banks).

Remaining business goes usually to domestic niche players using partially cloud-related business delivery models. Their solutions often add new value to packages deployed by other vendors. This covers areas including new data dimensions like geolocation (CleverMaps), real-estate market prices (Spolecnost pro Cenové mapy CR) and the analysis of social media activity, as well as value-driven visualisation. Finally, new entrants, trying to establish their competitive advantage, use technologies like Hadoop to collect insights from unstructured data, such as voice recordings from contact-centres or bank transfer narratives (Semantic Visions).

...but the most hyped trends are closer to niche ones

It is noticeable that the Czech Republic is relatively mature when it comes to local providers of data and analytics tools. This rule applies not only to established companies as there are some examples showing that even start-ups can quickly build scale. For example, domestic solutions include Simplify, the winner of the Deloitte Technology Fast 50 ranking in 2015. Its references cover projects across several CEE countries (Banca Comercială Română, WOOD & Co. Raiffeisen Group and Bank Austria for example), which are focused on consulting and technical services in the fields of data warehousing

and business intelligence. Another company, Logic point, mentioned in the 2014 edition of the same Deloitte ranking as the fastest-growing technology company in the Czech Republic, concentrates on implementing Microsoft Dynamics CRM technology, and provides complex and customised solutions as well as off-the-shelf CRM products.

To be socially geolocalised

As the limitations of being human do not allow us to follow every opinion, post or article on Facebook, Twitter, LinkedIn or Youtube, companies are beginning to offer services connected with the automatic analysis of customer activity on social media. The globally-known Prague-based start-up Socialbakers is among the leading companies offering this kind of service.

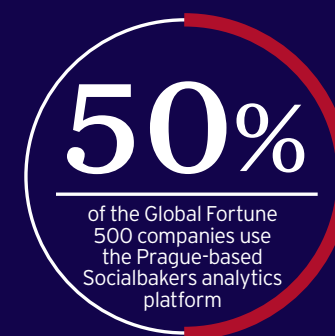
The results are impressive:

- Half of the Global Fortune 500 companies use the Socialbakers analytics platform⁹⁸.
- Banks regularly engage their customers in interactions, for example to find their opinions on products. ING Bank Türkiye uses Socialbakers to improve the shareability of its Facebook content, growing the number of shares each month by more than 10 times⁹⁹.

Financial institutions are rapidly expanding their digital delivery capabilities. However, a large proportion of business still flows through costly branch networks that need to undergo transformation. Emerging technologies, allowing the analysis of data in a quick and insightful way, can help boost revenues and contain costs. Many tools that are helping with the transformation of branch networks are based on geolocation. A one-of-a-kind solution is offered by CleverAnalytics. Its so-called geomarketing service supports financial institutions in exploring their location business intelligence to improve their

Key points

- ✚ In the area of data analytics, Czech banks tend to utilise solutions delivered by global players
- ✚ However, the Czech Republic is relatively mature when it comes to local providers of data and analytics tools
- ✚ Socialbakers, the Czech start-up, helps its clients to find insights into social media. The solution is used by 50% of the Global Fortune 500 companies



understanding of customers and their distribution within the catchment area. Secondly, geolocation tools can enable the optimisation of branch networks, allowing banks to adjust their formats, structure and location.

Data and analytics

Market outlook

Subsegment outlook

It is likely that in the short term the market will remain in the hands of big global players like SAS (analytics) and Tableau (data visualisation). However, local players are likely to gain more and more share by offering more innovative and nimble cloud-based solutions. Solutions allowing the gathering and analysis of structured and unstructured data in near real-time are likely to be on the rise. Areas for analysis may include social media activity, voice recordings from contact centres, bank transfers titles and geolocation.

This last example – geolocation – may be crucial in the age of initiatives to optimise branches. To get the most from these activities, banks will use dedicated tools that facilitate the process of selecting branches for optimisation by changing their format, structure and location

Competitive landscape

The local market for data and analytics systems has reached maturity in terms of the presence of local providers, both established and smaller (including start-ups). Financial institutions are somewhat unwilling to collaborate with small and medium-sized local companies. There are a number of companies that offer state-of-the-art solutions to support big data analysis, including Socialbakers and CleverAnalytics.

Key barriers



Small start-up based companies could come across obstacles when trying to create business relationships with financial institutions that are not seeking collaboration with small-scale players

Other software

Recent developments

Employee robots to perform rule-based jobs

Financial institutions are always looking for opportunities to optimise costs; personnel remuneration typically represents a substantial P&L cost item. Simultaneously, in times when a hard-working and trustworthy employee provides true and long-term value to the employer, companies have started approaching this challenge in a more selective way by eliminating roles that add little value.

The solution emerged from artificial intelligence. Thanks to virtual robots, enterprises can automate non-value-added and highly rule-based activities, freeing-up the time of their workers. So-called RPA (Robotic Process Automation) software is gaining more and more attention on the Czech market. Companies are starting to prepare first proofs-of-concept with different vendors and system integrators. Major vendors, offering cutting-edge RPA solutions, include global players such as Blue Prism, UI Path and Automation Anywhere. Integration services are provided both by global companies such as Big 4 (including Deloitte) and local players like Neoops. Key benefits expected from implementing RPA include the replacement of between two and five traditional FTEs working in rule-based activities with an alternative that can work 24/7 without any mistakes¹⁰⁰.

Pay-by-QR

SPD (Short Payment Descriptor) is a data format used to exchange payment information through smartphones. This data format can also be applied to sharing payment information via web or e-mail. However, at the broadest scale, SPD supports QR codes payments. The data format is approved by the Czech Banking Association and has been submitted to all Czech banks as the official local standard for QR code payments. Due to its open-sourced status, the format can be integrated within most accounting systems on the Czech market (such as Superfaktura, Abra, Stormware and Fakturing). The technology facilitates the automatic processing and issue of invoices including QR codes.

Key points



Robotic Process Automation (RPA) tools help companies to reduce the workload on non-value added and rule-based activities. RPA solutions are delivered by global players, and mostly implemented by local vendors



The Czech-originated SPD data format is widely used in the digitisation processes of paper invoices. Most paper invoices have the QR code included

Other software

Market outlook

Subsegment outlook

It is anticipated that in the near future non-value added activities will be replaced by systemic automation solutions. These include not only classic solutions like advanced ERP and BPM systems, but also robotics technologies (RPA) that imitate the work of a real person. The CEE region, including the Czech Republic, will potentially still have scope for growth as a cost-effective SSC and BPO destination for global companies. RPA technology may add scale to their activities without increasing headcounts. Local implementation providers, based on existing solutions such as BluePrism, may facilitate the roll-out of this technology in the region.

The Czech Republic is one of the few CEE markets where a common standard for exchanging payment information embedded in QR codes has been successfully implemented. Players in the financial services industry will probably further expand its functionality and progressively integrate it with the next generation of finance management functions. Thanks to its open-source status, the technology will potentially be in a process of continuous improvement.

Competitive landscape

Although robotic process automation technology is still young and immature in the CEE region, some local integrators have emerged (such as Neoops). Nevertheless, the key players are global consulting firms such as the Big Four. Both these groups deliver solutions pre-built by globally-recognised vendors like BluePrism and UiPath.

The market for online platforms for accounting services is relatively mature. Key players have chosen to pre-install QR code-recognition functionality into their products.

Key barriers



The expertise required to implement robotic process automation technology is relatively high



The high number of online accounting firms could discourage potential new entrants

HUNGARY



FinTech market outlook

Deloitte expert opinion

The Hungarian FinTech market is still being developed. Given that the use of cash in Hungary is high, the biggest threats for banks are posed by payment solutions. While several mobile payment solutions exist (such as MobilTárca), none of them have as yet reached critical mass.

It needs to be noted that NFC-capable (near field communication-capable) phones are widespread in Hungary and provide the necessary infrastructure to introduce disruptive payment solutions.

Hungarian society is open to digitisation, exemplified by high social media usage and a high rate of Internet penetration. Furthermore, some people purchase iPhones and other smartphones that are beyond their purchasing power simply for the sake of status. It is consequently safe to assume that the Hungarians are ready to accommodate more innovative solutions. However, the market is not big enough for Hungarian companies to allocate vast funds to innovation. We therefore believe that new solutions will come from international players with a validated business model in place who also benefit from economies of scale and are therefore less exposed to risk.

As for the FinTech lending market, we believe such solutions will not enter the Hungarian market anytime soon since the right to lend is exclusively reserved for financial institutions.

Now that the Hungarian government has acquired stakes in banks, this regulation will stay in place for the foreseeable future as well.

The insurance sector will not thrive with its current business model, as the industry has been particularly slow to react to new digital trends. InsurTech solutions that extend sales channels or help simplify insurance products will have significant potential to succeed on the Hungarian market. They would be able to enter the market either with or without the support of incumbent businesses.

Finally, the brokerage and wealth management segments are suffering most from Hungary's small economies of scale, because disposable incomes and the propensity to save are low in Hungary. Moreover, people are neither aware nor well educated about their long-term saving options. As a result, the best FinTech opportunities involve digitalising solutions in the area of personal finance advice and, in future, cash management.



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Innovations in the banking sector

Recent developments

Home-grown innovation

The largest Hungarian bank (OTP) provides its customers with OTPdirekt SmartBank, a banking app enabling the mobile management of deposits, transfers, cards, payments and mobile phone top-ups, as well as the visualisation of account balances. OTP has also launched its ATM and branch finder, available to all app users. OTPdirekt SmartBank has also been rolled out to the bank's Romanian arm.

OTP launched OTPay in 2014, an end-to-end m-payment solution based on MasterCard's MasterPass platform. The Hungarian implementation pioneered the app in the European banking market. This digital wallet, which is also available to non-clients, leverages QR codes scanned at the merchant's to process payments. Customers can also use the app to pay parking fees based on GPS location and to pay highway tolls. OTP customers receive additional functionality in the shape of P2P money transfers and account balance queries.




An interesting option, whose utility is yet to be observed, is the Instant 24 hour card-to-card transfer - instant transfers to a HUF account managed by the bank, provided the payer knows the debit card number connected to that account.

Still lagging behind

Internet banking has been widespread for the past eight to ten years, but mobile solutions have only recently started to become refined. Most of the biggest players offer mobile banking apps to their customers (the first to do so was Erste Bank accompanied by its Cellum Group technology partner). However, their functionalities are basic and do not leverage the latest technologies to generate added value (the exception being OTP). CIB will shortly launch a mobile banking app to seek to match the success of OTP.

Banks are committed to innovation - digitisation is a hot topic in the C-suite. Nevertheless, only one or two banks have rolled out truly innovative, possibly game-changing solutions (such as bill scanners and video chats with bank consultants). There is still room for improvement.

Key points

-  The biggest Hungarian bank is also a leading innovator, with the rest of the pack lagging behind in terms of technology
-  IT solutions are delivered mainly by large, established, international vendors
-  The banking sector is expected to grow in the years to come

Who to turn to?

The banking sector relies on large vendors for IT solutions. In some cases (such as Erste or CIB), innovation labs for the group are based in a central location, enabling region-wide rather than country roll-outs of the solutions they develop.

The largest vendor is the British Misys, offering a whole spectrum of banking IT software, from commercial lending, through digital channel management, transaction banking to risk management, compliance and treasury. Only recently, a Misys spin-off company, W.Up, started operations in the area of online and mobile banking solutions. References to date include CIB Bank, MKB Bank, FHB Bank and Unicredit Bank.

Other leading providers include the Polish Asseco (serving the Hungarian National Bank, among others), EQL Soft (supporting OTP), Dorsum (which has references from a few top Hungarian financial institutions) and BSCE (specialising in risk management, transfer pricing, CRM and data mining).

What the future holds

Most Hungarian banks have incurred losses during the past few years. Consequently, they tend to concentrate mainly on their capital adequacy ratios and are not investing in long-term innovation projects. This is equally true among players who belong to international banking groups. Today, with a shrinking bank levy and improving economic situation, there is strong growth potential across the sector. The Hungarian government has acquired two large players, making it likely that a consolidation phase will begin in years to come. This will allow banks to refocus on market share, customer acquisition and satisfying customer needs.

As a result, the IT domain in banks, which to date has been deeply under-budgeted, may expand and enable more daring investments to be made. The still fairly low usage of online banking (34%⁽⁹⁾) spells scope and opportunity for the latest banking technologies to be picked up by Hungarian society.

“

Internet transactions are dominating now, mobile-only-customers are emerging, and society is becoming open to new banking solutions.”

Head of electronic channels at a leading commercial bank

“

There are huge opportunities in the digitalization of branches. Solutions digitising personal sales, supporting financial advisory with digital tools, or promoting a paperless banking environment are in demand across the Hungarian market.”

E-banking expert at one of the top commercial banks

Innovations in the banking sector

Market outlook

Subsegment outlook

The Hungarian banking sector is still suffering from the aftermath of the bank levy that prompted consolidation among key players and left the rest with concerns far removed from the need to innovate. On the other hand, Hungarians are increasingly aware of the possibilities connected with FinTech solutions and may soon begin to demand rather than expect their banks to introduce them. The local banking sector (with few exceptions) continues to undervalue the benefits of an innovative culture, although some potential is apparent in the area of branch digitalization. The number of digital banking users (including mobile-only customers) will grow, as should banking IT budgets.

Competitive landscape

The banking sector is dominated by the Hungarian OTP bank, which is also a leader in innovation. Although other banks also invest in IT, they are much less likely to acquire FinTech solutions. Banks rely on large IT vendors, and industry experts doubt whether any local player will disrupt the market due to the low levels of demand from the Hungarian market.

Key barriers



IT budgets in Hungarian banks are among the lowest in the CEE region, making it difficult for them to carry out activities that truly support innovation



The penetration of mobile and internet banking currently remains low despite global and regional trends

Innovations in the insurance sector

Recent developments

Swimming against the tide

The insurance sector is even less inclined towards digitalisation than the banking area – some players could be described as innovation-averse. At the same time, ever fiercer competition is putting pressure on insurers, especially as customers demonstrate strong price-sensitivity. Most Hungarians are not keen to purchase voluntary car insurance policies, and nine out of ten make insurance decisions based solely on price¹⁰².

Pay as you drive

Posta Biztosító has launched a pioneering “pay as you drive” solution, Vemoco Posta Casco (powered by Hungarian start-up VEMOCO). In it, motor vehicle insurance is coupled with a mobile device that tracks driving habits, meaning that fuel and servicing costs can be decreased and discounts offered on insurance. To encourage early adopters, the insurer offered testers a 25% discount.

Future plans for Posta Biztosító include the launch of a fully customisable comprehensive motor insurance product. The solution will be based on a device connected to the car’s onboard computer, monitoring the driver’s style and so enabling personalisation for premium customers. Installed shock sensors will also enable the device to report emergencies or accidents automatically.

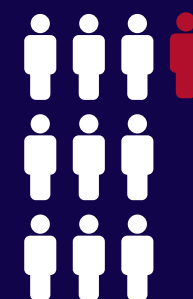
Going online

The need to provide Hungarian consumers with a transparent remote insurance sales process has been acknowledged by the financial authority. The National Bank of Hungary issued a recommendation designed to ensure that the details of insurance products available on mobile devices are comprehensive and user-friendly. More than 50% of prospective policy holders compare insurance offers online, and 39% of these purchase policies on the internet¹⁰³.

Allianz has recently improved its payment function, introducing three technical updates to make it quicker and easier for clients to pay their premiums. The “white cheque” with the QR code enables payment via smartphone (the first such solution in the Hungarian insurance sector), with payments processed through mobile POS terminals. As a result, clients can pay premiums for non-life and currency-linked life insurance products at their agents’ offices.

Key points

- ✚ The insurance sector is still not set to digitise, although telematics are used within the market
- ✚ IT budgets are usually allocated to solutions provided by large vendors



9 in 10

Hungarians choose their insurance provider based on price alone

Powered by data

AEGON Hungary, one of the biggest insurers in the country, decided to make use of the huge amount of raw customer data in their possession. They turned to IBM for statistical analysis and modelling solutions. The aggregate profiles and predictive behaviour models this created are enabling the insurer to provide customers with tailored offerings. Results for AEGON include a 78% improvement in customer response through a targeted direct marketing campaign and a 3% boost in policy purchases¹⁰⁴.

Until now, Hungarian insurers have tended to flood prospective customers with long application forms and numerous questions that help them to assess the policy risk and so offer the competitive pricing. With the use of big data, the sector could benefit from easy solutions for client profiling, improving the user experience of the entire process.

It is worth mentioning that so far FinTech innovations have taken the form of a supply push rather than a market pull. Key IT vendors for the insurance sector include SK Trend, Asseco and Dorsum, serving the largest players on the market.

“

Insurance providers are severely under-budgeted; management is not willing to spend on IT. Radical change in the insurance industry will take place only four to five years from now.”

Executive at a leading IT vendor to Hungarian insurance companies

“

The most pressing issues are going paperless, automating the underwriting process, simplifying product development and introducing an omnichannel view.”

CEO at a leading insurance company

Innovations in the insurance sector

Market outlook

Subsegment outlook

Innovation is low-key in the Hungarian insurance sector, due to relatively small demand from price-sensitive Hungarian consumers and low IT budgets. However, even though front-end functionalities are not within key players' scope of interest, back-office digitisation may become an opportunity for FinTech entrants. Process automation and simplifying product development will be among the key needs of insurers in years to come, with the need for an omni-channel offering a close runner-up. Telematics solutions will increase in popularity in future, as is the case in most CEE countries.

Competitive landscape

The IT budgets of the biggest insurers are usually spent on solutions from large IT vendors. There is little scope for FinTech start-ups without a validated business model and results. However, as all innovations historically follow the 'supply-push' rather than the 'market-pull' model, it is possible that successful FinTech companies will manage to conquer the Hungarian market, no matter their size or origin.

Key barriers



Hungarians are reluctant to buy any non-obligatory insurance products and are strongly price-sensitive



The biggest insurers have limited IT budgets and tend to focus on back-office optimisation

Innovations in asset management and capital markets

Recent developments

Limited demand

Hungarian asset management and capital market organisations are not strong innovators. No significant development has taken place since the crisis of 2007, and the current offering is little changed as compared to the pre-crisis state. Only a few vendors supply the market - the supply side is stronger than the demand from brokerage houses, investment funds etc.

Although there are several FX and option trading platforms, none of these provides innovative solutions. There are no companies that provide analytics, portfolio management or any other related service.

There are no pure online wealth management providers - only banks and brokerage houses provide such a service.



Innovations in asset management and capital markets

Market outlook

Subsegment outlook

Due to limited trading activity on the Budapest stock exchange and low levels of financial education in Hungary, the Asset management and capital markets sector does not represent a significant opportunity for potential FinTech entrants. In future, with growing savings per capita, the field of online wealth management could start to develop as in other CEE countries. Moreover, as there are no direct limitations regarding many investment products, customer education may create a deeper market.

Key barriers



There is a low level of knowledge among wealthier people about advanced saving options



The Budapest stock exchange is underdeveloped, with few companies trading and few available investment products

Payments

Recent developments

Financial contactless smart cards in circulation (share of total financial cards)



Source: Euromonitor International

Still bound to cash

Cash payments still dominate the Hungarian payment landscape. In 2013, the government imposed a tax on electronic transactions aimed at alleviating the budget deficit (in a similar fashion to the bank levy). The rate was then raised in 2014, but an amendment in 2015 reduced the tax burden on card transactions, replacing the per-transaction format with a lower annual fee. These taxes were mostly passed on to customers.

As a result, Hungarians started to rationalise their relationships with banks and changed their attitude to electronic transactions. The latter proved temporary, but banks suffered as nearly 300,000 non-primary accounts were closed for fear of increased fees¹⁰⁵. In addition, e-commerce constitutes almost 4% of retail turnover, creating market opportunities for online-payment solutions¹⁰⁶.

There is a monthly cap on free ATM cash withdrawals (in terms of both value and volume), meaning Hungarians are likely to switch to electronic forms of payment, gradually giving up cash. This will be further facilitated by growing numbers of POS outlets across the country (currently only about 50% of retail outlets accept card payments)¹⁰⁷. There is also growing interest in contactless payments, although the share of contactless cards in circulation is much lower than the CEE average.

Slow but stable growth in m-commerce (with a CAGR of 8% from 2010 to 2015¹⁰⁸) and the more dynamic development of the e-commerce market¹⁰⁹ might be important factors in shaping the future of payments in the Czech Republic.

Long way to go

Six major Hungarian service providers have formed the Hungarian Mobile Wallet Association, an organisation aiming to support the development of NFC-based payment solutions. Co-operation between mobile network operators (Hungarian Telekom, Telenor, Vodafone), financial organisations (OTP Bank, MasterCard) and the SuperShop loyalty scheme has enabled the creation of MobilTarca – the first NFC scheme in the country.

Other payment apps include: iCsekk (iCheque), enabling scanning and bill-settlement via QR codes; Buxa, for P2P money transfer and QR-code-based payments at selected stores; and Barion, an e-wallet enabling commission-free payments for goods and services. In total, there are only around 10 Hungary-based mobile payment apps.

However, none of these solutions have so far conquered the market. According to a survey conducted by the Hungarian economic research institute GKI and FinTech Group, only around 8% of online shoppers have tried out mobile shopping or payment apps. Of these, some 70% did not use these apps again. According to the survey, most customers expect global giants like Google or Apple to launch mobile payment solutions¹¹⁰.

Bitcoin begins

Although Bitcoin digital currency technology has not as yet gained much popularity in Hungary, there are instances where the market already supports the cryptocurrency. Customers can pay with Bitcoins in some stores and there is a Bitcoin ATM in Budapest.

What is more interesting, Budapest Taxi started accepting payments in Bitcoins as of February 2016, backed by the coinPay payment system operator. The solution does not require any infrastructure and the invoice for the fare can be sent via email or SMS. To avoid FX risk, coinPay converts the received amount immediately after the transaction¹¹¹.

“

I believe that payment solutions from Apple and Samsung will pose the biggest threat for the industry in the foreseeable future.”

Head of electronic channels at one of the top commercial banks

Key points

- ✚ Electronic payments are growing but cash is still providing strong competition in Hungary
- ✚ Taxes and limits imposed by the government are shaping payment behaviour
- ✚ The domestic market is open to innovation, although game-changing solutions are expected to come from abroad

70%

of online shoppers who used an m-commerce or m-payment app did it only once

Payments Market outlook

Subsegment outlook

Hungarian society still relies on cash, with a relatively low proportion of payments being processed electronically. Government initiatives aiming to change this situation are already bearing fruit. To date, Hungary has one of the lowest regional penetrations of contactless smart cards, but this should change in the near future. Mobile payments are only just beginning to enter the payment landscape in Hungary, sometimes to modest effect. However, there is a strong belief that global solutions from the likes of Apple or Samsung can dominate the market.

Competitive landscape

The strongest competition for potential FinTech entrants is the Hungarian Mobile Wallet Association, formed by telecom, e-commerce and banking organisations and fostering the NFC technology. Several niche payment apps are available, but none of these has been particularly successful. All in all, the competitive environment allows scope for new entrants.

Key barriers



Cash continues to dominate in everyday payments



The existing approach to money transfers displays little in the way of innovation

Capital raising and personal finance

Recent developments

No-go area

Under Hungarian law, the right to lend is exclusively restricted to the banks. P2P lending, crowd funding, micro lending and other such solutions are not possible in the current legal environment (a P2P lending platform, noba.hu, did launch in 2010, but this was closed down in 2013).

POLAND



FinTech market outlook

Deloitte expert opinion

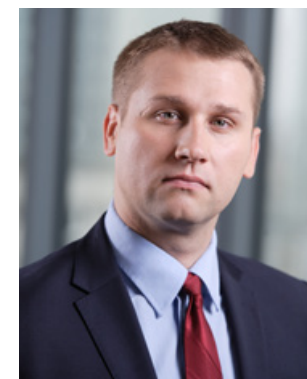
The market for financial technology in Poland is relatively innovative and open to new ideas. It provides FinTech vendors with a wide range of opportunities for launching original solutions. However, the technological awareness of customers is high, which translates into heightened expectations.

The established financial services industry, in contrast to the emerging FinTech players, is somewhat focused on its core business and is highly regulated. Such asymmetry creates room for FinTech vendors to compete with banks and insurers on B2C services. On the other hand, a rapidly changing environment may motivate the established financial entities to change their approach and start entering new, non-core areas (eg screen scraping). This may in turn encourage FinTech companies to collaborate, rather than compete, with banks and insurers.

Regarding specific FinTech sub-segments, it seems that there is hidden potential in the payment area. The upcoming implementation of PSD 2 may tip the balance in favour of the FinTechs in the market due, for example, to easier market entry of global players such as Apple Pay and Google Wallet.

Another interesting trend is increasing demand generated by the public sector for FinTech solutions. For example, banks are supporting new government initiatives such as a new allowance for parents (with applications to be processed through internet banking) and other e-government developments.

The FinTech market in Poland should grow rapidly in the years to come, and there is still space for new players. However, the Polish market is highly competitive (also due to the low cost of labour), and eventual success will depend on the ability of FinTechs to offer advantages including competitive pricing. This is a great advantage for Polish vendors, who not infrequently succeed in expanding internationally (PayU and Asseco, for example).



Szymon Staszczak
Manager
Deloitte Poland

Innovations in the banking sector

Recent developments

Pro-innovation banking

In recent years, Poland has become a regional leader in technologically advanced, pioneering solutions in the banking sector. Mobile is emerging as an essential channel for Polish customers. According to the ING International Survey 2015, 60% of smartphone users have already used mobile banking or expect to use it. This is the third best score in Europe – right behind the Netherlands (67%), the UK (63%) and on a par with Spain¹². It indicates that mobile banking services have enormous potential for growth in the coming years. On the other hand, 38% of established retail banks in Poland still do not offer their services through the mobile channel, neither via a dedicated app nor a website based on “lite” / RWD (responsive web design) architecture¹³.

Another example of the high adoption of innovation in the Polish banking sector is the use of contactless functionality in debit cards. Almost 80% of all cards already have this feature in Poland¹⁴, compared to 54% in the UK¹⁵.

Some banking experts admit that “the digital maturity of Polish banks and the many interesting solutions offered to their clients may limit the development of non-banking innovators”. Solutions that succeed on this challenging market will have to be top notch. As a result, FinTech start-ups may never manage to build a dense network similar to the one that may be observed in the UK.

Anticipating customer expectations

In response to shifting customer behaviour, particularly the strong preference towards self-service instead of branch visits, banks have been forced to start building eminence, capabilities and finally excellence in their digital offering. An example of one of the most innovative banks in Poland is mBank (owned by Commerzbank), which started with a fully branchless model, and is currently hailed as “the icon of mobility”. To keep up with the digital revolution and stay at the forefront of banking innovation (being first fully-fledged virtual bank in Poland), mBank decided to upgrade its e-banking platform to provide customers with a state-of-the-art experience, look and feel. Among numerous cutting-edge functionalities, it is worth mentioning its real-time financial advice (both video and chat), virtual store, integrated personal finance management features, gamification, social media integration, and real-time credit scoring. All these features are available through its RWD website and most of them are supported through a native mobile application.

On the corporate front, Idea Bank with its SME-targeted services was a double winner at the 2015 Efma Distribution & Marketing Innovation Awards. The key distinguishing feature of its offer is the integration of current account with accounting services, allowing clients to perform settlements, archive documents and manage contacts. On top of that, Idea Bank launched its one-of-a-kind app-managed Mobile ATM (using a fleet of BMW i3 electric cars) to support the cash-management process for smaller companies.





“

Innovations in banks do not necessarily translate into a boost of profits but may result in gaining a competitive edge.”

Grzegorz Hansen

Director for Transactional Banking Strategy and Development, mBank

Key points

-  Polish banks lead the regional pack in terms of innovation
-  Key players are following digital market trends and delivering high-quality user experience backed by smart functionality
-  Large IT vendors dominate the market
-  Growing awareness and customer expectations are driving the need for alternative approaches to banking services

Established players

The vast majority of solutions for banks are developed in-house (leveraging in-house IT departments as well as in-sourcing) or delivered by vendors, in the form of customised solutions like data-driven risk models, front-end systems, CRMs and security solutions. As more and more banks become digital, the solutions delivered by established players will need to align with this market trend. One example, presented at the 2015 Finnovate conference, is a solution called Asseco CBP, created by Asseco, the largest Polish software developer. It is based on open architecture, enabling the bank to freely expand its catalogue of mini-applications (such as on/off credit cards, savings, payments modules) as well as to integrate any supplementary products and services.

Successful disruptor

Polish Finanteq has found its own way to collaborate with the banks in the area of digitalization. The company provides mobile finance applications such as m-banking, smartwatch apps and superwallets. These last ones are the combination of banking, payments and additional m-commerce services like remote bus tickets, parking fees, bill payments, coupons or event tickets. As the company Marketing Manager, Artur Malek, says, "We work closely with the banks. Co-operation underlies our business model".

Social shopping at a bank

In the age of platforms - marketplaces connecting suppliers and consumers - there is also a place for banking marketing

schemes. Based on virality and network effect, a Polish FinTech company - yBanking - will soon be providing participants with unique benefits, allowing them to improve the parameters of both credit and saving products (such as better interest rates for deposits) by group shopping. Although yBanking reduces banks' revenues (by charging commission), it is also dealing with one of the most fundamental issues facing any retail bank - Customer Acquisition Cost (CAC).

How to join the pack?

It seems that the banking sector is very open to new, innovative solutions. They can be developed either by established players or new entrants and as long as they help improve the customer experience, the vendor's size might be of secondary importance. Key things to keep in mind when approaching the large players were pointed by Artur Malek from Finanteq:

- Working with a well-established institution means that the start-up may need to align with banking procedures and accept a certain pace of work characteristic for big companies
- Polish banking industry is highly regulated, which is good for the customers, but may complicate the compliance procedures for disruptors. It seems that the best case scenario for entrants is when their business model is not subject to regulations yet
- FinTech entrants should participate in the events organized for startups by the banks - an example is the Citi Mobile Challenge. During this event organized in Warsaw last year selected startups had the chance to demo their products to Citi executives. Winning on this event and then on the British Finovate with Superwallet helped Finanteq draw the attention of financial institutions.

“

I think that at some point many of the Polish Fintech companies that are now competing with banks, will switch to co-operation mode. Start-ups cannot count on VC companies to considerably fuel FinTech growth in CEE (as is the case in the USA) and competing with banks consumes a lot of assets. Furthermore, banks already have a considerable base of clients that can be introduced to innovative services provided by new entrants.”

Artur Malek

Marketing Manager, Finanteq

Innovations in the banking sector

Market outlook

Subsegment outlook

The Polish banking sector is counting on its capacity to innovate. E-banking has become an industry standard, with mobile banking becoming another must-have. In future, banks should polish their digital functionalities and make broad and deep use of analytics, user experience tools and customisation. All this will not only let them compete among themselves with new capabilities, but could also keep the FinTech entrants at bay. Polish customers, accustomed to high standards in digital banking, could only relinquish the traditional banking sector if its replacement offers this baseline and more. In the face of PSD2, banks will possibly need to open up to third-party providers and cope with the resulting competition. Some FinTech companies, meanwhile, should find opportunities by collaborating with the established banking sector.

Competitive landscape

Many banks in Poland use solutions provided by large IT vendors to secure high-quality, proven business results. However, increasing numbers of key players are choosing to work with much smaller tech companies and explore their ideas. There are also hybrid models: the Polish mBank is actually treated as a FinTech, winning the Finovate awards, while yBanking will soon offer social banking, making it a country first. It seems that new entrants may still have the chance to find their niche in this relatively large sector.

Key barriers



Polish society is accustomed to trusting banks for money and financial advice - a reality which might be difficult to overturn



The model of co-operation or co-opetition between banks and FinTech companies has not as yet been formed

Innovations in the insurance sector

Recent developments

On the brink of technology-driven change

In recent years, the FinTech buzz has mainly centred on the banking industry. However, insurers are being forced to catch up in order to address changing consumer preferences: three out of every four representatives of insurance companies in Poland believe that the revolution in IT systems will have a huge impact on the industry in years to come¹⁶. Most admit that they are not well prepared for change, however.

Although it seems that innovation-driven change is finally set to dawn upon the insurance sector, insurers today tell us that they are concentrating on non-client facing IT systems, mainly on the back-office side. Executives believe that the market lacks vendors specialising in the “as-a-service” model offering. As most core insurance systems are delivered by global vendors like Genesis and Guidewire, there is clearly space for firms delivering single modules. Insurers would welcome an offering, based on the SaaS platform, delivering insurance-specific seamless modules such as compliance and data collection.




However, insurers in Poland are one by one starting to jump on the FinTech bandwagon. Their primary focus is on modifying and developing sales channels (especially direct) and responding to the emergence of online price comparison

engines like Rankomat and Comperia. And, as mobile phones become a significant part of an average customer’s everyday life, insurers need to respond. There are examples of the entire insurance process being managed end-to-end on a smartphone: from purchase, through damage reporting, up to appraisal and tracking the claims process, including communication with the damage assessor. An example would be Warta Mobile launched by Poland’s third biggest insurer. Here, the application is integrated with the direct claims settlement system. Each document transmitted by the client using a smartphone is therefore placed automatically in the electronic briefcase, so allowing the damage assessor to respond immediately.

Some apps make the process of damage appraisal or buying new car insurance even more user-friendly by using QR codes imprinted in a vehicle’s registration documentation. This function is available in the mobile application of Generali.

Mobile functionalities are also used in private health insurance, to facilitate making doctors’ appointments. This kind of service is shared through the mobile app of PZU (the state-owned leading insurer in Poland).

Key points

-  IT will drive the development of insurance sector in the coming years
-  Smartphone apps facilitate the entire insurance process
-  Internet of Things and gamification are two key trends in Poland

Internet of Insured Things

Gartner forecasts that the number of connected things used worldwide will reach 20.8 billion by 2020 (tripling from 2016)¹⁷. By the end of the decade, half of all sensors will be used in the financial sector. According to IDC, the Polish Internet of Things market is set to reach USD 3.1 billion in 2018 (half of the total value of the domestic e-commerce market in 2014)¹⁸. There is no doubt that the trend will also impact the Polish financial services sector.

To date, the best known application of the IoT in the Polish insurance sector is in the field of car insurance. The first company to introduce UBI (usage-based insurance) also known as PAYD (pay as you drive) is Link4 (owned by PZU). The concept is based on assessing risk and adjusting costs based on the vehicle usage pattern, measured against time, distance, behaviour and place. Link4's offer targets fleet managers and individual customers. In the first case, the fleet is equipped with telematic blackboxes and drivers use a dedicated mobile application. Individual customers use the app alone.

Competition in safe driving

As Generations Y and Z take the steering wheel, insurers are starting to look more closely at the "gamification" trend – the use of game design techniques and mechanics in a non-gaming context.

In Poland, the first insurer to implement gaming rules in their car insurance offer is Link4, whose PAYD offering is connected with a mobile application provided by a Polish start-up – forDrivers.

forDrivers is also available separately from Link4. The business model is intermediary-based and supported by loyalty programmes. Not only are customers helped to drive safely through the use of in-app notifications about weather conditions or traffic jams, they are also engaged in the solution by the opportunity to win attractive prizes. In addition, the application makes life easier for fleet managers who can reap the rewards of enabling safer driving by optimising maintenance costs (such as those of car repair). In addition, they can improve the image of employer as one that is concerned with safety.

“

Even if financial sector is becoming more and more innovative in Digital globally, Polish insurers are focusing on lead management, sales and customer servicing processes revamp. The opportunity for the entrance of non-established, smaller players is emerging. It is possible that insurers will turn their attention to young businesses delivering high level of automation, as-a-service delivery model and settlement leveraging non-traditional fees model– all in competitive prices.”

Lukasz Niedzielski

EMEA Head of Technology Planning & Effectiveness at MetLife

Zbigniew Stanik

Regional CIO for ESE Region at MetLife

Innovations in the insurance sector

Market outlook

Subsegment outlook

The Polish insurance sector is unlikely to completely reinvent itself and transform into a technology-driven, top-tier digital environment. However, incremental changes are expected, especially those relating to the replacement or significant enhancement of legacy IT core systems, improvements in the back office and the opening up of the insurance sector to the possibilities offered by mobile channels and big data analysis. Even smaller companies can have a role to play, particularly if they offer small improvements that can be integrated into core systems without compromising their security. Telematics is bound to shape the future of insurance, although the speed of its development is not as yet known.

Competitive landscape

Insurers still prefer large IT vendors to smaller companies, although the latter are also present. A lack of vendors delivering 'as-a-service' solutions is creating a large demand gap, which it will be necessary to address in the near future.

Key barriers



Digitisation has not been popularised among insurers as yet

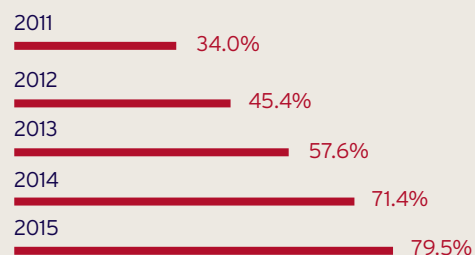


UX and innovativeness are not currently recognised as providing competitive edge in the insurance sector

Payments

Recent developments

Contactless financial smart cards in circulation (share of total financial cards)



Source: Euromonitor International

On the way to the cash-less society

Cash payments in Poland are definitely in decline. A decrease in the interchange fee in 2015 (currently 0.2% on debit cards and 0.3% on credit cards) helped popularise card payments even for low-value transactions. The wide acceptance of contactless cards (currently around 80%, up from 34% in 2011) is driving the dynamic development of the POS infrastructure. At the same time, the value of m-commerce grew more than fourfold between 2013 and 2015 (exceeding EUR 0.5 billion) and is forecast to grow at an annual rate of around 40% in years to come¹⁹.

With the e-commerce market growing rapidly, by around 20% each year²⁰, the need for user-friendly, intuitive and secure payment solutions is evident. Among the numerous internet payment companies, the best known were created by Polish companies: PayU (a subsidiary of Allegro - the biggest e-commerce company in Poland - currently owned by the South African Naspers), DotPay, Przelewy24 and TPay. International players such as PayPal, Mobiamo, Paysafecard, EcoCard and MINT are less popular; an exception is FirstData (previously Polish Polcard, which was already widely popular by the time of acquisition).

Poles took to the pay-by-link format (the second most popular payment method in e-commerce), where a dedicated link brings the e-buyer to their banking service provider's log-in page. After the client authenticates him/herself, all the transfer details are already prepopulated, with the transfer order ready for authorisation, by an SMS code among other options. Such a payment format is proven to be faster than traditional transfers and card payments, and resonates well with the entire e-commerce process.

Online exchange - a story about a spread

The success behind the FX online lies in the once extremely popular FX mortgages. Repaying loans in foreign currency seemed attractive, due to low interest rates. The so-called anti-spread law enabled borrowers to pay instalments directly in the currency in which the loan was granted (bypassing banks' broad spreads). This is now being leveraged by FX-focused entrepreneurs, who are offering "better exchange rate" to millions of FX borrowers, tourists and emigrants online.

The online Polish foreign exchange market is very successful. Since 2011, the segment has grown 10-fold, and around 80% of the market is split fairly evenly between two market leaders: Currency One and Cinkciarz. The segment is expected to be subject to further consolidation (decreasing the current number of some 50 players). In Cinkciarz, customers have access to a wide range of tools, such as standing orders, direct debit and FX alerts. Access via mobile devices as well as the FX wallet is a basic feature.

AT BG HR CZ HU PL RO SK SI

Estimated turnover of online foreign exchange companies and social FX platforms in Poland [EUR bn]



Source: Currency One
Note: Data for 2015 - forecast

Polish payments

The banking sector has tapped into a prospective m-payment market: the top six Polish banks have joined forces to deliver a common, national m-payment service called BLIK. The application is integrated with the banking apps of the founding institutions. The system is based on one-off authorisation codes and functions outside of the Visa and MasterCard payment schemes.

Based on the scale of transactions, BLIK has not joined the mainstream yet. So far, some 1.5 million Poles have access to this payment method, which is accepted at over 130,000 POS, as well as by the biggest acquirers¹²¹. Further development of BLIK is expected due to a strong marketing effort and a queue of banks waiting to join the club, as well as new functionalities to be launched in the near future (including P2P payments). However, Pekao SA, the second largest Polish bank, has developed its own m-payment solution (PeoPay).

A big question is whether customers will broadly accept the three-step payment procedure within BLIK (logging in to an app, generating a code, confirming the payment). So far, contactless cards seem to be the easiest and most user-friendly payment devices.

It is interesting to note that Polish banks are also joining forces to set up a national payment card based on the national payment scheme. This poses a direct threat to established players like Visa and MasterCard, since their products could be gradually bypassed.

How about e-money?

In 2015, the Polish start-up Billon launched the public pilot phase of an innovative project - implementing e-money. This will be the first legal (created by the banks) e-currency based on Bitcoin "blockchain" technology. The main advantages of the solution include decreased processing costs (by 90%¹²²), complete security (blockchain technology) and independence from any particular TMT technology.

The only thing needed to join the Billon network is a smartphone. NFC technology is not necessary, as payments can be processed with the use of Bluetooth or Wi-Fi. Billon intends to promote banking inclusion for those who cannot, or do not want to, open a bank account.

Participants in the pilot phase include two Polish banks (Alior Bank and Plus Bank) and the eCard payment services provider. Billon is integrated with the established financial system, so its e-money can already be acquired in 15,000 retail outlets as well as transferred via a banking account¹²³.

Bitcoin bit by bit

The Polish market is not oblivious to the cryptocurrency either. InPay was created out of the need to enable customers to pay by Bitcoins in circumstances where they used to pay by regular currency. Lower commissions and shorter processing times have attracted a growing number of customers (currently over 20,000¹²⁴). The solution requires customers to download a separate app serving as a Bitcoin wallet and is so far limited to

transactions under PLN 5,000 (a little over EUR 1,000). Time will tell whether the blockchain-based Billon and Bitcoin will gain popularity in Poland.

More than just payment cards

The proliferation of loyalty programmes, club points and other plastic cards kept by customers in their wallets prompted the founders of ZenCard to integrate the payment process with bonus collection. This replaced the need to fill out forms, remember the card number or go through the process of customer verification to collect shopping points. Compatible with cards from the top three issuers (MasterCard, Visa and American Express), the solution is already available in selected stores in Poland. Current retail trends and observations from the West support the view that the payment card should and could be more than just a physical link to a bank account.

HCE - the future begins

Host Card Emulation (HCE) is a new NFC cloud-based payment standard. Customers do not need to be bound to any specific mobile network operator (because MNOs are not involved in the payment process, which bypasses the SIM card). Instead, the payment data is stored on the bank's servers and the details of payment card are kept in the mobile app. To date, five Polish banks have adopted HCE: first Pekao SA, followed by PKO BP, BZ WBK, Eurobank and Getin.

The biggest Polish bank - PKO BP - launched HCE in its mobile banking app (IKO) in partnership with Visa in January 2016. In March 2016, in a global first, Pekao Bank delivered HCE technology for users of Windows 10 mobile devices.

On the vendor side, FirstData has launched its First Data™ Mobile Platform (banking software that enables the servicing of HCE payments). Eurobank carried out the first implementation on the European market. The solution facilitates the end-to-end functionality of a virtual card. It is interesting to note that FirstData used Polish specialists to design, develop and launch the platform. Poland will also become a regional (EMEA) centre of expertise supporting the solution.

With 60% of Poles saying they are interested in mobile payments¹²⁵, 83% of POS accepting the NFC standard¹²⁶, and the strong development of contactless payments in various forms (cards, stickers, keyrings etc), HCE technology is clearly not a fad but an inevitable future reality.

Payments on the go

As is the case with many European countries, the development of the payments market in Poland is supported by regional organisations. Municipalities across the country enable contactless payments (including mobile) for public transport and parking fees. For example, passengers in Warsaw can choose between a pre-paid card serving as a ticket, on-board ticket machines accepting contactless cards, and mobile apps (mPay, SkyCash) that enable the instantaneous purchase of tickets. Based on agreements between banks and municipalities, a monthly public transport ticket can be coded directly on to a bank's debit cards (those of BZ WBK, for example, which leverage the SuperWallet solution provided by the Polish Finanteq company).

“

Banks need to be aware of the emerging competition and adjust their approach to the revenue generation model. New rivals may originate from various industries. Take, for example, an e-commerce portal offering several banking services associated with its own e-wallet solution. A 10% discount on purchased items can be much more enticing to customers than receiving interest on deposits.”

Grzegorz Hansen

Director of Transactional Banking Strategy and Development, mBank

Key players in the mobile payments market for utilities are based in Poland:

- mPay was founded in 2003; its offering has evolved from mobile payments with the use of USSD codes, through CardMobile (integrating payment cards with phone numbers) and an e-wallet based on MasterPass technology, to the launch of a mobile app for iOS and Android. Additional features include the ability to purchase train and cinema tickets. The company has recently expanded into the Bahrain market.
- SkyCash has operated since 2009 and offers a similar range of products to mPay.

Leave it in robotic hands

In 2015, Polish company Blue Media (owner of the Kokos.pl – see Chapter Poland – Capital raising and personal finance) launched the Financial Robot. The solution consists of several components:

1. Recurring transfers to utilities: customers indicate the invoices they would like to move to the Financial Robot, and all necessary data can be obtained automatically from the provider. Customers are notified via SMS and e-mail prior to the date of payment and can accept or delay the settlement. The solution does not require the customer to contact the bank or the utility provider. Blue Media promotes the service through a cash-back programme (returning up to PLN 100 spent on bills per month)

2. Instant transfers: BlueCash enables transfers to be completed within just 15 seconds. The service is available from 27 banks, and money can be transferred to 78 banks. The company has opened current accounts in most of the biggest banks to facilitate the service. BlueCash delivers an important upgrade to traditional transfers, which normally take place in just three sessions each day. There is also an option of transferring the money to a phone number – the recipient receives an SMS and can indicate the target account number
3. Insurance brokerage: the Financial Robot allows easy comparison of insurance offers and then walks the customer through the purchasing process. So far, no market leader has confirmed their participation.

Further components can be easily added to the platform, which is already considered to be one of the most innovative in the region.

Key points

- ✚ The Polish payment market is highly innovative and the latest technologies are quickly adopted
- ✚ Online foreign exchange and HCE are on the rise, with optimistic prospects for future development
- ✚ Polish banks are tapping into the payment market with joint initiatives like m-payment systems and a planned national payment card
- ✚ Latest developments on the market include promising niche solutions such as e-money, loyalty programmes integrated with payment cards and Bitcoin payments



83%

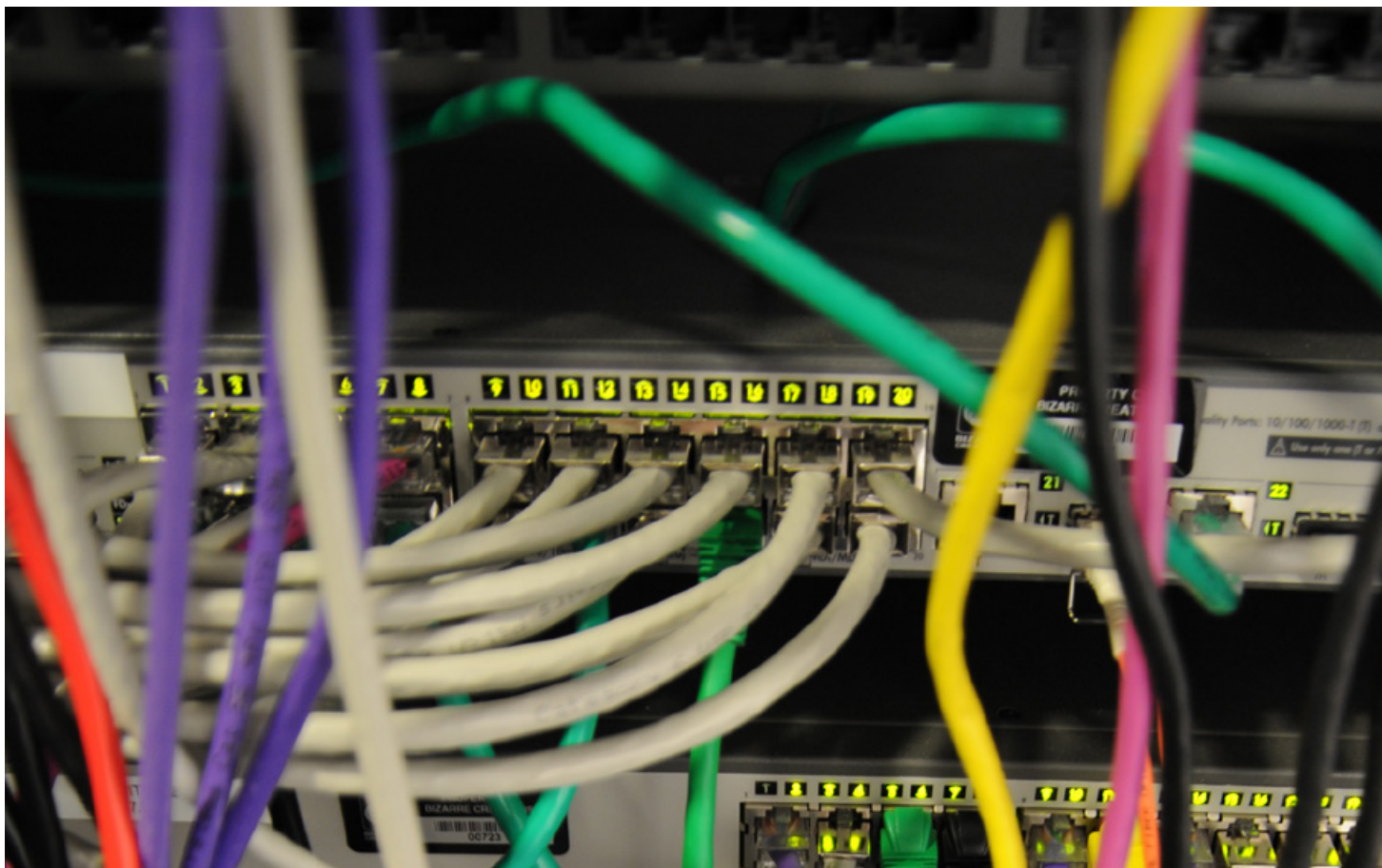
of points-of-sale
accept the
NFC standard

Should banks fear the competition?

The upcoming Payment Services Directive (PSD 2) is certain to change the Polish payment environment, bringing some unique opportunities to non-banking financial organisations. However, banking experts stress that each company has its own focus, business goals and positioning within the market. It seems unlikely that PSD 2 will disrupt the financial sector and marginalise the banks. They will remain an integral part of the financial ecosystem.

Bigger players, including international giants such as Alibaba and PayPal, need to be watched closely. Their universal approach to service delivery has already conquered numerous markets. However, banks will almost certainly find their place in this broader, more dynamic ecosystem.

FinTech is an industry designed to deliver high-volume, low-margin services. To remain competitive in the FinTech era, banks and insurers will need to forego some revenues they took for granted, instead capitalising on long-term customer relationships and cross-selling.



Payments Market outlook

Subsegment outlook

The Polish payments sector is among the best developed in the CEE region. All sorts of contactless technologies have already been tested in the Polish market or introduced to it. In future, non-cash payments will continue to influence customer behaviours. With key global players (Apple, Samsung, Android) rumoured to be entering the Polish market soon, competition in the sector might prove even more challenging, which would be to the benefit of end-users. With galloping growth in m-commerce and the promise of more in e-commerce, payments could become the key battlefield between established and emerging players.

Despite high levels of development in the payments area, there is a long way to go. HCE technology is only budding, cryptocurrency has not caught on as yet and banks dominate the market for instant money transfers.

Competitive landscape

Banks and non-banking institutions alike are active in the payments sector. Polish companies (PayU, mPay, SkyCash) have proven successful in delivering solutions to customers. However, the pending implementation of PSD2 is likely to shift the centre of gravity towards new entrants, including global players. Although competition in the market is fierce, the pie is growing, making space for new providers

Key barriers



There is strong competition within the banking sector



The expectations of customers regarding new payment solutions are high

Capital raising and personal finance

Recent developments

Semi-regulated market for online personal loans

Demand for consumer loans in Poland is rising (by a quarterly average of 25% since 2012). The main drivers of this trend are historically low interest rates (currently at their lowest level since the transition to democracy in 1989) and the increasing value of disposable and discretionary income (with an annual growth rate of 5% between 2012 and 2014)¹²⁷.

To meet customers' expectations - particularly to shorten the time taken to receive money - lending companies are digitalising their offering. Thanks to a fully-automated credit-risk scoring process, clients can receive a money transfer in under 15 minutes and applications are available 24/7. Apart from well-known foreign players - Wonga and Creamfinance - there are also Polish firms, such as Pandamoney, which aim to target more digitally-focused customers. Data provided in the credit application is restricted to personal information, e-mail and phone number. It is possible to decrease the cost of loan by evaluating a client's activity on e-commerce and social media portals. On top of that, the whole process can be carried out also on a mobile or special Facebook application.

On the other hand, new regulations affecting companies that lend money using their own funds could slow down the impressive growth of the Polish market. In general, such implemented amendments bring about increased regulation of the maximum cost of non-interest consumer credit. At the same time, interest costs are limited to four times the Lombard rate or, in the case of late payment, six times.

After the implementation of similar changes in the UK in 2014, the market fell by almost 50%¹²⁹.

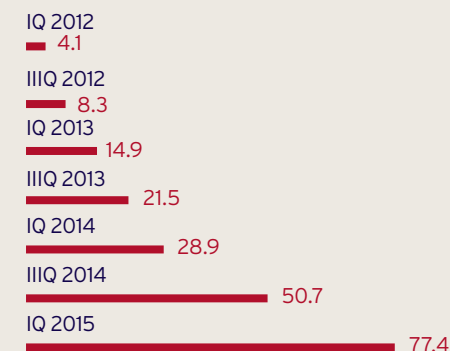
Cutting out the banking middle-man

Lending platforms, (marketplaces matching borrowers and lenders) are quickly gaining momentum in finance. The popularity of this model - so-called P2P (peer-to-peer) or social lending - is growing thanks to win-win outcomes for its participants: better interest rates, quicker lending decisions and simplified application processes than with traditional bank loans.

The social lending market in Poland emerged in 2008, with the launch of Kokos.pl, the first Polish P2P platform focused exclusively on social loans. To date, participants have lent PLN 130 million through this platform¹³⁰.

The business models of P2P platforms are diversified. With Kokos.pl, it is the participants that establish the interest rates. In Lendico.pl - a new P2P player, owned by the German Rocket Internet - the platform provider is responsible for assessing credit risk (through credit bureaus) and therefore for setting interest rates. Other P2P platforms that have gained recognition include Sekrata, Pozycz, Zakra and Finansowo.

Value of non-bank consumer loans (KPF participants M PLN)¹²⁸



Source: Gospodarka.pl

Kick-starting Polish innovation




Media coverage of crowdfunding tends to focus on its role as an alternative to traditional venture capital. However, its importance is much broader. It is aimed at sharing underutilised assets to obtain monetary or non-monetary benefits. Generally, platforms are divided into:

- reward crowdfunding - users receive various rewards in exchange for their investment
- equity crowdfunding - users are actual investors who receive company shares in exchange for funds.

PolakPotrafi and Wspieram.to are major reward crowdfunding players. Examples of equity platforms include Beesfund, Wspolnicy, Crowdangels and Ideowi. The Polish crowdfunding market is still underdeveloped in terms of funds gathered through platforms (around EUR 1.5 million in Poland compared to about EUR 150 million in the UK)¹³¹.

In Poland, there are legal challenges with running equity crowdfunding, such as the need for each investor to accept their shares by notary and register all changes in the Legal Register of Companies. This compromises the agility of the investment process. However, equity crowdfunding investors face similar restriction in most European countries.

Key points

-  Demand for consumer loans in Poland is rising
-  Lending platforms are gaining momentum
-  Despite legal ambiguities, crowdfunding remains a promising area

Capital raising and personal finance

Market outlook

Subsegment outlook

Although the capital raising market in Poland has been growing so far, with strong demand reported both by banks and non-financial institutions, the latter might face deceleration in the near future due to new regulations regarding the maximum level of credit cost. Another form of alternative lending - via P2P platforms - is gradually gaining in importance. Although the market is not very large at present, it should grow in the years to come. The crowdfunding activity faces legal challenges and can be described rather as a niche solution but appears to be growing in popularity nonetheless.

Competitive landscape

There are numerous providers of capital raising services in Poland, both in more established sector of online lending and the alternative area of social lending and crowdfunding. This high market saturation, however, does not preclude new entries, as the demand is still raising steadily. Several global players are already on the market, competing fiercely with local players.

Key barriers



Regulations might soon reduce the profitability of online lenders



Market for crowdfunding is still underdeveloped

Cybersecurity

Recent developments

The S-word

Security has always been a major concern for banks. Recently however, in response to the growing scale of cyber-attacks on the financial sector, cybersecurity has become a strategic rather than just an operational issue.

Banks' aspirations to deliver a seamless omnichannel experience pose natural risks and are driving the need to ensure the highest security standards in every channel available to customers. At the same time, in the pursuit of an excellent user experience, banks wish to make the process of customer authentication as smooth and effortless as possible. So far, the two desires seem to be somewhat mutually exclusive.

Cybersecurity vendors

Poland has emerged as home to shared services centres for large banking groups (including UBS, Credit Suisse, UniCredit, Deutsche Bank, Nordea, BNP Paribas and the Royal Bank of Scotland). The growing supply of Polish IT security specialists is lagging behind the soaring demand. While every bank needs - and aspires to develop - a Security Operations Centre, buying in solutions from large vendors is so far proving to be a more popular approach.

The market is dominated by large, international players whose offerings cover areas including:





- Infrastructure security - McAfee, Blue Coat, Check Point, HP, Palo Alto Networks, Juniper, IBM, Cisco, FireEye, Fortinet etc
- Endpoint security - McAfee, F-Secure, Microsoft, Symantec etc
- Application security - Qualys, IBM, Fortinet etc
- Web security - Blue Coat, Cisco, FireEye, Symantec, Websense, Trend Micro etc

Other players include Oracle, Veracomp, Ratels, Balabit and Akamai.

Unsurprisingly, with only a few vendors and a relatively limited range of security products, financial institutions rely heavily on ready-made solutions. There is a strong concentration in the area of advisory services (where the Big 4, including Deloitte, share the market). On the other hand, technical services and more short-term engagements are the domain of numerous local boutiques.

The market is still on the way to realising that cybersecurity is a strategic business issue for the financial services sector. However, local expertise in security is well-developed, encompassing both subject matter experts and communities driven by international organisations (such as ISC2, ISACA and OWASP).

Key points

-  Security is becoming increasingly important as the number of cyber-attacks is soaring
-  Banks usually choose established vendors for security products and consulting companies for auxiliary services
-  Ensuring the security of mobile banking and cloud-based solutions is a future trend, with little recognition for biometrics on the Polish market
-  Regulatory bodies are placing special emphasis on the issue of security, especially in the era of digital transformation among financial services institutions

The authentication dilemma

The shift towards solutions supporting mobile applications and branches of the future (including client authentication schemes) is evident. Identification and access management is a hot topic in the banking debate, especially in the light of the latest innovations. There is a strong belief that biometrics will be the ultimate trend for the financial sector. However, the high cost of such solutions and low levels of trust in them appear likely to delay their adoption.

VoicePin is one of a few Polish companies present in this market. It intends to provide end-users of banks, call centres and IVR help desks with convenient authentication based on voice recognition. Access to personal data is given without the necessity to indicate logins or passwords. Software can be provided both on the premises and in the SaaS format. The company has already announced it is working with Polish banks and leading Polish insurers.

The eye of the regulator

The security of the financial system, with a special emphasis on the personal data of customers, remains among the top concerns of the European and Polish authorities.

The Polish Financial Supervision Authority (KNF) has recently issued a recommendation regarding online payments that concerns all payment organisations, including banks. The key point is the necessity to provide strict rules for client authentication, as well as sensitive data processing. Moreover, banks should apply mechanisms to monitor transactions.

The critical role of market education was also highlighted: client infrastructure is usually the most vulnerable link of the payment chain. These recommendations are all in line with those issued by the European Forum on the Security of Retail Payments (SecuRe Pay).

Another important document regulating security in banks is the KNF's Recommendation D. This emphasises the need to create a cohesive IT governance infrastructure supporting the latest technologies in banking. Such an environment would need to be built with the co-operation of numerous stakeholders within a bank, both from the IT and business departments.

In the near future, financial services institutions in Poland will need to comply with further security regulations - including recommendations from the Inspector General for Personal Data Protection, as well as PSD 2 and the Network and Information Security directive.

Cybersecurity Market outlook

Subsegment outlook

The importance of cybersecurity is growing due to the increasing number of potential threats to financial systems. At the same time, customers require ever more innovative and hassle-free authentication methods that cannot function without strict security protocols. The banking sector is expected to be open to implementing solutions delivered by smaller companies, as long as they meet the necessary standards.

Competitive landscape

The market is dominated by large IT vendors and complemented by advisory services provided by consulting companies. FinTech start-ups still have difficulties in reaching out to the biggest banks. The only model acceptable to the banking sector is likely to be one of collaboration, with solutions tailored to the needs and systemic requirements of individual institutions.

Key barriers



There is a heavy reliance on large, established IT vendors



Europe-wide regulations favour global providers with significant market experience and proven business models

Data and analytics

Recent developments

Knowledge is power

The exponential growth of the volumes of data available to companies is driving the need for solutions that can analyse this information and deliver valuable business insights. The interconnected, digitised world provides opportunities that were unheard of a few years ago, including targeted marketing campaigns, predictive models prompting next best offers, or improved credit scoring algorithms. Such solutions decrease business risk and are paving the way towards the development of offers that are almost perfectly tailored to a client's individual needs.

Poland is tapping into this trend and financial institutions are among those who can benefit the most from the smart use of big data's potential. Customer profiling has become the Holy Grail of the banking sector, with predictive models used for customer churn analysis, next best action (NBA) and next best offer (NBO) being treated as the source of potential competitive edge.

Established players at the forefront

The financial sector in Poland relies heavily on large vendors for their analytical solutions. SAS, IBM and TeraData would be the companies of choice for most financial institutions. Solutions developed by smaller companies seem to be less popular. However, the general trend of leveraging open source also in the area of data processing indicates that off-the-shelf commercial solutions are past their prime which may spell the opportunity for FinTech disruptors. The banking sector is developing internal competences in the analytics area, although software development is certain to be bought-in rather than created in-house.

What the banks need now

Polish banks are focused on finding solutions addressing basic issues related to data (such as integration and consolidation) rather than developing advanced analytical tools. The process of consolidation in the Polish banking sector is resulting in the need for continuous improvement in data quality.

Most projects concern data governance and data architecture, as banks are obliged to comply with international regulations. Tight compliance deadlines in the case of Basel Committee on Banking Supervision (BCBS) 239 have revealed that a number of Polish financial institutions maintain insufficient standards of data management. Lack of properly implemented processes, together with no clearly defined roles and responsibilities around managing data, may result both in a low quality of data and an inability to meet all regulatory requirements.

Consolidation of the banking market has left many players with a chaotic patchwork of core banking systems and data warehouses. Most Polish players (many of whom have gone through mergers with other organisations) need to integrate their data, ensure they have "golden" customer records and adjust their data architecture to achieve a single version of the truth without the need for time-consuming manual reconciliations. As a result, only those banks with a relatively well-orchestrated IT architecture are well-advised to build their competitive advantage on advanced big data solutions.

Key points

-  The Polish banking industry is mainly focused on basic issues related to data quality, although some players are ready for more aggressive expansion into data and analytics solutions
-  National and European regulations concerning data management may be a significant challenge for many financial institutions
-  Large vendors are the most popular providers of analytical solutions
-  The key competencies of emerging entities in the data analytics market are collection, analysis and processing of data in order to deliver in-depth knowledge and insight regarding clients' behaviour

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Solutions designed for financial institutions

Even though Polish banks are not highly active in the data analytics market, there are entities operating in this area that create solutions tailored to the needs of the financial services industry. Kontomatik is one example, offering services that enable analysis of banking transactions, aggregation, analysis and data processing systems to identify the most attractive products for each customer. Similar services are provided by Solemis and Sanmargar, both of which specialise in Business Intelligence products that support customer management and sales in the financial services sector.

The information that banks can leverage is not only related to the analysis of customer behaviour. Cenatorium, for instance, offers multidimensional statistics about the real estate market and provides financial institutions with analytics and prices consistent with the recommendations of the Polish Financial Supervision Authority.

Turbine Analytics is an example of a firm providing services dedicated to asset management companies. Turbine Fund software is a financial app ecosystem designed to automate, streamline and simplify a range of investment management processes.

Taking advantage of non-financial products

Financial institutions also use services originally designed for the non-financial segment. SentiOne, a leading provider of online brand monitoring services, developed a system for Idea Bank that tracks and analyses comments regarding its product offering.

Two Polish banks, ING and BZ WBK, have used products from Sotrender, a company focused on social media analytics, to evaluate the effectiveness of their marketing. PZU, a leader in the Polish insurance market, has used a similar tool from Fokus.

Datawise, a firm operating in the area of analytics and data science, has provided leading Polish banking and insurance institutions (including Aviva, PEKAO, ING Group, PKO Group and PZU) with specialist analytics to support decisions around optimising the branch network.

Data and analytics

Market outlook

Subsegment outlook

So far, more has been said than done in the area of data analytics. This trend should reverse in future. With financial institutions storing loads of potentially priceless data, it takes as little and as much as a smart analytical engine to draw valid business conclusions. As customers insist on getting exactly what they want without ever expressing the actual need, behavioural analysis could become indispensable to tailor the products to the specific expectations of each customer and predict their future actions. Little is known about the impact PSD2 implementation will have on the sector, when access to bank accounts will be granted to third-party providers almost without limits, and credit rating models will depend entirely on the creativity and accuracy of algorithms.

Competitive landscape

The data and analytics sector is dominated by established IT vendors, although smaller entities do emerge with good business results. FinTech start-ups are particularly welcome in the areas of sentiment analysis and financial market analysis. Also, smaller companies can deliver targeted marketing without compromising security standards.

Key barriers



The lack of cohesion in banking IT architecture - it is often a patchwork of systems based on legacy infrastructure



There is a strong preference for large vendors

Other software

Recent developments

Number of micro, small and medium-sized companies in Poland (2009-2014, in thousands)¹³³



Source: Activity of non-financial enterprises in Poland, GUS (Central Statistical Office of Poland)

➤ more...

In the age of online accounting

Growing numbers of micro, small and medium-sized companies are turning away from traditional paper-based accounting services to make settlements as quickly, professionally and cost-effectively as possible. The estimated value of online accounting in 2013 exceeded EUR 50 million, and its potential annual growth is estimated at 12%¹³².

As a result, demand is soaring for self-service accounting and/or remote communications with accountants. The vast majority of solutions are delivered based on the SaaS model. Most products are equipped with RWD-based architecture, a modern and user-friendly interface and integration with invoicing, CRM and e-commerce systems. Players among the many worth mentioning include wFirma, iFirma, SzybkaFaktura and inFakt. Platforms allow customers to automate debt collection, communicating with the tax office and financial control.

Most banks offer corporate accounts. To attract new customers, banks are therefore starting to offer online accounting services integrated with their transactional systems. Entrepreneurs using, for example, the mBank platform can issue an e-invoice with a built-in "pay" button linking the payer directly to the payee.

Key points

- SMEs are increasingly interested in automated and cloud-based solutions for the management of their finances
- Accounting offices will likely be at the forefront of innovation in the segment
- Robotics may seem a distant future but BPO/SSC units will happily experiment with such solutions to cut costs, adopting them if the business case is favourable

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Likelihood of automation of finance-related jobs¹³⁵Source: goingconcern.com**Delivery of products for accounting offices**

The value of the Polish market for accounting services targeting SMEs totalled PLN 5 billion in 2013, divided between approximately 45,000 accounting offices and self-employed accountants¹³⁴. The increasing number of accounting offices, and the resulting need for competitive edge, is translating into growing demand for a dedicated platform. As well as basic functions including office management, automated form generation and OCR, such platforms can be integrated with client-side accounting systems and enable bank statements to be downloaded directly from most e-banking systems. Established market players include Taxxo, Eksp, Wapro (provided by Asseco) and Optima (provided by Comarch). Some SaaS-based solutions, like mojebiuro24.pl, can be accessed through mobile devices.

Robots in finance and accounting

Automation and robotics are firmly embedded in the manufacturing industry, reducing human intervention in simple, repetitive tasks. A similar pattern is becoming more and more evident in the field of financial and accounting processing. Full automation will occur gradually, initially with robots in BPO / SSC, then in medium and large companies.

Despite the rapid growth of Polish BPO / SSC, the number of established players in the field of process automation is relatively low. One of the most recognisable, CyberProductivity - which has developed the CostKiller solution - automates processes such as budgetary reporting (real-time), workflow and accounting.

Other software

Market outlook

Subsegment outlook

Automated and robotics solutions in accounting are growing in popularity. Increasing numbers of newly opened companies and the strong development of SMEs is making the online or cloud-accounting business model particularly profitable, especially for accounting offices. Furthermore, as banks started to bundle their core product offerings with affiliated services, the integration of 'financial services in a cloud' with a current account is a foreseeable future development

Competitive landscape

There are numerous smaller companies providing finance-management automation or cloud-based solutions. There are no strong barriers to entry, and local and international players alike have the opportunity to secure a healthy market share. Only large process factories (BPO/SSC) may prefer established IT vendors to avoid reputational risk.

Key barriers



There is little knowledge of RPA solutions and no evident use cases so far



Collaboration by some players with the banks may lead to market consolidation in future

ROMANIA



FinTech market outlook

Deloitte expert opinion

Despite one of the fastest internet access speeds available in the world and relatively good internet penetration, there is a clear digital division in the Romanian population. This is due to social and economic differences and challenges.



Bogdan-Octavian Marin
Senior Manager
Deloitte Romania

Established FinTech players providing technology solutions to banks are in demand. The most sought-after solutions are frameworks enabling the agile development of customer experience in all channels, the reduction of the regulatory reporting burden, and the facilitation of various forms of cloud services.

Emerging FinTech players in the financial services arena are more likely to succeed if they choose to collaborate with an existing player or solve an issue that is particularly difficult to tackle.

Those emerging service providers in the fields of payments and P2P lending will have both to face regulatory restrictions similar to those imposed on Romania's banks and be ready to compete with banks. When entering such a high-volume, low-margin business, it will be difficult for FinTech players to gain significant market share and be profitable without offering corporate banking services that include salary disbursements.

FinTech companies might therefore wish to enter partnerships with smaller banks in the market. These would benefit from FinTech companies' agility and innovation, and would be likely to agree a profit-sharing model, in the absence of their own investment budgets. When entering consumer finance, FinTechs will compete with banks and other players in the area of customer experience and those risk models associated with specific niche segments.

Emerging FinTechs might also have a significant role to play alongside the banking sector if regulatory change opens access to banking systems (such as customer accounts) or enables solutions to address Romania's current e-commerce challenges, including customer's trust in merchants and the move from cash-on-delivery to non-cash payments.

Innovations in the banking sector

Recent developments

Room to Grow

The penetration of online banking in Romania is currently at a negligible 6%, signifying a threefold growth during the past three years¹³⁶.

As e-commerce is on the rise, it is expected that the popularity of online and mobile banking will be aligned with this trend. However, with 45% of Romanians living in rural areas¹³⁷ and showing limited interest in banking services, the development of the sector might face a serious barrier.

It is also to be noted that cloud solutions face special restrictions when applied to the financial sector. In most cases the deployment of a cloud computing solution will mean "outsourcing of significant activities", thus becoming subject to the obligation to notify the National Bank of Romania¹³⁸.

Everybody Innovates

When the Romanian Banca Transilvania (BT) launched Misys FusionBanking Essence Online and Mobile – award-winning digital channels within the end-to-end retail banking suite – this helped the bank to increase its market share from 5% to almost 9% in four years¹³⁹. To attract younger customers, BT has also integrated social media into its digital banking, with unique services such as Facebook transfers.

In 2014 Banca Comerciala Romana (BCR) launched the Financial Assistant application for mobile devices. The bank boasts that 30% of total active internet banking customers had used the application within six months of its launch.

The Hungarian OTP Bank has launched the OTPdirekt and Smartbank apps in Romania, enabling customers to review

banking products, perform transactions, access account information and settings, and to track their own expenditures. The platform also allows live chat with a bank consultant. Issues can be resolved and guidance made more effective through a screen-sharing facility. The solution is aligned with OTP's strategic goal of customising digital customers' interactions with the bank.

OTP Bank Romania also supports the efficient planning of expenses through its new MyMentor tool, which it launched last year.

ING Bank tells its customers about shopping discounts. ING Bazar features customised offers and negotiated discounts at major retailers (including Carrefour, Samsung, Bata, Adidas, Douglas and Lego). The application will adapt to users' preferences and choices to provide them with the most suitable offers.




In general, key players in the Romanian banking sector follow European trends and deliver a high-quality user experience to their customers.

Advanced Solutions for Banks

In the past year, the market for banking IT solutions has been growing, a trend that is expected to continue in the light of increasing interest in digital solutions.

Key international players present in the Romanian market include T24 (a provider of core banking systems), Oracle, Misys and SAP. Asseco Poland entered the Romanian market in 2009, by acquiring the Romanian FIBa Software and Net Consulting company and local IT solutions provider Professional Bank Systems & Software (Probass).

Key points

-  Romanian banks follow European trends and deliver high-quality user experience
-  The market for banking IT solutions is dominated by large players
-  FinTech companies may find it difficult to disrupt the established financial services market

The local industry also contains a few vendors worth mentioning.

Romsys - a provider of business optimisation solutions for the financial sector. Their focus is on niche technologies that are in demand due to EU regulations. Their portfolio covers a number of core and support business solutions. Romsys has also developed proprietary software: ID Data Collector, Ibanking, Portas and Workflow management. Its client portfolio includes banking, insurance and asset management organisations.

Advantage Software Factory - a vendor focusing on banking and telecom clients, with operations in 11 countries. Among its various IT solutions, one of the most popular is Capone, a leading enterprise debt collection platform in Romania.

Allevo - a provider of solutions and services for real-time transaction processing. Among its innovative products, the provider experiments with alternative business models. FinTP Project is Allevo's initiative to build an open platform for processing financial transactions within the open source community - FINkers United. The initiative is ultimately intended to create a new standardisation layer for the financial services industry, by transforming transaction processing software from a differentiator to a common enabler for all its adopters⁴⁰.

Allevo works not only with the majority of Romanian banks, but also with financial services companies from other countries (with a strong presence in Moldova).

TotalSoft - this large Romanian IT provider, with a global presence and 20+ years of experience, supports a broad variety of industries, including banking. Its solutions for the financial services industries cover business intelligence, self-service, cost control, debt collection, refinancing contract management, insurance policy management, factoring contract management and reporting. TotalSoft is also recognised as one of the leading European vendors for leasing - its Charisma Leasing Management service is used by several important leasing groups as a standardised solution supporting multi-country operations⁴¹.

Eutron provide banks with software for universal ATMs. Customers can pay bills or top up their phones through terminals equipped with card readers and cash slots.

Banking experts agree that the market is certain to be dominated by large vendors in future, especially if their solutions keep up with the evolution of banking needs. Depending on the risk appetite of industry players, smaller companies may try to enter the ecosystem. However, they need to keep in mind that leading banks will insist on developing digital solutions in-house in order to retain competitive edge.

Upcoming regulations are key to the question as to whether the banking sector will further develop its IT capacity. Recent public debate in the sector revolves around the new insolvency law and resulting limits on the availability of mortgages. Currently, mortgage down payments are around 5-10% of the loan value. The government plans to raise this to 40%, which could hamper not only loans and banks' revenues but also the entire Romanian construction sector. This in turn affects the economic prospects of the country as a whole.

“

If someone showed me an innovative solution in the customer journey area, I would not buy it from them as such, but would want to design it myself. Maintaining control over the customer experience is crucial. I would buy the technology enabling its design and delivery”

Representative of a Romanian bank

Innovations in the banking sector

Market outlook

Subsegment outlook

Banks in Romania recognise the need to invest in their IT systems and are willing to buy solutions from established and emerging vendors alike. While established players tend to focus on facilitating an omni-channel experience for customers and solving reporting issues, emerging vendors can tap into smaller problems and deliver smart improvements. The current low penetration of e-banking and m-banking suggests that forthcoming growth will be rapid, to quickly converge with the rest of the region. The crucial issue, however, will be the form of collaboration that banks adopt. Romanian banks are particularly alert to the build-up of competitive advantage and may therefore insist on keeping exclusive rights to solutions they develop in partnership. A possible way to overcome that would be for Fintech to address a common problem for all banks and rally them up together in a joint effort to solve it.

Competitive landscape

Numerous IT vendors collaborate with Romanian banks. So far, larger firms have taken the lion's share of the market. Smaller players are not yet in such demand, although industry experts expect this situation to change. As Romania has a well-qualified IT workforce, it is possible that local solutions will gain in popularity.

Key barriers



The Romanian banking sector faces different challenges than those in other CEE countries - for example, there is a stronger focus on regulatory issues than on customer experience



The country's level of banking digitalization is relatively low

Innovations in the insurance sector

Recent developments

Off the beaten digital track

The insurance sector is far less advanced than banking in terms of digital development. With obligatory non-life insurance dominating the market, innovations are hard to come by.

Although Motor Third Party Liability noted significant growth in the past years, premiums collected do not always cover claims made, resulting in major losses among key market players. All things considered, technology is not a priority challenge for insurers.

Two of the most innovative solutions currently available are Virtual Broker and Bursa Asigurarilor, enabling the online purchase of insurance.

A Romanian company with a truthful name - Life Is Hard - has developed the 4Broker software solution. This is an effective platform for managing all brokerage activity, covering the full lifecycle of a policy from coming under broker management to its return to the issuing insurance company.



Innovations in the insurance sector

Market outlook

Subsegment outlook

IT investments in the Romanian insurance sector are mainly focused on key technological issues relating to core systems. Innovation is not going to become a key priority, especially given the industry's slow growth. In-demand solutions may include brokerage management and online insurance comparison engines, which are already available on the market. User experience and the digital front-end for the customer appear to be of secondary importance given the current level of industry development; this situation will change only gradually in future.

Competitive landscape

The market is dominated by large vendors, with few companies pushing innovative InsurTech solutions. The appearance of truly innovative solutions and a resulting increase in the density of competition is still ahead of the Romanian market and will take place over the longer term.

Key barriers



There is a low level of development in the Romanian insurance sector



Insurers need to reconsider their business models before introducing any innovations to the market

Payments

Recent developments

Financial contactless smart cards in circulation (share of total financial cards)



Source: Euromonitor International

Still Bound to Cash ...

Cash payments currently dominate the Romanian payments sector, but there is a strong hope that cards will gradually conquer the market. A decrease in interchange fees (effective since December 2015) has reduced the merchant acceptance fee from an average of 2.5% to 1%. This is expected to stimulate significant growth in card-payment acceptance at the point of sale. Growing numbers of POS terminals, improving the share of contactless cards, and additional charges on ATM cash withdrawal are both expected to help in the transition to a more cashless economy. This is also an important step in the fight against corruption, which has been on the government's agenda for some time now. In 2015, the limits were set for cash transactions (RON 10,000 for companies and RON 5,000 for individuals). Card payments will enhance the transparency of transactions and are expected to contribute to decreasing the size of the grey economy (currently estimated at an astounding 30% of GDP)¹⁴².

... but on the Way to Alternative Payment

Methods

In January 2016, for the first time, the number of payment transactions by card at merchants exceeded the number of cash withdrawals from ATMs. The gap between the two should widen with time, in favour of non-cash transactions. However, it should be noted that currently half of issued cards are still used solely for ATM cash withdrawal, and 82% of bills are paid in cash despite incentives for non-cash settlement. There is still a long way to go.

Education appears to be key to the nationwide adoption of non-cash payments in Romania. With strong promotion of mobile, online and contactless payments, as well as events sponsored by card providers, citizens are increasingly likely to realise the benefits of non-cash payments and gain confidence in the safety of such transactions.

The dynamics of e-commerce could also have a positive impact on the use of cards¹⁴³. The market doubled from 2013 to 2014, reaching EUR 1.1 billion, and 40% of current online shoppers expect to increase their spending next year¹⁴⁴. However, it needs to be noted that 90% of Romanians still prefer cash-on-delivery as the desired means of payment (far ahead of neighbouring Hungary's 50%¹⁴⁵). On the other hand, online payment by cards is becoming popular for paying utilities and buying travel or event tickets. It is worth mentioning that Romania (like Poland) has adopted a pay-by-link scheme; this has been available to e-shoppers since 2011/2012 via PayU, Banca Transilvania, BCR and ING.

Key digital payment processors include PayU (Poland), Azimo (UK) and Netopia (Romania). The latter is particularly active in the payments market, having launched its own e-wallet (mobilPay Wallet) and soon to open a Bitcoin exchange platform (Btko.in).

Solution from the South

In 2014 telecommunications company Vodafone launched M-Pesa - an m-payment service which has proved successful in Africa, where over half of the world's mobile payment users are located¹⁴⁶. The service does not require a specific model of phone - money can be transferred with the use of SMS - although the mobile app is available for smartphones as well.

The service is available to the banked and unbanked population aged 14 and over, and is independent of internet access. Since the end of 2015, M-Pesa users in Romania have been able to receive international transfers from the EU, US and Canada. Funds can be withdrawn from any of 2,100 physical M-Pesa outlets or used directly, to pay bills, for example. The solution was launched in partnership with the British WorldRemit company. Recently, the British digital money transfer provider Azimo also entered partnership with Vodafone, to integrate M-Pesa into their app. The British provider is aiming in this way to strengthen its foothold in Romania.

International transfers are particularly important in Romania – with 16.5% of its population living abroad¹⁴⁷ it is one of the largest remittance receivers in Eastern Europe.

With a sQuaRe Code

The Turkish GarantiBank, together with Seamless, has brought mobile QR code-based payments to Romania. SEQR is an application that enables customers to pay with their smartphones in stores, restaurants and online.

Available for free on iPhone and Android, the application connects the user's current GarantiBank account to the retailers' cash register or online system via a QR code. Transactions are confirmed with the use of a PIN code. All receipts and the payment history are saved digitally on the phone. The solution is 50% cheaper for merchants than other payment methods¹⁴⁸.

What's in Store?

As well as NFC payments, GarantiBank has introduced a wide range of further innovative solutions to the Romanian market, including multi-branded chip cards, contactless payment tools based on MasterCard PayPass technology, the Bonus Debit Card (which offers bonuses for purchases made at merchants) and the WWF Bonus Card (an eco-affinity credit card).

BRD Groupe Societe Generale is keeping up with the national banking innovation race, with its own unique solutions: ROBO – the robot-shaped automated bill payment machine (13 million transactions annually¹⁴⁹); and MYBRD Mobile – the first mobile banking solution processing payments to a phone number.

Banca Transilvania, meanwhile, has been the first to introduce payments by Facebook, as well as transfers via e-mail and SMS.

What the Romanian payment market is clearly missing is a nation-wide solution combining various payment methods (NFC, bump, Facebook, SMS etc) in one app (preferably a banking one). Currently, the market is fragmented, with small alliances connecting some banks and some merchants¹⁵⁰. Even M-Pesa is probably going to lose some customers to a competitor's app, Orange Money, which is to be launched soon.

Self-service Above All

While in some other CEE countries ATMs have so far been seen only as cash-dispensing machines, in Romania they have served multiple purposes since the mid-2000s, reducing footfall in branches and becoming an important distribution channel for banks.



The first was ING, which in 2006 deployed a number of "Self Banks" where customers could withdraw cash, make transfers, pay invoices, check their balance and pay loan instalments. The density of machines has increased with similar launches by BRD (ROBO machines), BCR and Banca Transilvania. One of the newest entrants is GarantiBank, with multifunctional ATMs that allow bills to be paid in cash, without using a card (Paramatiks).

Pay As You Go

In 2014, Bucharest's public transport operator, in partnership with two major Romanian banks, introduced contactless cards allowing customers to shop, bank and take rides on all means of public transport.

The first was BCR's Zambet card. Soon afterwards, BRD Bank offered customers a Maestro or MasterCard which can double as a transport pass. Meanwhile, the Bucharest metro operator enabled commuters to buy tickets over SMS – Orange and Vodafone subscribers can send an SMS to a special number to process payment. Validation of a ticket mimics contactless technology. Users simply need to call a special number and then tap the phone onto the Margento vPOS validator.

Key points

-  Romania is encouraging the popularisation of non-cash payments
-  The current payment landscape is fragmented, with each bigger bank forging its own alliances and taking its own share of the pie

Payments Market outlook

Subsegment outlook

Cash still dominates the Romanian payment landscape but this will change, due both to societal changes and government anti-corruption initiatives. Further development of e-commerce and the resultant increased volumes of non-cash settlements should provide scope for improvement in the area of payment innovation. In future, mobile payments are likely to shift towards smartphone-based rather than telecoms-based solutions (such as M-pesa), especially in urban areas. However, as the take-up rate of contactless cards is growing dynamically, they can outpace the NFC and HCE-based payments.

Unlike in other CEE countries, there is significant potential for Romania's ATM-related business, as the multifunctional nature of ATMs could be integrated further with digital devices. These would include eg indication of the nearest available ATM when the one at hand is out of order, sales of consumer loans, application for loan or preapproved overdraft at an ATM machine, video calls with Bank's employee.

Competitive landscape

There are numerous payment service providers in Romania. While some solutions are locally developed, international vendors are more popular among Romanian society and the banks. Three biggest players have managed to dominate the market.

Key barriers



The significant share of cash in the Romanian payments market is expected to change, but only incrementally



The market is fragmented and there is no outright leader to drive convergence

Capital raising and personal finance

Recent developments

On the Rising Wave

Demand can be seen for consumer loans outside the banking sector in Romania. Despite their low level of financial education, consumers are often forced to look for additional financing simply to make ends meet, even at higher interest rates than those offered by banks.

Key market players include: Cetelem from France (the market leader, with a market share over 20%), which was created by BNP Paribas via its acquisition of Credisson International; Provident (UK); Ferratum (Malta); 4finance (Latvia, the owner of Zaplo); and Romania's Simpu Credit and Viva Credit (now expanding into the Czech Republic).




Lendia aims to be a bridge between traditional bank financing and non-bank financial offerings. It was launched last year as a Romanian-Swedish start-up and has already managed to secure strong partnerships, with Credit Agricole and Alpha Bank (with others in the pipeline). By connecting banks, Lendia provides clients with a free online loan comparison engine. Online applications are not binding, and Lendia transmits them to all participating banks, who send their quotations within 24 hours. Registered users can compare binding offers and choose the most suitable. Once the user accepts the terms, a bank consultant arranges an in-branch appointment.

In a similar line of business, Efin, managed by the Romanian Financial View Media Services, is a portal that allows users to apply online for products promoted by financial institutions in Romania, including credit-scoring services. Its offering is fairly comprehensive, including products of banks, non-banking financial institutions, leasing and factoring companies, structural funds and loan brokers.

Alternative financing models do not seem to be particularly popular in Romania, the Romanian Friend Credit being the country's only P2P lending platform.

The outlook for crowdfunding looks much more promising - Sprijina was launched in July 2015 and during its first six months 140 projects received financing (in total EUR 90,000 from 1,800 individuals⁵¹). Apart from that, there is also a Crestem Idei platform, although its growth data is not publicly available.

Key points

-  There is strong demand for loans, as reported both by banks and non-banking institutions
-  Online lending with price-comparison functionality is becoming popular
-  Crowdfunding has made a healthy start on the Romanian market, although it is yet to be seen whether its initial dynamic growth will be sustainable

Capital raising and personal finance

Market outlook

Subsegment outlook

The market for alternative financing is certain to grow in Romania. When the banks reject a credit application, private and corporate entities alike seek funding elsewhere. The market has a wide range of options to offer, from online banking comparison sites, through non-bank lending to P2P lending and even crowdfunding. The most dynamic growth should pertain to non-banking financial institutions that grow in number and some of them choose to specialize (catering to the needs of eg agricultural sector or SMEs). Crowdfunding activity faces stricter regulatory barriers (regarding the legal form of owners). Furthermore, as Romanians bear in mind the negative outcomes of a number of Ponzi schemes from the near past, they mistrust the concept.

Competitive landscape

Although there are several alternative finance providers, some of these serve only as aggregators of banks' online offers. The next few years will show the potential of crowdfunding and P2P lending - these areas will either attract new competitors or become marginalised. It looks as though international and local companies have equal chances of success.

Key barriers



The level of financial education in Romania is relatively low



There is little diversification of financing methods available to companies and individuals

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FinTech market outlook

Deloitte expert opinion

The overall outlook for the Slovak FinTech market is promising. The financial market should leverage its history for piloting the implementation of new solutions and its developed technological environment and infrastructure.

The Slovak financial market is open to innovations and often serves as a testing ground for the deployment of new solutions developed for international banking and insurance groups or companies. The size of the market and attitude of people makes it very attractive to test innovations. Examples include mobile banking apps from Tatra banka (ranked the best in the region) and contactless cards (making Slovakia the European leader in terms of uptake). The Slovak banking sector was ranked the fourth most stable in Europe by Euromoney. It is still growing fast, with enough scope to catch up with the banking sectors of the most developed countries.

On the other hand, the size of the market does not support a large number of domestic FinTech companies. Those operating locally have trouble achieving critical mass to become profitable. However, a few that are operating across borders - like TrustPay - are competing very well in the CEE market.

While interest rates on deposits are at levels close to zero and new legislation has caused problems for non-banking companies, it is expected that P2P lending will be soon on the rise. There are already a couple of working solutions on the market that are waiting to gather momentum. Other areas to highlight include new payment solutions and biometrics.



Katarina Vrsanska
Manager
Deloitte Slovakia

Innovations in the banking sector

Recent developments

Unquestioned leader

The Slovak banking sector is innovative and open to new digital solutions. The reasons are twofold: on the one hand, international capital groups often use local subsidiaries to push technologies available in their home markets. On the other, Slovak society seems ready to adopt such innovations, which points to (much more important) internal forces driving the digital transformation.

Tatra banka has become a leader of this transformation, as confirmed by its haul of Best Consumer Digital Bank in Slovakia awards - 13 so far, the most recent being in 2015.

In 1998, the bank was the first in Slovakia to launch internet banking. Today, this service is used at least once a month by around 250,000 users (30% of the bank's client base). The share of electronic transactions exceeds 97%¹⁵².

What differentiates Tatra banka from its competitors lies in the detail of its service offering: a tool that tracks spending; ATM withdrawal via mobile phone; spending reports; online applications for service packages; and an intuitive, informative webpage. All these contribute to the likeability of the bank, as seen on Facebook.

However, what gives Tatra its competitive edge is not so small: the launch of near field communication (NFC) payments, authentication of customers through voice biometrics (currently half of the client base chooses this verification method¹⁵³), Google Glass banking and an app for smart watches all help to position the bank among European, rather than just national, leaders of innovation.

Where to buy IT

Most banks use established financial technologies (such as from Misys, SAS, Sungard, BAE Systems Detica, Asseco and Cisco) for key operational functions. At the same time, custom-developed software is sought for where the size and complexity of the organisation do not require a robust solution. It needs to be noted that upcoming regulations (like PSD 2) will open the door even further for FinTech companies.

Inloop (a Slovak-German entity) delivers app solutions and consulting services to a range of industries, including financial. The company has helped Tatra banka in the development of a banking app supporting wearables (such as smart watches). They also supported the Czech Air Bank in the launch of a state-of-the-art mobile app.

There is a significant opportunity for FinTech companies, since the Slovak market is open to innovation. Banking experts emphasise that many innovations come from smaller, more agile players, keen to understand and address customers' changing preferences. Moreover, the established sector is ready to work with emerging start-ups (even on a smaller scale, by providing direct support to individual players).




However, some banks fear the loss of market share - these will rather try and copy new functionalities in-house than experiment with external, new vendors.

“

Local players seem to be more successful in Slovakia. There is a strong start-up community here that enjoys preference both from vendors and customers. However, local players need to go international if they wish to succeed – Slovakia alone may prove too small a market”

Representative of a Slovak commercial bank

Key points

-  The banking sector in Slovakia is open to new, innovative solutions
-  The sector's current unquestioned leader is Tatra banka
-  Banking experts see market opportunity for FinTech companies, although not all established players will greet them warmly

Innovations in the banking sector

Market outlook

Subsegment outlook

The Slovak market is open to innovation in banking and ready to experiment with new solutions from local and international vendors alike. Slovak banks such as Tatra banka have confirmed this trend by introducing innovative solutions in mobile and internet banking for their consumers. Although established vendors have a strong market position, there are opportunities for smaller players, particularly in the area of small, smart improvements that make a positive difference for the end-customer. PSD2 implementation will open the doors yet wider for third-party providers.

Competitive landscape

While banks mainly employ established IT vendors, they do not ignore those agile players that are able to recognise and address the needs of customers by using the latest technology. Although industry experts have identified a Slovak preference for local solutions, global players are not ignored. Since Slovak banks often serve as a testing environment for global innovations, FinTech companies may turn to Bratislava to explore their ideas. In addition, the Slovak market offers FinTech companies a favourable Competitive landscape, as Bratislava is in fact an innovation cluster filled with startups willing to collaborate.

Key barriers



Slovak customers have demanding expectations when it comes to digital banking



Non-banking institutions pose strong competition

Innovations in the insurance sector

Recent developments

On a par with banking

Unlike in most CE countries, insurance is not lagging behind banking in terms of innovation. Both sectors are transforming to become digitalised, and are seeking to give their customers a unique user experience, with a strong emphasis on online and mobile.

Generali, for example, offers its motor customers an SOS Partner application based on a telematics device. This monitors the vehicle in motion and calls for help in case of emergency. Driving behaviour is evaluated via the dedicated portal “Quality driver” to reward responsible drivers – analytics of their own driving style are available to registered users. The solution won a Gold Coin 2015 award as “The Discovery of the Year” in Slovakia. The company’s insurance products are available online, as well as via its contact centre and agents.

Onlia is a recently launched sales portal for online insurance, and another winner of the Gold Coin 2015 (in the “Newcomer of the Year” category). The company offers an online vehicle inspection before the policy is bought. Moreover, Onlia enables insurance to be paid for in monthly (instead of the standard yearly, six-monthly or quarterly) instalments. A car insurance policy can be terminated at any point during a contract and the process has been simplified – the document is identified indicating number plates only. Additionally, the mobile app provides customers with all information necessary in the case of an emergency.

iSanon - Universal SK offers customers a consolidated view of all insurance contracts. In an emergency, the policy holder does not need to browse through numerous documents but immediately retrieves the contact details for the appropriate agent. The system also monitors the termination of each contract and notifies the customer of the need to renew. Software is built with an omnichannel approach in mind and therefore can be accessed by different devices. At any point in time, iSanon online consultants and customers have access to the same data.

Key IT providers include Polish Asseco and global Audatex. Insurers perform a lot of IT development in-house.

Key points



The Slovak insurance sector is on a journey of innovation, with online policy sales and telematics being clear components of key players’ offering

Innovations in the insurance sector

Market outlook

Subsegment outlook

The insurance sector in Slovakia is one of the most developed in the CEE region. It is therefore certain to seek new FinTech solutions in future, to further improve the customer experience and the level of digitalization. The use of telematics has only just started to make an impact, and we will in future see more sophisticated solutions related to the Internet of Things (IoT). The market as a whole is highly receptive and may become the testing ground for numerous solutions launched by global insurance groups (as has been the case in the banking sector).

Competitive landscape

The Slovak insurance sector relies on in-house IT development complemented by products offered by large IT vendors. However, there is sufficient scope for smaller companies, who can either partner with insurers or deliver stand-alone solutions for customers. All in all, the insurance sector in Slovakia is set for growth in the years to come.

Key barriers



There are high expectations among Slovak customers regarding digital insurance services



Vendors need to compete with in-house IT teams

Payments

Recent developments

High Hopes

Slovakia is perceived internationally as a rapid adopter of innovative payment solutions, leaving the UK and most of Europe behind¹⁵⁴. The number of POS payments first exceeded the volume of ATM withdrawals in 2007 and non-cash payments have been on the rise since then. At the end of 2014, the share of smart contactless payment cards reached 64% (as compared to the European average of 15%¹⁵⁵ and countries like Denmark or Norway – 0%¹⁵⁶).

Data from MasterCard indicates that 50% of Slovak card holders pay using contactless technology and that 75% are willing to use it (or continue to use it) in the future¹⁵⁷. The popularisation of technology has been enabled by banks (unlike the Polish model in which the push is undertaken by card schemes).

VISA expects that by the end of 2017 almost all POS terminals in Slovakia will be contactless, and the next step will be the introduction of contactless withdrawals from ATMs¹⁵⁸.

In 2014, VUB Bank together with Intesa Sanpaolo Card and VISA brought NFC HCE payments to Slovakia. Host-card emulation crowns previous efforts to popularise m-payments in the country, such as the launch of an NFC-enabled iPhone case branded as the iCarte in 2012 or NFC payments in partnership with MNO Telefonica (both initiated by Tatra banka).

Only the Strongest Survive

However, there have been failures: Slovak Telekom (a subsidiary of Deutsche Telekom) has recently closed its MyWallet NFC payments service, after two years of operation. The move is due to the closure of ClickandBuy (another Deutsche Telekom subsidiary), which issued the sole payment card supported by the service. Slovak Telekom's solution required opening an account in a German bank, as well as a replacement SIM card (along with the basic requirement of having an NFC-enabled smartphone). None of this found favour with Slovaks.

The competition has moved on. There is now no need for a bank-telecom alliance to bring m-payments to customers – MasterCard has launched its own e-wallet called InCard Masterpass. At the end of 2015, CSOB launched Masterpass for its customers, and is now offering the service to all co-operating merchants with no additional fees.

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Easier, Faster, Better Payments

VIAMO is a mobile payment application enabling money transfers to a mobile phone number. The solution is simple – the application links the phone number with a bank account number. The recipient does not need to be a customer of the participating bank or to be a registered smartphone owner or user. The daily transaction limit is set at EUR 200. The app quickly became part of the banking services offered by VUB, Tatra banka and ZUNO. The list of partners also includes selected shops, restaurants and courier services.

One of the best known online payments processing companies is the Slovak TrustPay, which provides local bank transfers as a method of paying for local and international purchases without the need to open a TrustPay account. The company offers multi-currency payment services to online merchants. Other local payments providers include 24-Pay, NFD and Besteron.

A recently launched GexPay app that enables payments at restaurants might also be interesting. This can be utilised by employees paying with food coupons, uses QR code technology and does not require an internet connection. The application allows tipping and in future could also be integrated with restaurant referral programmes.




Another example of payments simplification (this time for merchants) is delivered by Papaya POS. This is an innovative mobile POS software system for restaurants and retailers that can be installed on any Android mobile device and then connected to a receipt printer. The customisable user interface is built in RWD technology. It facilitates processes at the cash register and could be used as a mobile ordering and payment tool for waiters.

Thinking Local

Bratislava has recently become the second European city (after Bristol in the UK) where people can use a local electronic currency to make payments. E-zivecs are the electronic alternative to paper-based local Zivecs (in use since 2014). A mobile app enables the purchase of e-zivecs that can later be used for payment via NFC technology in selected partner stores. So far four out of 40 Zivec partners accept electronic payments using the currency¹⁵⁹.

From every e-zivec spent, the Local Currency Community Fund will receive 10 cents to be allocated to financing the revitalisation of the space in front of Stara Trznica in Bratislava.

Key points

-  Slovaks are keen to try out new payment solutions, so driving demand for the latest technologies (including HCE)
-  Banks are the main ambassadors of payment innovation
-  Many local companies provide payment services

Payments Market outlook

Subsegment outlook

In future, the Slovak payments landscape will transform to reflect the best elements of European and global practice. Top-tier technologies are already present, with HCE at the forefront. The payments infrastructure is set to develop rapidly, especially as increasing numbers of merchants are aiming to facilitate cashless payments. This is caused by the sophistication of consumers in Slovakia, as banks bring forward innovative products/solutions that ease their payment processes. This presents an opportunity for FinTech companies to use these consumers as an ideal testing sample for their new ideas.

Competitive landscape

Due to its high level of innovative capability, the payments market is already facing consolidation - only best-in-class solutions remain on the market. Local and international companies alike have opportunities for success. However, some should consider collaboration with banks, who are key ambassadors of advancement in payments.

Key barriers



Outdated and insufficient solutions are quickly forced out of the market, stoking fierce competition



There is also strong competition from local players

Capital raising and personal finance

Recent developments

Feeding the need for cash

Demand for alternative capital raising solutions is on the rise in Slovakia, following global trends. Online lending is the most successful solution, with the P2P model emerging as its important element.

The first platform for collective lending, Zlty melon, was founded in 2012. By the second half of 2015, it had already provided Slovaks with EUR 2.5 million in loans and was demonstrating a monthly volume of new business of around EUR 160,000 to 200,000¹⁶⁰. Apart from standard, low-value loans, it also offers one-to-two year loans of between EUR 20,000 and 30,000 to serve as mortgage down-payments. The company has recently received capital funding from external investors and is planning expansion into foreign markets.

Another P2P player is Bondora from Estonia. Following a strong start at the beginning of 2014, it currently manages a monthly loan volume of around EUR 20,000. Other companies include: Zinc Euro, Plan B, 123pozicky.sk, Pozickovo.sk. So far, P2P platforms need only to follow general consumer protection regulations and do not need a payment licence (provided the peers are not companies).

It is worth mentioning that in comparison to Western Europe, Slovakia (like the rest of the CEE region) is characterised by limited access to consumer data and a conservative approach to risk. This is also apparent in authorities' attitude to platforms

like Zlty melon: the National Bank of Slovakia (NBS) warns customers about the risk connected with non-regulated lending and borrowing. NBS supports the banking sector in this way, which already dominates the unsecured consumer lending market – in fact, strong competition among major Slovak banks leaves only around 0.1% of market share for the likes of Zlty melon.

Online lending only from banks?

Currently there are 256 non-banking consumer lenders in Slovakia¹⁶¹, but the number is expected to drop drastically in future. A new law that came into force in mid-2015 requires consumer finance lenders to obtain a licence and retain a minimum level of basic capital. Furthermore, NBFIs are not allowed to set their interest rates at a level higher than the banks: the annual maximum interest rate has been capped at 37.5%.

Already over 30 companies have applied for a licence, but it is likely that not all NBFIs will want to participate in a more regulated market¹⁶². British Provident, for example, has already announced that it is ending its lending operations in Slovakia and is currently only supporting existing customers.

Regardless of the new regulations, online lending seems to be the domain of banks, a trend that is only strengthening. Major Slovak banks are reporting increased interest in e-loans: Sberbank Slovensko, CSOB, mBank and Zuno by almost 100% and Slovenska Sporitelna by 32% year on year¹⁶³.

Not yet a funding crowd

Crowdfunding in Slovakia can be roughly divided into two main groups: platforms for philanthropic activities; and initiatives focused on commercial projects.

The first group has been active for some time now and receives both public and private support, as well as a fair degree of recognition. There are only three players:





- Dakujeme.SME.SK – the first Slovak crowd-financing platform launched in 2007. It is operated by the WellGiving NGO on the website of one of the most popular Slovak portals – SME. To date it has collected over EUR 730,000¹⁶⁴
- LudiaLudom – a public online platform, launched by the Center of Philanthropy (an NGO) and private companies. The portal raises funds mostly for individual cases (such as medical treatment). In December 2015, total funds collected exceeded EUR 1.5 million provided by 33,000 donors¹⁶⁵
- Dobra Krajina – established by the Pontis Foundation, this platform raises funds for individual projects, or those initiated by NGOs. To date, it has collected over EUR 370,000 from over 3,000 donors¹⁶⁶

Crowdfunding of commercial projects has a more recent history; no player has to date achieved significant success:

- The pioneering Slovak platform – IdeasStarter – folded at the end of 2015 after a mere three years in operation. The reason for closure was issues with supply, rather than the demand-base. The project base lacked really interesting, high-growth, possibly game-changing entrepreneurial ideas. Most often, the projects had little or no innovative potential (focusing instead on personal needs like the purchase of a new car)
- Marmelada started its operations in February 2015 and supports mainly cultural projects as well as the development of apps and games. Out of 26 projects applying for financing, eight have succeeded
- Crowdberry is an equity-based investing platform working with Tatra banka private banking. The first of the platform's projects recently received 100% of the funding it required (EUR 300,000). Apart from typical marketplace services, Crowdberry also offers legal consulting and organises meetings with investors
- Conda is the Slovak arm of an Austrian entity, and focuses on the financing of innovative, promising projects. It opened in September 2015, but the list of projects available to potential investors is short, with Slovak projects hard to come by

With weak regulation, little strategic policy attention, no public aid and a lack of strong focus among existing players, the Slovak crowdfunding ecosystem still has a long way to go.

Key points

-  P2P lending is growing in Slovakia
-  Alternative lending is as yet not strictly regulated, and spells opportunities for new entrants to experiment with various business models
-  Online lending is certain to remain the domain of banking sector
-  Crowdfunding in Slovakia is still in its infancy when it comes to financing innovative entrepreneurs

Capital raising and personal finance

Market outlook

Subsegment outlook

Unlike other CEE countries, Slovakia is backing peer-to-peer lending to be a major force in alternative capital raising. As competition between banks becomes stronger and strict regulations affecting non-banking financial institutions drive foreign players away, it is unlikely that consumer lending will thrive in Slovakia. Crowdfunding has a chance of growing in future, attracting more players including foreign entities. However, Slovaks have not as yet shown a particular propensity to use crowdfunding as a means of financing innovative business activities.

Competitive landscape

There are numerous P2P lending platforms, some of them originating abroad. A lack of restrictive regulations may attract new players. However, as the market is relatively small, high saturation may soon stifle further growth. Despite relatively large number of existing crowdfunding platforms, it seems there is still space to enter the market and offer solutions, for example those dedicated to helping innovative entrepreneurs.

Key barriers



There are regulatory barriers to non-banking consumer lending



The popularity of crowdfunding among entrepreneurs is low

Data and analytics

Recent developments

Making use of Big Data

Like other CEE countries, Slovakia sees great potential in processing data and acting upon analytical insights. Tatra banka has nearly reached its target of decreasing churn among credit-card customers by 30% with the use of predictive models. The bank applies data-based customer segmentation and carries out personalised retention campaigns for their customer groups¹⁶⁷.

QlikView is a Business Intelligence tool widely used by financial sector companies in Slovakia. EMARK is a local company that helps customers implement the tool in their finance management. Key clients include Zuno, UniCredit Leasing and Erste Bank.

As well as carrying big data solutions for big players (such as banks and insurers), the Slovak market also offers analytical solutions from smaller entities:

- Finviz offers an advanced stock screener that is available online, as well as innovative market maps and various charting modes. The company claims to over a million users each month.
- Finila offers tools and data for fundamental analysis (market reports, news feeds) and technical analysis (real-time charts, indicators, patterns). The company's future plans include the development of innovative tools and plug-ins for processing market data.
- Exponea provides advanced customer analytics and marketing automation tools, including traffic analysis, user segmentation, behavioural analytics and predictive models. It also enables clients to easily personalise their web page.
- Predictale is a start-up delivering insights based on business intelligence (big data analysis). Outputs include predictive models, data visualisation, risk management and consulting.



Data and analytics

Market outlook

Subsegment outlook

It is expected that the data and analytics sector in Slovakia will grow to deliver sophisticated solutions that enable customer data analysis and the ability to put the big data collected into operation (such as in the form of targeted marketing tools). Banks are increasingly interested in exploring this field, both to increase revenues and to minimise churn by offering a better alignment of product offerings with actual client needs.

Competitive landscape

Banks use data and analytics services provided by large and smaller players alike. There is, however, a strong local 'touch' to the services they buy. It seems that the market is not saturated as yet, meaning that new companies can enter it to provide banks with specialist offerings.

Key barriers



To date, it is mostly the banks alone that are generating demand for analytical services



Local companies have already found their niches in the Slovak market

Other software

Recent developments

Quality above quantity

Although not many Slovak companies provide finance-management solutions, successful start-ups include:

Archiles: enables automatic data entry into accounting systems. Its software simplifies the sharing and approval of documents between accountants, managers and owners. The solution automatically detects the missing data while systemising documents. As each received invoice has a unique QR code, payments can be made easily, even with a mobile banking app. Archiles automatically generates a spending and cashflow Overview from invoices and receipts. The company was named the Best FinTech Startup 2015 in Slovakia by The Central European Startup Awards (CESA).

Datamolino: automatically captures key data from invoices, bills and receipts and sends it to Xero or Sage One (to which Datamolino acts as an add-on). Captured data includes not only key numbers but also descriptions. The software is coupled with a mobile app which enables accountants to process invoices on the go. All client folders are organised in a neat dashboard to facilitate data management. Soon after its launch, this B2B start-up has received EUR 0.5 million of seed capital¹⁶⁸. The company is planning to accelerate its growth by integrating its system with other relevant B2B software packages that target SMEs.



Other software

Market outlook

Subsegment outlook

Automated and robotic finance management is not as yet popular in Slovakia. However our observation of the start-up stage and investments made in budding companies (Archiles, Datamolino) suggests that there will be more interest in this area in future. It is also possible that international companies will expand into Bratislava.

Competitive landscape

So far, only a few companies are focusing on the optimisation of finance management processes. However, these come from Slovakia and are planning to extend their service offerings, including through integration with dedicated B2B software for SMEs. This might give them a significant competitive advantage.

Key barriers



The Slovak market is small (around 400,000 companies) and is already being targeted by local companies

SLOVENIA



FinTech market outlook

Deloitte expert opinion

The story of the Slovenian FinTech market is about two speeds. On the one hand, there are incumbent players in the banking market that for the past few years have mostly been pre-occupied with restructuring; these are just returning to profitability. Alongside them are traditional insurance providers that floated with the market and felt no external pressure to transform; these insurers are posting record profits.

On the other hand, a very innovative and vibrant start-up community has its eyes set far beyond the Slovenian border and is poised to conquer the global market.

A great example of Slovenian inventiveness and desire for change is Moneta, a joint venture between the second largest bank and the largest telecoms operator. It was way before its time when it started operating in 2001, using GSM technology to enable users to use their mobile phones as mobile wallets to pay for services. (Remember, the first iPhone only enters the scene in 2007.) However, technology has evolved, and even this system today needs an upgrade to catch up with the latest trends.

More recently, Slovenia entered the global FinTech scene as a provider of Bitcoin technology with Bitstamp - the largest new Bitcoin exchange to emerge for some time. Such leadership, in turn, is allowing other providers to gain international recognition.

A completely different story is that of mBills from the nationally recognised Halcom provider of core banking core systems and applications. The company recently set up mBills as an independent mobile bill-payment platform; this works as a mobile wallet, thereby entering a new niche that competes directly with banks for the payments market.

Such activities, together with the impact of global forces, are pressurising banks and insurance companies to transform their business model so they can cater for the more tech-savvy consumer. A number of changes are already underway. Due to the small size of the market, Slovenia has not been a prime target for foreign players. But as technology becomes more available and domestic players gear up for change, consumers can expect the landscape to change significantly in years to come - both in terms of new providers and existing providers that change the way they co-operate. This should bring both sides of the split Slovene market to operate at a more similar speed.



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Innovations in the banking sector

Recent developments

The parallel growth of Fin and Tech

Most established banks in Slovenia are showing signs of technological maturity. Their offerings include popular innovative solutions such as contactless cards and e-invoicing, while their products are distributed via well-established channels (branch, online and mobile). Customers have access to native mobile banking applications with commonly utilised functions that include reviewing the current account and credit cards and making payments.

In general, banking systems for e-banking, the inter-bank clearing system, mobile payments, CRM and BPM are developed by local players. Foreign-owned banks tend to work with global systems providers. Despite the small size of the Slovene market, one local player has managed to succeed in the sector: HRC has developed a central banking system called Hibis, modules of which are in some ten Slovenian banks as well as two banks in Croatia.

Paperless invoicing

More than 90% of Slovenian companies can issue and receive invoices in electronic format through their e-banking systems¹⁶⁹. An e-invoice is generated and forwarded to the recipient via the dedicated E-Invoice System, which was implemented in 2011 by Bankart (a local ICT provider and cards processor) in collaboration with local banks. The harmonised system allows banks and the Public Payments Administration of the Republic of Slovenia (UJP) to circulate electronic invoices to and from their clients using their own solutions,

such as electronic banking services or accounting systems. E-invoices are exchanged between the clients of different banks and the UJP via the so-called “central processor”, which is operated by Bankart. Data is exchanged based on the national e-invoice standard (eSlog XML), which is rooted in the international GS1 standard with PDF visualisation.

Advanced Automated “Tele” Machines

Due to the transition of customers away from traditional banking channels to online alternatives, banks have started seeking opportunities to decrease the operating costs of their bricks-and-mortar businesses. However, they need to keep in mind that some customers are accustomed to physical outlets. The solution has come in the form of advanced ATMs equipped with systems that allow users to carry out common operations that traditionally have been reserved for branches, such as:

- Payment orders - customers pay by dedicated payment order without the need for an operator, and immediately receive a slip with confirmation of payment. Payment is debited directly to the transacting account of the card holder, and the processing fee is debited the following day.
- Cash deposits - clients can simply insert banknotes into the slot, with funds deposited via ATM immediately available in their transaction account. ATMs also facilitate banknote control including counterfeit identification and quality testing.

Such functions are available via ATMs of the biggest banks in Slovenia (eg NLB, NKMB and Abanka).

Key points

- ✚ The inventiveness of Slovenian banks is average, based mainly on solutions already popular in most banks in Western Europe (mobile, contactless cards etc)
- ✚ Among local banks, IT systems, both core and those supporting the banking business (such as BPM, e-banking and CRM), are mainly provided by local players
- ✚ In the case of foreign-owned banks, such systems are implemented by global players
- ✚ Many ATMs in Slovenia facilitate those basic banking operations which are usually performed in branches (especially by non-online users)



90%

of Slovenian companies
can issue and receive
invoices in electronic
format through their
e-banking systems

Innovations in the banking sector

Market outlook

Subsegment outlook

As most well-established banks in Slovenia have already built digital (mobile and internet) channels, they are probably set to concentrate on further adopting innovative solutions that already exist in more developed markets (such as personal finance management, biometrics and real-time analytics). Some of this is already implemented (e.g. fingerprint identification), more will likely follow in the coming months. Small and medium-sized banks that are owned by international banking groups will potentially try to catch up and gain market share by leveraging digital channels to deliver responsive online banking and / or native mobile applications.

Local IT systems providers will continue to develop their BPM, CRM, e-banking and m-banking offerings to satisfy growing demand from banks and support the continuous development of existing systems. Doing so will also help to hinder the entry of foreign players into the solution-stack market for Slovenia's banks.

Competitive landscape

Most banks in Slovenia deliver services through mobile and internet channels. When building non-core banking solutions (such as BPM, CRM and e-banking platforms and front-ends) Slovenian banks tend to work with local rather than global IT systems integrators.

Key barriers



The biggest banks tend to work with local IT systems providers, which could potentially restrict business opportunities for global companies



The small market size may constrain banks' investment in technologies supporting new product development

Payments

Recent developments

Phone number payments

It seems that most news about mobile payments addresses similar areas: smartphones, NFC, e-wallets etc. The situation is different in Slovenia, where in 2001 a new payment scheme - Moneta - emerged from a joint-venture between a local telco (Telekom Slovenije) and a bank (Nova KBM bank). This scheme does not require NFC or any hardware or apps to be added to the user's mobile. Any cell phone is good enough, even one produced 10 years ago. Although it is debatable whether or not smartphone penetration will ever reach 100% (due, for example, to the need for models featuring larger digits for elderly people), the technology may need an upgrade to allow additional features to keep it up to date with the most recent trends in payments.

The payment process has been simplified to the maximum. All the user has to do is dial a number and place the phone near a special terminal. Moneta can be used both as a mobile operator's and a bank's service. In the former, the payment is charged to the user's phone bill. If Moneta is used as a banking service, using the phone is similar to using a debit card. The solution can be used as a payment method in mPOS, vending machines, e-commerce, telephone sales, SMS payments and more. At the time of writing, Moneta is available at over 1,000 points of sales across Slovenia.

Although Moneta was a pioneering solution at launch, some technological amendments may now be needed to stay in line with current innovations in the payments area.

Bill settlement in two clicks

Two-thirds of Slovenian consumers pay their bills in banks, post offices etc.¹⁷⁰. Those figures were the basis for the development of the Hal mBills mobile application, which aims to eliminate all effort from monthly bill payments. The app was manufactured by Halcom Placila (the first Slovenian company with a license from the Bank of Slovenia to issue electronic money and make payment transactions) and serves as a mobile wallet. For issuers participating in the systems (including telecoms, utilities, insurers and media businesses) the app enables the automatic download and payment of e-invoices with just a few touches of the screen. For invoices distributed by issuers that have not joined the scheme, the app provides the Photo Pay function. By taking a picture of a payment order, data is recognised (through OCR functionality) and directly transferred to Hal mBills. If not recognised properly, data can be entered manually. The app is secured by a PIN code.

Additional functions cover personal financial management, including an Overview of paid and unpaid bills and funds transfer via telephone number. Transfers are free and independent of the user's bank account.

Key points

- ✚ The Moneta mobile payments scheme allows customers to use outdated mobile phones thanks to the data-transfer technology (GSM / UMTS network)
- ✚ As well as traditional bill-settlement methods (such as in banks and post offices) Slovene consumers are also provided with a dedicated mobile app in the form of an e-wallet that allows them to make semi-automated bill payments
- ✚ Slovenia has emerged as a CEE Bitcoin hub thanks to many start-ups providing platforms for Bitcoin transactions or trading. Payments in Bitcoins are spreading due to increasing number of merchants accepting this crypto currency



A Central European Bitcoin hub

With around 35,000 inhabitants using each retail location where consumers can spend their Bitcoins⁹¹ (54 merchants), Slovenia ranks second in the global league table of Bitcoin merchant adoption (after the tiny Isle of Man, which has three merchants serving its population of 85,000¹⁷¹.) Moreover, Bitstamp, one of the most prominent Bitcoin exchanges, was set up in Slovenia (although operations have now shifted to the UK). The platform had a 16% share of the total Bitcoin market trading in USD between October 2015 to March 2016¹⁷². The power of the hype surrounding cryptocurrencies in Slovenia is quite evident, as some nine other start-ups also come from this country, including Grecom, Krip.to, Bitnik, Cashila and Gatehub.net. The last one is based on Ripple - one of the largest cryptocurrencies globally - and offers an analytically-driven platform for Ripple trading.

In 2013, Slovenia hosted the first Central and Eastern Europe Bitcoin Conference. In the same year, the Slovenian Ministry of Finance issued a statement regulating the status of Bitcoins. According to this, sellers of Bitcoins (such as platforms) are exempt from paying tax, but Bitcoin miners (people processing transaction records to Bitcoin's public general ledger) are not.



Payments Market outlook

Subsegment outlook

Although Slovenian customers have access to Moneta, a non-banking payment solution that does not require NFC or any dedicated mobile app to support mobile payments, new and more advanced payment solutions will in time reach the market. These will potentially be based on HCE or developed by other globally renowned providers like Apple Pay or Google Pay.

Slovenia's wide adoption of Bitcoin-enabled POS (the country has the world's second biggest per capita penetration of Bitcoin-enabled outlets) may facilitate the implementation of mobile wallets based on the Bitcoin cryptocurrency. Slovenians appear keen to use Bitcoins as means of value exchange, and we predict further infrastructural development.

Competitive landscape

Slovenia is seen as the CEE region's Bitcoin hub, thanks to the widespread adoption of infrastructure supporting Bitcoin payments (in shops, barbers etc.), industry events facilitating the development of the cryptocurrency and many start-ups providing platforms for Bitcoin exchange.

However, standard and instant payments are not to be neglected in the coming years. Due to the arrival of PSD2 banks will have to open customer accounts to 3rd parties, so innovation in this area is expected.

Key barriers



The small population limits the profitability of payment businesses



Rigid technology in banks may limit open access or cause delays

Capital raising and personal finance

Recent developments

Non-factoring invoice financing

Following the success of the US-based Receivables Exchange, a number of similar start-ups have emerged in other countries. Slovenia's Borza Terjatev is the first marketplace for trading receivables in the CEE region¹⁷³. The platform brings together companies with unpaid trade receivables looking for hassle-free financing and financial investors seeking investment opportunities with 15-20% gross annual returns¹⁷⁴. Demand for this type of marketplace has emerged due to the deteriorating condition of the Slovenian economy, which has been suffering from a hostile post-crisis environment. The technology behind the platform provides a real-time stock marketplace, including all necessary administration – the settlement of transactions, credit transfers, notifying debtors and the monitoring of receivables until the final repayment.

Investors can conduct transactions, either by manually choosing a specific receivable, or semi-automatically by defining boundary values within which the automated trader performs the deal.

Before the opening of Borza Terjatev investing in trade receivables had been the preserve of factoring companies. Any listed claims are pre-tested, certified by the debtors and supported by the Bisnode business information agency.

Tracking personal finance



Nowadays, people do not actually need savvy financial assistance to help them in handling their investment budget. For most, it would be enough to have a couple of mobile apps facilitating the timely settlement of bills, ensuring

that purchases are smart and that savings for the future are available. While more and more European banks and credit unions are adopting their own personal finance management modules, meaning their customers need no additional relationships, few of these are available in Slovenia. Nonetheless, market space has emerged for two well-recognised so-called personal finance management mobile apps:

Toshl Finance - winner of The Europa award for Best Commerce, Finance or Payments Start-up and recognised by The New York Times as "...one of the hardest to beat".¹⁷⁵ Its business model is based on a "freemium" scheme (meaning both free and paid versions are available). Along with many functions shared with the free version (such as adding an expense in a few clicks and visualisations including monthly Overview, expenses and income and tracking the locations and amounts where spending takes place), the paid version additionally offers an unlimited number of accounts to be serviced (such as cash, bank account, credit card, Bitcoin wallet, PayPal etc) and the ability to photograph a receipt or the item itself.

The other business model is that of Moneyrebel - a seed-phase Slovenian start-up - which plans to generate revenues from three sources: (1) by offering a personalised marketing tool for big players; (2) by converting users to clients for real advisers (using a list of preselected real advisers that clients can contact directly from the app); and (3) in-app purchases.¹⁷⁶ This app stands out thanks to functions allowing contact with a real personal finance planner on the app layer. It will help with preparation of a custom-adjusted personal financial plan, and even to build a client's own investment portfolio.

Key points

-  In a time of decreased access to financing for SMEs and payment backlogs in the real economy, mid-sized Slovenian companies are starting to exchange their receivables on a dedicated marketplace
-  A lack of personal finance management functionality in Slovenian e-banking systems and mobile apps has helped two local start-ups to grow in this field by offering their own PFM mobile solutions

Capital raising and personal finance

Market outlook

Subsegment outlook

Market turbulence brought about by the financial crisis caused payment backlogs and restricted financing for SMEs. These conditions accelerated the development of CEE's first invoice exchange platform. It seems likely that the numbers of P2P finance-related marketplaces will increase in years to come, driving the expansion of this kind of business model. However, the strong competitive position of the market leader - Borza Terjatev - will probably be hard to replicate.

A lack of personal finance management facilities within banking transaction services in Slovenia has supported the dynamic growth of two globally-recognised Slovenian start-ups (Toshi Finance and Moneyrebel). Positive publicity for such tools is likely to reveal to the banks the deficiencies of their own offerings, which might lead them to set up partnerships with existing providers. Alternatively, banks could decide to build such functionality from scratch.

Competitive landscape

There is one undisputed leader - Borza Terjatev - in the market for receivables digital exchange platforms. The PFM market is relatively saturated, with two globally-recognised (Toshi Finance and Moneyrebel) solutions in place. Several banks have not yet implemented PFM functionality within their transactional systems.

Key barriers



The small market size in terms of customer numbers could prevent the potential entry of foreign players offering non-banking credit products



Heightened investment risk resulting from low interest rates and the high ratio of non-performing loans (NPLs) could hamper the development of new platforms for raising capital

Business Opportunities



AUSTRIA



Capital markets

Solutions and social platforms supporting individual investors are on the rise. Austrians are conservative but have savings and are on the lookout for yield, particularly given the extremely low interest rates provided by traditional savings products. Further education about the markets will develop the niche investment product segment and might create opportunities for more FinTech entrants.

Insurance

Insurance is an important sector for conservative Austrians. However, few FinTech solutions have to date been market tested. This may provide the opportunity innovative entrants are seeking to lure customers away from established players with long traditions. Partnerships and collaboration with incumbent insurance companies may also prove successful. Solutions that are currently popular include insurance comparison engines and online insurance providers. Digitalization and user experience are fields with clearly unexploited potential in the sector.

Payments

The Austrian payments market is catching up with innovative solutions from other CEE countries. An initiative to popularise mobile payments is spreading across the country, creating a promising area for new entrants. Already popular m-payments will be further developed and enriched with additional functionalities. E-wallets are gaining particular attention from the market. There is room for improvement in the field of free-of-charge applications, as most available solutions are currently payable. While most innovations will probably be driven by banks and established players, as Austrian customers are highly conservative, potential is emerging for collaboration between large companies and FinTech entrants.

AT

HR

CZ

HU

PL

RO

SK

SI

BULGARIA



Banking

As most banks in Bulgaria belong to global financial groups, their technology stacks – especially the core banking systems – will be based on group-level solutions. To get onto the banks' lists of potential vendors, software providers and systems integrators therefore may need to focus on software that streamlines and facilitates current areas of interest to banks. These include security and quality management.

It appears that digital channels, especially mobile applications, are relatively unexplored by the banks. This means there is a clear-cut opportunity for systems integrators implementing digital banking solutions. To meet with the banks' requirements, IT companies need to provide native specialists and cost-effective solutions. These should cater for basic functionalities following the roll-out of the first version, consequently extending their facilities via an upgrade path.

Insurance

Growing numbers of mergers and acquisitions, and the increasing digital awareness of Bulgarian people, are likely to reveal new business opportunities. Systems integrators can help during the post-merger process to integrate two separate IT architectures and, in parallel, to build up new digital capabilities. As the competencies required to run such projects need to be extremely comprehensive, from programme management to in-depth business analysis of insurance processes and designing the user experience, partnerships are likely to be necessary. In these times of long-lived, heavy-weight legacy insurance systems, IT companies need to consider a new approach to developing innovative and cost-effective solutions by seamlessly integrating with modules in the current technology stack that concentrate on particular pieces of insurance business.

Capital raising and personal finance

Due to low public trust in banking, people needing credit that exceeds their credit score are not keen to visit a branch. Although some regional players are already operating in the Bulgarian market (including 4finance), there is still much untapped market potential. By providing fully digital services with favourable interest rates and competitive costs of provision, new entrants could potentially find an unoccupied niche to attract current bank clients and the unbanked alike.

CROATIA



Banking

As some of the smaller banks have not as yet implemented fully digital access to banking services (such as internet, mobile or wearables), there is still an opportunity for locally-based players who can offer native-tongue services at a lower cost than the globally-recognised incumbents.

To succeed in the system integration services market, foreign players should establish partnerships with those local companies that are currently the main providers of outsourced system-development and maintenance services.

Capital raising and personal finance

Despite Croatia's small market size, there is potentially scope for companies to offer fully digital, cost-effective personal loans. A well designed and user-friendly online portal that is attractive to so-called Millennials would be mission critical. Another important factor is the integration of client-facing systems with the back-end layer, the decision engine and transactional system in particular. Only then will the end-to-end process, from request to disbursement, be as smooth as possible.

Cybersecurity

Financial institutions are aware of potential cyber threats and appreciate the positive image created by treating them seriously. They will therefore maintain their investments in cybersecurity systems and services. To satisfy demand, potential system and service providers should concentrate on innovative, light-weight solutions that offer a rapid time-to-market. In line with the continuous development of more product-related systems (such as digital banking and CRM platforms), banks will continue to seek new technologies to improve the security of front-line transactions. Those will include new means of authentication, such as those enabled by biometrics. No customer-facing means of protection should get in the way of a good user experience.

CZECH REPUBLIC



Banking

Seeking innovative and user-friendly new technologies, financial institutions are likely to direct their attention towards FinTech start-ups, most often with a view to applying a partnership model. As banks are starting to leverage cloud-based technologies more and more extensively, it is crucial for FinTechs to offer products using the SaaS model. However, security concerns mean that on-premises solutions will be still the only choice for some banks. In this age of the open API economy, and upcoming PSD2 directive, financial institutions are starting to reconfigure their IT architecture to allow seamless integration with business partners.

Payments

Thanks to the rapid growth of the e-commerce market, along with a well-developed and widely spread POS infrastructure, payments facilitators are on the rise. These include providers of contactless cards and mobile / internet applications supporting e-shopping. Growing transaction volumes will increase the revenues of current players and attract new ones. Despite the high levels of innovation embedded in current payment-related solutions, there is still space for new entrants; this could offer even more open ecosystems, with the potential for easy integration following PSD2 implementation, possibly leading to solutions like an e-wallet with PFM facilities aggregating information from customers' current accounts.

Data and analytics

In the age of digital customers, it will be essential for financial institutions to optimally localise their physical branches. In doing so, they will potentially enhance their branch-optimisation projects with the use of specialised systems based on geolocation and big data analysis. Other issues will revolve around tracking customers' social media activities. As unstructured data like posts on the Facebook wall is harder to analyse than typical numbers, solutions facilitating natural language analysis will be on the rise. The big topic is contextual and real-time marketing and product offering, that uses structured and unstructured data to create the most convenient and effective way for selling and upselling products.

HUNGARY



Capital markets

The key business opportunity in this sector lies in the ability to educate the market, broaden the range of investment products available to Hungarians and provide tools that support informed trading. Online wealth management is an as yet unexplored area of the financial sector in Hungary, meaning the ability to service the wealthiest population segments is entirely in the bankers' domain. There is an opportunity to fill this gap, with relatively low capital investment required. It appears that Hungarians lack analytical tools for supporting individual portfolio management.

Insurance

Despite the low level of digitalization, the insurance sector offers opportunities to new entrants. Telematics has already been introduced to the market with good effect. Further launches will ensue, potentially extending the use of data analysis in calculating premiums and cross-selling options as well as targeted marketing campaigns. Insurers are also trying to make their offering easily available via various channels, with payment processes that require minimum effort on the part of customers. Although IT budgets are tight, back-office optimisation and process digitisation should still be treated as necessary expenses in the years to come.

Payments

The Hungarian payments market is ready for world-class innovation. However, customers need to be educated about the benefits of the latest innovations. As only about 10% of cards are contactless, it might be difficult to revolutionise the way Hungarians pay in the short term. There is strong potential in the area of multifunctional payment apps, but so far all attempts have been rejected by users. New market entrants will need to face strong competition from MobilTarca (a country-wide NFC-based payment solution). Interestingly, Hungarians are favourable towards Bitcoin-based payments, providing another possible entry channel for international players. However, so far the demand has been noted in the capital city (Budapest) only.

POLAND



Insurance

Despite the somewhat non-transactional character of insurance services, which are based mainly on a one-time meeting with a broker, insurers' clients should eventually start to require a complete digital experience during the purchase of a policy. To meet this upcoming challenge, insurers are starting to build mobile applications, which will enable actions like making a call for help in an emergency or buying a new insurance package. When you consider that most of the insurance technology stack is legacy-based, it is clear that FinTech companies should concentrate on nimble, modular and easily integrated solutions. This feature could attract the attention of executives, who tend to seek quick time-to-market and cost-effective solutions. Hype around the Internet of Things trend will probably change insurance before any other financial sector, because of pay-as-you-drive products. Potential market space should be seen for sensor-makers and mobile-application providers.

Data and analytics

As big data is a buzzword for every IT and business employee, it seems that demand should surge for solutions supporting the analysis of structured and unstructured packages of data. What may change is the approach to implementation of such systems. They could become more nimble and easy-to-integrate, mostly cloud-based (Big Data-as-a-Service). Data will be gathered from social media activity, Internet of Things (IoT) sensors, internal systems and external databases. It should be used as leverage for behavioural analysis, building pricing models and process optimisation initiatives.

Payments

A high-volume, low-margin payment business will require a large volume of transactions to ensure profitability. As the largest market within the CEE region, Poland would seem to be the best place for setting up new initiatives. On the other hand, most innovative technologies (such as HCE) have been already tested and enthusiastically welcomed in Poland. New initiatives could therefore comprise global technologies that have not yet been implemented in Poland. These include Apple Pay, Google Pay, Samsung Pay and Google Wallet. Some emphasis may be also put on the blockchain distributed database technology, which may have potential for decreasing the costs of foreign currency exchange (which are still relatively high despite the implementation of new interchange regulations).

ROMANIA



Banking

Banks in Romania are interested in the latest innovations, especially those related to improving user experience. Aspiring entrants will however need to face low take-up of online banking and a negligible mobile banking customer base. Even state-of-the-art solutions may not gain popularity until the market starts to place trust in digital banking channels. Companies may partner with banks to deliver improvements across the entire customer journey. However, they need to be prepared to prepare tailor-made solutions for the exclusive use of individual banks who feel protective of their competitive edge.

Capital raising

The market for consumer lending is certain to develop in years to come, providing numerous opportunities for new entrants, including those from abroad. It is also possible for newcomers to tap into the market as intermediaries in consumer lending, provided they seek sufficiently low margins for their services and deal with above-average risk on customers.

Payments

The payments landscape is diversified but there is a long way to go in terms of top-tier innovation. Mobile payments, based on NFC or HCE technology, have not as yet caught on widely and might have difficulty doing so. There is however room for an improved customer experience when paying utilities (including public transport), and the more widespread use of mobile apps is expected in this area. It will be important to offer a solution that is not only easy to use but also cost-efficient for merchants. It is also expected that in future a single payment solution will conquer the market by combining numerous functionalities and technologies.

There is a special spot in the Romanian market for multifunctional ATM machines, which are sure to continue acting as a substitute for branch visits. It is possible to drive further development of these, eg by offering more services like loan application and integrating ATMs with mobile devices.

SLOVAKIA



Banking

As Slovaks are open to innovation and eager to try out novelties, it should be relatively easy for companies to successfully launch state-of-the-art FinTech solutions. So far, Tatra banka has been an unquestioned leader, which positions all other players as good potential targets for FinTech companies. Customers are likely to welcome personal finance management applications, the use of biometrics, digital links to ATMs and mobile payments using NFC or even HCE technologies. In addition, we expect that 'extras' will not go unnoticed. Slovaks are aware of the potential lying in IoT-related solutions (smart watches and Google Glass, for example). Slovaks have historically tended to set trends in the area of digital banking, and may also prove to be leaders in adopting virtual reality to manage their finances.

Other software

SMEs everywhere are looking to cut costs and focus on their core activities, leaving the administrative burden in others' hands. In Slovakia, these hands could soon be robotic. In addition, in today's business environment it is increasingly important to strive for a 'zero mistakes' policy when it comes to completing tax forms and customer invoices – and this calls for automated solutions. The wide usage of OCR technology is certain to take Slovakia a huge step forward towards achieving a paperless environment. With minimised effort, finance management could become intuitive and require little human input. Accountants will soon be able to become part of the always-on workforce, able to work anywhere and with strong technological assistance.

Data and analytics

It is important that Slovak banks properly analyse the data gathered about their customers and actively use the resulting insights to grow profits. Demand will therefore be strong for software enabling real-time and predictive analysis. Non-banking institutions may also prove to be interested in the bold use of big data - credit rating institutions and insurers spring to mind. Customised offerings and targeted marketing campaigns seem to be the last piece of the puzzle, completing the picture regarding Slovakia's innovative world of finance. With existing IT companies and startups open to collaborate, this innovation cluster is more than favourable to FinTech companies looking for new opportunities.

SLOVENIA



Banking

As banks tend to work with local IT system integrators when implementing non-core-banking and business-side systems like BPM and CRM, such firms could potentially concentrate on offering innovative and seamlessly integrated solutions. Such systems will need constant development to stay in line with the changing business environment, so close partnership with internal IT and business teams is essential. Banks, medium-sized and low-tier players in particular, will consequently build mobile channels on their digital platforms. While they will probably create basic functionalities like bank transfer and account balances at first, all banks will eventually offer a full digital experience, including an end-to-end process for personal loans.

Capital raising and personal finance

A lack of PFM functionality in banking transactional systems could potentially create opportunities for companies that develop this kind of solution. Assuming that digital banking platforms allow integration with external PFM modules, banks may be able to cut time-to-market by using existing solutions. This may potentially be a business opportunity for FinTechs specialising in PFM application development. Alternatively, if an online / mobile banking platform is nearing the ability to integrate with external solutions, systems integrators could offer support by building functionalities from scratch within the existing solution stack.

Payments

Although Slovenia is the smallest market in the CEE region in terms of population, its payment services are quite developed. However, its mainstream Moneta solution is based on somewhat out-dated technology. To remain aligned with the regional market, a shift towards more advanced payments technologies is inevitable. These would probably involve the HCE or e-wallets applications provided by Apple or Google or some local FinTech company. As citizens have already become used to m-payments, the roll-out of new solutions would appear to be straightforward and rapid. Some players may seek opportunities in the provision of a new payment infrastructure, adjusted to support emerging solutions.

Conclusions



AUSTRIA



Market conditions

Austria's wealthy population with a high level of financial education constitutes an absorbent market

Austria is a conservative society that prefers traditional financial services to newer alternatives (before they become market standard)

Established financial technologies

Both the Austrian banking and insurance sectors are dominated by local players

IT banking solutions market is dominated by companies, which are themselves part of banking groups

FinTech companies provide Austrian banks with information and payment systems, online banking platforms and solutions improving communication with customers

Similarly to the banking sector, the biggest insurance players in Austria use services provided by their own IT companies

FinTech companies compete with established players in Austria in introducing such solutions as branchless mobile banks and banks entirely managed by smartphone or business current accounts

Only a few FinTech companies operate in the Austrian insurance sector

Solutions for individual investors provided by FinTech companies are on the rise in the areas of Asset management and capital markets

Emerging financial technologies

Austria is catching up with the latest payments solutions, such as contactless payments and e-wallets, that are already popular in other CEE countries

Alternative forms of capital raising are gaining popularity in the face of reduced lending by banks after the crisis

The country's only well-known PFM solution is delivered by a bank

The data and analytics market in Austria is mainly served by established players (like IBM and SAS) rather than smaller companies

A number of consulting firms in Austria provide ad hoc data and analytics services. There is a shortage of automated solutions facilitating on-going data analysis and reporting

BULGARIA



Market conditions

The IT sector is forecast to yield some 2% of Bulgarian GDP in 2015, following four consecutive years of double-digit growth

The low technological maturity of Bulgarian society (as measured by smartphone and internet penetration), along with weak domestic demand and low average incomes, could potentially slow down the development of the FinTech sector

Established financial technologies

Most banks in Bulgaria have e-banking systems, although online banking penetration is still very low

Most IT development in the Bulgarian banking sector is outsourced to local vendors

Banks are focused on mobile technologies, CRM systems, data and analytics solutions and virtualisation

Most banks in Bulgaria are just starting to implement innovative products and services such as HCE, personal finance management applications and accounting services within the e-banking system

Bulgarian company Fadata is particularly well known in global markets for IT systems dedicated to the insurance sector

Bulgarian insurers understand the need for digital transformation and automated sales processes. Mobile apps designed to be useful in emergency situations have already gained popularity among established insurance providers

Emerging financial technologies

Strong growth is anticipated in the Bulgarian payments market

The second largest telco in Bulgaria - Telenor - is offering its customers an e-wallet that uses NFC technology to help them pay bills and more

In order to support increasing number of citizens living abroad, a Bulgarian-based FinTech company - Cashwave - is providing an innovative solution that enables cross-border remittance through the use of gift cards

One of the eco-focused crowdfunding platforms - Green Hero - that are gaining in popularity is based in Bulgaria

A Bulgaria-based startup - Klear- is offering a unique solution based on the combination of a personal finance management tool and a P2P lending platform. The idea is rooted in the concept of providing financial education to people who are in debt

CROATIA



Market conditions

A low level of internet inclusion and limited domestic demand may impede the development of the Croatian FinTech sector

The most recent asset quality review (AQR) and portfolio screening have confirmed the resilience of the Croatian financial sector

Established financial technologies

The biggest bank in Croatia (Zagrebka banka) is also one of the most innovative. It offers a solution that enables mobile payments in Croatia's biggest retail and the country's first comprehensive electronic PFM service portfolio

Despite the foreign origins of key banking players and global vendors, local players provide a considerable share of core IT systems in Croatia

Even amid the growing popularity of online banking, Croatian customers still depend on bricks-and-mortar banking facilities. Online banking penetration is among the lowest in CEE

IT development in the insurance sector is based on in-house departments and solutions provided by established local and regional vendors

Although FinTech solutions dedicated to the insurance sector are becoming more and more popular, the market is still at an early stage of development

Emerging financial technologies

HCE technology is on the rise. Croatia's second biggest bank (PBZ Group) has introduced this technology for its VISA and American Express cardholders

A unique FinTech company has been established in Croatia. This is Oradian, which delivers SaaS-based IT systems that enable the creation of a microfinance institution in a few days. The company is aiming to help less developed countries in their fight for global financial inclusion

Cybersecurity solutions are mainly delivered by local players. Customers have a high level of confidence in Croatian banking services

The Croatia-based Poslovna inteligencija is one of South East Europe's leading suppliers for implementing analytical systems

Croatia has CEE's highest proportion of enterprises that use cloud services

CZECH REPUBLIC



Market conditions

The Czech banking sector is in a healthy position – for the past five years, the capital adequacy ratio has been over 15% and ROE above 16%. The results of stress tests have highlighted the Czech banking sector's high degree of resilience to liquidity shocks

Established financial technologies

The Czech banking sector can be considered one of the most innovative among all CEE countries

Czech banks use services delivered by both global and local players. These are mostly established vendors rather than smaller companies

A start-up supporting the rapid growth of the FinTech market has been established in the Czech Republic. SDK.finance provides back-end software for the rapid implementation of any FinTech product, from e-wallets and lending platforms to loyalty programmes

Czech banks are recognising biometrics as the emerging global trend at the heart of authentication security solutions

The banking sector is implementing PFM tools that are based both on in-house and off-the-shelf solutions delivered by start-ups

Emerging financial technologies

The increasing popularity of online shopping is supporting the development of integrated payment solutions (all online purchases made on credit are gathered and repaid in a single click-and-done action)

Several innovative Bitcoin-related solutions have originated in the Czech FinTech market, including a display device that enables offline payments using Bitcoins

The P2P lending market is relatively well developed, both for individual borrowers and small and medium-sized companies. There are also numerous Czech-based crowdfunding platforms

In the age of digitalization, cyber security is gaining in importance. The market for security solutions is divided between global players and local firms

In the area of data analytics, although Czech banks tend to use solutions delivered by global players, local providers are also relatively mature. There are success stories of remarkably fast growth among Czech-based data analytics companies

So-called RPA (Robotic Process Automation) software is gaining more and more attention

The Czech-originated SPD data format is widely used in the digitalization processes of paper invoices

HUNGARY



Market conditions

Hungary is a popular target country for foreign investors – FDI net inflows amount to 9% of GDP (the highest proportion of all CEE countries)

The level of ICT specialists as a proportion of the employed population (4.9%) is the highest among CEE countries

The banking sector is severely constrained by a large non-performing loan (NPL) portfolio (25%) comprising FX-based mortgages that consumers are unable to repay due to the depreciation of the HUF

Established financial technologies

The biggest Hungarian bank (OTP) is also a leading innovator, with the rest of the pack lagging behind in terms of technology

IT solutions are delivered mainly by large, established, international vendors

The banking sector is expected to grow in years to come. As a result, the IT domain in banks, which to date has been deeply under-budgeted, may expand and enable more ambitious investments to be made

The insurance sector is still not set to digitise, although there is use of telematics within the market

IT budgets in the Hungarian insurance sector are usually allocated to solutions provided by large vendors

The National Bank of Hungary has issued a recommendation designed to ensure that the details of insurance products available on mobile devices are comprehensive and user-friendly

Emerging financial technologies

A monthly cap on free ATM cash withdrawals and the growing number of POS outlets that accept card payments could encourage Hungarians to switch to electronic forms of payment

Slow but stable growth in m-commerce and the dynamic development of the e-commerce market might be important factors in shaping the future of payments in Hungary

Six major Hungarian service providers have formed the Hungarian Mobile Wallet Association, an organisation aiming to support the development of NFC-based payment solutions

So far mobile payment apps have not found favour with the Hungarian market

Although the Bitcoin digital currency technology has not as yet gained much popularity in Hungary, there are instances where it is supported by the markets

Under Hungarian law, the right to lend is exclusively restricted to the banks

Most cybersecurity solutions are provided by global vendors. Specialist Hungarian companies develop software for export

POLAND



Market conditions

Companies benefit from the large domestic market – Poland is the sixth-largest EU country in terms of population

The government has set up 14 Special Economic Zones, locations dedicated to investors where business activity is coupled with preferential conditions such as tax relief and the strong support of municipalities

The activities of regulatory authorities can hamper innovation in the financial sector (in areas including cloud computing, non-bank personal lending and bancassurance)

Established financial technologies

In recent years, Poland has become a regional leader in technologically advanced, pioneering solutions in the banking sector

In response to shifting customer behaviour, particularly the strong preference for self-service over branch visits, banks have been forced to develop their digital offering

Polish banks are CEE leaders in terms of innovation. Key players follow digital market trends and deliver a high-quality user experience backed by smart functionality

The vast majority of solutions for banks are developed in-house or delivered by large IT vendors in the form of customised solutions

Evolution of insurance-related technologies will drive the development of the Polish insurance sector in the years to come

Internet of Things and gamification are two key trends in Polish insurance sector

Emerging financial technologies

The Polish payments market is highly innovative, rapidly adopting the latest technologies. Recent developments in the payment market include promising niche solutions such as e-money or loyalty programmes integrated with payment cards

Polish banks are tapping into the payments market with joint initiatives like m-payment systems and a planned national payment card

Demand for consumer loans in Poland is rising and lending platforms are gaining momentum

Cybersecurity is becoming increasingly important as the number of cyber-attacks is soaring. Banks usually choose established vendors for security products

The Polish banking industry is mainly focused on basic issues related to data quality, although some players are ready for more aggressive expansion into data and analytics solutions

Large vendors are the most popular providers of analytical solutions. In the case of emerging entities, key competencies are collection, analysis and processing of data to deliver insight regarding customer behaviours

SMEs are increasingly interested in automated and cloud-based finance-management solutions

ROMANIA



Market conditions

Romania has the fastest broadband internet of all European countries

Romania has a very competitive workforce, with gross hourly labour costs more than five times lower than the EU average (EUR 4.6 versus EUR 24.6)

Companies in Romania enjoy one of the lowest corporate income tax (CIT) rates in CEE (16%)

Gross disposable income (adjusted for purchase parity) is half the EU average, and significantly lower than in other CEE countries (44% versus 78% in Slovenia)

Established financial technologies

Romanian banks are following European trends and deliver a high-quality user experience

While the market for banking IT solutions is dominated by large players, there are also some successful vendors from the local IT industry

The insurance sector is far less advanced than banking in terms of digital development. The most innovative solutions enable the online purchase of insurance

Emerging financial technologies

A decrease in interchange fees and the favourable dynamics of e-commerce are expected to stimulate significant growth in card payments

So far several mobile payment applications exist on the market, most of them launched by banks

ATMs in Romania serve multiple purposes, making up for the shortage of bank branches and becoming an important distribution channel for banks

There is strong demand for loans, as reported both by banks and non-banking institutions

Borrowers in Romania are price-sensitive and online lending with price-comparison functionality is becoming popular

Alternative financing models do not seem to be particularly popular in Romania.

SLOVAKIA



Market conditions

The unemployment rate is high at 11.3%, affecting young adults particularly severely (25%)

The regulation of banks (especially in terms of providing loans) is less restrictive than in other European markets

Slovakia is one of the few CEE countries that has joined the eurozone and not suffered from the ramifications of FX loans

Established financial technologies

The Slovak banking sector is innovative and open to new digital solutions

Most banks use established financial technologies for key operational functions, but many innovations come from smaller, more agile players, keen to understand and address customers' changing preferences

The Slovak insurance sector is adopting innovative solutions, with online policy sales and telematics being clear components of key players' offerings

Emerging financial technologies

Slovakia is perceived internationally as a rapid adopter of innovative payment solutions. Banks have had a key role to play in the popularisation of technology

There are numerous local companies providing payment services

Demand for alternative capital-raising solutions is on the rise in Slovakia. Online lending is the most successful solution, while the P2P model is emerging as another important element

Alternative lending is as yet not strictly regulated, spelling opportunities for entrants to experiment with various business models

Crowdfunding in Slovakia can be roughly divided into two main groups: platforms for philanthropic activities and initiatives focused on commercial projects. The first of these is particularly developed

A small number of Slovak companies provide finance management solutions, of which the most successful start-ups are designed to support accounts departments

As well as big data solutions for big players (such as banks), the Slovak market also contains solutions from smaller entities

Slovakia has one of the highest rates of cloud-computing adoption in Eastern Europe

SLOVENIA



Market conditions

The country's budgetary situation deteriorated sharply in 2013, when the state was obliged to rescue the banking system at an estimated cost of 11% of GDP

More than 50% of Slovenian banks' assets are in the hands of state-owned banks (one of the highest proportions in the EU)

The banking sector remains economically challenged due to low interest rates and a high proportion of proportion of non-performing loans (NPL) in the private sector's loan portfolio

Almost every adult in Slovenia has a bank account

Established financial technologies

Most established banks in Slovenia are showing signs of technological maturity

Among local banks, IT systems are mainly provided by local players. In the case of foreign-owned banks, such systems are implemented by global vendors

The inventiveness of Slovenian banks is average, based mainly on solutions that are already popular in most banks in Western Europe (such as mobile, contactless cards etc)

Emerging financial technologies

Many ATMs in Slovenia support the basic banking operations that are usually carried out in branches

A joint venture between a local telco and a bank has seen a new mobile payments scheme emerge in Slovenia. Thanks to the data-transfer technology it uses (GSM / UMTS network), customers can use outdated mobiles

Slovenian consumers are provided with a dedicated mobile app in the form of an e-wallet that allows them to make semi-automated bill payments

Slovenia has emerged as a CEE Bitcoin hub thanks to many start-ups providing platforms for Bitcoin transactions and trading

Due to decreased access to bank financing, mid-sized Slovenian companies are starting to exchange their receivables in a dedicated marketplace

A lack of personal finance management functionality in Slovenian e-banking systems and mobile apps is driving the emergence of start-ups providing their own mobile PFM solutions

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Austria

Banking sector

1	Software Daten Service	www.sds.at/
2	s IT Solutions Austria	www.erstegroupit.com/at-de/home
3	UniCredit Business Integrated Solutions Austria	www.unicreditgroup.eu/
4	Raiffeisen Informatik	www.raiffeiseninformatik.at/
5	Raiffeisen Software	www.r-software.at/de/home/
6	Raiffeisen e-force	www.e-force.at
7	Number 26	www.number26.eu
8	Sweep	www.sweep.co/
9	Holvi	www.about.holvi.com/en/
10	Bank für Gemeinwohl	www.mitgruenden.at/
11	NF Innova	www.nfinnova.com/
12	FintecSystems	www.fintecsystems.com/
13	Assentis Technologies	www.assentis.com/de/
14	Baningo	www.baningo.com/
15	BeeOne	www.beeone.com/index.html

Insurance sector

1	Uniq IT Services	www.uniqagroup.com/
2	Generali IT Solutions	www.generali.at
3	Generali VIS Informatik	www.generali.at
4	SAP	www.go.sap.com/index.html
5	Versichern24	www.versichern24.at/
6	Durchblicker	www.durchblicker.at/
7	Gut oder Schlecht	www.versicherungsmakler.gut-oder-schlecht.at/
8	L'amie direct	www.lamie-direkt.at/

Asset management sector

1	Murex	www.murex.com
2	Kondor+	www.itrsgroup.com/products/geneos-Overview/integrations-and-plugin-ins/kondor
3	Wall Street Systems	www.wallstreetsystems.com
4	SunGard	www.sungard.com
5	Wikifolio	www.wikifolio.com
6	Boerse Social Network	www.boerse-social.com
7	Valutico	www.valutico.com
8	Novofina	www.novofina.com
9	The Dutch BUX	www.getbux.com
10	justETF Solution	www.justetf.com/de-en/

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Austria

Payments

1	Agena Trader	www.agenatrader.com
2	Maestro	www.maestrocard.com
3	Drei (3DGelborse)	www.drei.at/portal/de/privat/services-und-apps/zusaetzliche-services/3geldboerse/
4	Wallegro	www.wallegro.com
5	kWallet	www.k-wallet.com
6	BlueCode	www.bluecode.com
7	Fonmoney	www.fonmoney.com
8	Dimoco	www.dimoco.at
9	Komfortkasse	www.komfortkasse.eu
10	Orderbird	www.orderbird.comus/ipad-pos-system
11	Coinfinity	www.coinfinity.co
12	Nexperts	www.nexperts.com

Capital raising

1	Savedo	www.savedo.de/
2	Conda	www.conda.eu/en/
3	Debitos	www.debitos.de/
4	Finnest	www.finnest.com/
5	Lendico	www.lendico.com/
6	Auxmoney	www.auxmoney.com/
7	Credi2	www.credi2.com/#/home
8	George	www.mygeorge.at/
9	Payolution	www.payolution.com/de/

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1	IBM	www.ibm.com/at-de
2	SAS	www.sas.com
3	predictR	www.predictr.eu

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Bulgaria

Banking sector

1	FiBank	www.fibank.bg/
2	Dais Software	www.dais-set.com/
3	Interconsult Bulgaria	www.icb.bg/
4	Unicredit Bulbank	www.unicreditbulbank.bg/
5	Microsoft Dynamics	www.microsoft.com/
6	Misys	www.misys.com/
7	DSK Bank	www.dskbank.bg/

Insurance sector

1	Fadata	www.fadata.eu/
2	Bulstrad Vienna Insurance Group	www.bulstrad.bg/
3	State Insurance Institute	www.dzi.bg/
4	Armeec	www.armeec.bg/
5	Generali Bulgaria	www.generali.bg/

Payments

1	Telenor	www.telenor.bg/
2	Cashwave	www.cashwave.bg/

Capital raising and personal finance

1	Green Hero	www.greenhero.com/
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Croatia

Banking sector

1	Zagrebacka banka	www.zaba.hr/
2	Infosys	www.infosys.com/
3	IBM	www.ibm.com/
4	COMBIS	www.combis.hr/
5	IN2	www.in2.hr/
6	Croatia banka	www.croatiabanka.hr/
7	Incendo	www.incendo.hr/
8	Splitska banka	www.splitskabanka.hr/
9	Asseco	www.asseco.com/see/
10	Comtrade	www.comtrade.com/
11	Hypo Alpe-Adria-Bank	www.hypo-alpe-adria.hr/
12	Infinum	www.infinum.co
13	Erste Bank	www.erstebank.hr/
14	Raiffeisen Bank	www.rba.hr/
15	Abanka	www.abanka.si/
16	NLB	www.nlb.si/
17	HPB	www.hpb.hr/

Insurance sector

1	Croatia osiguranje	www.crosig.hr/
2	Hrvatska osiguravajuća kuća	www.hok-osiguranje.hr/

Payments

1	PBZ Group	www.pbz.hr/
2	American Express	www.americanexpress.com/
3	VISA	www.visa.com.hr/
4	Intesa Sanpaolo Group	www.intesasanpaolocard.com/
5	WebTeh	www.webteh.hr/
6	Digitalni Mobilnik	www.facepay.biz/

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2	Mambu	www.mambu.com/
3	Fern Software	www.fernsoftware.com/
4	Microblink	https://microblink.com/

Cybersecurity

1	IT Sistemi	www.itsistemi.com/
2	INFIGO IS	www.infigo.hr/
3	SV Group	www.svgroup.hr/
4	Croatian National Bank	www.hnb.hr/
5	WhoAPI	www.whoapi.com/

Data and analytics

1	Poslovna inteligencija	www.inteligencija.com/
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Czech Republic

Banking sector

1	SAP	www.sap.com/
2	Oracle	www.oracle.com/
3	Infosys	www.infosys.com/
4	Misys	www.misys.com/
5	Microsoft	www.microsoft.com
6	IBM	www.ibm.com/
7	Avaya	www.avaya.com/
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10	SAS	www.sas.com/
11	Dimension Data	www.dimensiondata.com/
12	SunTec	www.suntecgroup.com/
13	Asseco	www.ce.asseco.com/
14	Arbes	www.arbes.com/
15	BSC	www.bsc-ideas.com/

16	Zenity	www.zenity.com/
17	iDa mobile	www.idamob.com/
18	Salesforce.com	www.salesforce.com/
19	Cyber Force Group	https://sdk.finance/

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1	EUPSPProvider	www.worldcore.eu/
2	Twisto payments	www.twisto.cz/
3	SatoshiLabs	www.satoshilabs.com/
4	WBTCB	www.wbtcb.com/
5	General Bytes	www.generalbytes.com/

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1	CLEEVIO	www.cleevio.com/
2	Budgetbakers	www.budgetbakers.com/
3	Fio Bank	www.fio.cz/
4	Air Bank	www.airbank.cz/cs/
5	Equa Bank	www.equabank.cz/
6	Ceská sporitelna	www.csas.cz/
7	CSOB	www.csob.cz/
8	Zonky	www.zonky.cz/
9	Pujcmefirme	www.pujcmefirme.cz/
10	Kreditni Klub	www.kreditniklub.cz/
11	Bankerat	www.bankerat.cz/
12	Startovac	www.startovac.cz/
13	Podpor	www.podpor.to/
14	Nakopni.Me	www.nakopni.me/
15	Modrý život	www.darujspravne.cz/spio
16	UPUP platform	www.upupapp.com/

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Cybersecurity

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2	Flowmon	www.flowmon.com/
3	AEC	www.aec.cz/

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1	Tableau	www.tableau.com/
2	CleverMaps	www.clevermaps.cz/
3	Spolecnost pro Cenové mapy CR	www.cenovemapy.cz/
4	Semantic Visions	www.semantic-visions.com/
5	Simplity	www.simplity.eu/
6	Banca Comerciala Romana	www.bcr.ro/
7	WOOD & Co.	www.wood.cz/
8	Raiffeisen Group	www.rbinternational.com/
9	Bank Austria	www.bankaustria.at/
10	Logic point	www.logicpoint.cz/
11	Socialbakers	www.socialbakers.com/
12	ING Bank Turkiye	www.ingbank.com.tr/
13	CleverAnalytics	/www.cleveranalytics.com/

Other software

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2	UI Path	www.uipath.com/
3	Automation Anywhere	www.automationanywhere.com/
4	Neoops	www.neoops.com/
5	Superfaktura	www.superfaktura.cz/
6	Abra	www.abra.eu/
7	Stormware	www.stormware.cz/
8	Fakturing	www.fakturing.cz/

FinTech companies mentioned in the report

Hungary

Banking sector

1	OTP	www.otpbank.hu/
2	Erste Bank	www.erstebank.hu/
3	Cellum Group	www.cellum.hu/
4	CIB Bank	www.cib.hu/
5	Misys	www.misys.com/
6	W.Up	www.wup.hu/
7	MKB Bank	www.mkb.hu/
8	FHB Bank	www.fhb.hu/
9	Unicredit Bank	www.unicreditbank.hu
10	Asseco	www.ce.asseco.com/
11	Hungarian National Bank	www.mnb.hu/
12	EQL Soft	EQL Soft
13	Dorsum	www.dorsum.eu/
14	BSCE	www.bsce.hu/

Insurance sector

1	Posta Biztosito	www.postabiztosito.hu/
2	VEMOCO	www.vemoco.com/
3	National Bank of Hungary	www.mnb.hu/
4	Allianz	www.allianz.hu/
5	AEGON Hungary	www.aegon.hu/
6	IBM	www.ibm.com/
7	SK Trend	www.sktrend.hu/

Payments

1	Hungarian Mobile Wallet Association	mobiltarca.com/
2	Hungarian Telekom	www.telekom.hu/
3	Telenor	www.telenor.hu/
4	Vodafone	www.vodafone.hu/
5	MasterCard	www.mastercard.com/
6	SuperShop	www.supershop.hu/
7	iCsekk	www.icsekk.hu/
8	Buxa	www.buxa.eu/
9	Barion	www.barion.com/
10	Google	www.google.hu/
11	Apple	www.apple.com/
12	Budapest Taxi	www.budapesttaxi.hu/
13	coinPay	www.thecoinpay.com/
14	Samsung	www.samsung.com/

FinTech companies mentioned in the report

Poland

Banking sector

1	mBank	www.mbank.pl/
2	Commerzbank	www.commerzbank.com/
3	Idea Bank	www.ideabank.pl/
4	Asseco	www.asseco.com/
5	Finanteq	www.finanteq.com/
6	yBanking	www.ybanking.com/

Insurance sector

1	Genesis	www.genesisinsurance.com/
2	Guidewire	www.guidewire.pl/
3	Rankomat	www.rankomat.pl/
4	Comperia	www.comperia.pl/
5	Warta	www.warta.pl/
6	Generali	www.generali.pl/
7	PZU	https://www.pzu.pl/
8	Link4	www.link4.pl/
9	forDrivers	www.fordrivers.pl/
10	MetLife	www.metlife.pl/

Capital raising and personal finance

1	Wonga	www.wonga.pl/
2	Creamfinance	www.creamfinance.com/
3	Pandamoney	www.pandamoney.pl/
4	Kokos.pl	www.kokos.pl/
5	Rocket Internet	www.rocket-internet.com/
6	Sekrata	www.sekrata.pl/
7	Pozycz	www.pozycz.pl/
8	Zakra	www.zakra.pl/
9	Finansowo	www.finansowo.pl/
10	PolakPotrafi	www.polakpotrafi.pl/
11	Wspieram.to	www.wspieram.to/
12	Beesfund	www.beesfund.com/
13	Wspolnicy	www.wspolnicy.pl/
14	Crowdangels	www.crowdangels.pl/
15	Ideowi	www.ideowi.pl/

FinTech companies mentioned in the report

Poland

Payments

1	PayU	www.payu.pl/	13	CurrencyOne	www.currency-one.com/	25	ZenCard	www.zencard.pl/
2	Allegro	www.allegro.pl/	14	Cinkciarz	www.cinkciarz.pl/	26	PKO BP	www.pkobp.pl/
3	South African Naspers	www.naspers.com/	15	BLIK	www.polskistandardplatnosci.pl/	27	BZ WBK	www.bzwbk.pl/
4	DotPay	www.dotpay.pl/	16	VISA	www.visa.pl/	28	Eurobank	www.eurobank.pl/
5	Przelewy24	www.przelewy24.pl/	17	Mastercard	www.mastercard.pl/	29	Getin	www.getinbank.pl/
6	TPay	www.tpay.com/	18	PEKAO	www.pekao.com.pl/	30	mPay	www.mpay.pl/
7	PayPal	www.paypal.com/	19	PeoPay	http://www.peopay.pl/	31	SkyCash	www.skycash.com/
8	Mobiamo	www.mobiamo.com/	20	Billon	www.billoncash.com/	32	Blue media	/www.bluemedia.pl/
9	Paysafecard	www.paysafecard.com/	21	Alior Bank	www.aliorbank.pl/	33	BlueCash	www.bluecash.pl/
10	EcoCard	www.ecopayz.com/	22	Plus Bank	plusbank.pl/	34	Financial Robot	www.bm.pl/
11	MINT	www.mintpayments.com/	23	eCard	www.ecard.pl/	35	Alibaba	www.alibaba.com/
12	FirstData	www.firstdata.com/	24	InPay	www.inpay.pl/	36	PayPal	https://www.paypal.com/

FinTech companies mentioned in the report

Poland

Cybersecurity

1	UBS	www.ubs.com/
2	CreditSuisse	www.credit-suisse.com/
3	UniCredit	www.unicreditgroup.eu/
4	Deutsche Bank	www.deutschebank.pl/
5	Nordea	www.nordea.pl/
6	BNP Paribas	www.bgzbnpparibas.pl/
7	Royal Bank of Scotland	www.rbs.com/
8	McAfee	www.mcafee.com/
9	Blue Coat	wwwwww.bluecoat.com/
10	Check Point	www.checkpoint.com/
11	HP	www.hp.com/
12	Palo Alto Networks	www.paloaltonetworks.com/
13	Juniper	www.juniper.net/
14	IBM	www.ibm.com/
15	Cisco	www.cisco.com/
16	FireEye	www.fireeye.com/

17	Fortinet	www.fortinet.pl/
18	F-Secure	www.fortinet.pl/
19	Microsoft	https://www.microsoft.com/
20	Symantec	www.symantec.com/
21	Qualys	www.qualys.com/
22	Websense	www.websense.com/
23	Trend Micro	www.trendmicro.pl/
24	Oracle	www.oracle.com/
25	Veracomp	www.veracomp.pl/
26	Ratels	www.ratels.pl/
27	Balabit	www.balabit.com/
28	Akamai	www.akamai.com/
29	VoicePin	voicepin.com/

FinTech companies mentioned in the report

Poland

Data analytics

1	SAS	www.sas.com/
2	TeraData	www.teradata.pl/
3	Kontomatik	www.kontomatik.pl/
4	Solemis	www.solemis.com/
5	Sanmargar	www.sanmargar.com/
6	Cenatorium	www.cenatorium.pl/
7	Turbine Analytics	www.turbineanalytics.com/
8	SentiOne	www.sentione.pl/
9	ING	www.ingbank.pl/
10	Sotrender	www.sotrender.pl/
11	Fokus	www.getfokus.com/
12	Datawise	www.datawise.pl/
13	Aviva	www.aviva.pl/

Other software

1	wFirma	www.wfirma.pl/
2	iFirma	www.ifirma.pl/
3	SzybkaFaktura	www.szybkaFaktura.pl/
4	inFakt	www.infakt.pl/
5	Taxxo	www.taxxo.pl/
6	Eksp	www.eksp.pl/
7	Comarch	www.comarch.pl/
8	mojebiuro24.pl	www.mojebiuro24.pl/
9	CyberProductivity	www.cyberproductivity.pl/

FinTech companies mentioned in the report

Romania

Banking sector

1	National Bank of Romania	www.bnr.ro/
2	Romanian Banca Transilvania	www.bancatransilvania.ro/
3	Misys	www.misys.com/
4	Banca Comerciala Romana	www.bcr.ro/
5	OTP Bank	www.otpbank.ro/
6	ING Bank	www.ing.ro/
7	T24	www.temenos.com/
8	Oracle	www.oracle.com/
9	SAP	www.dimoco.at
10	Asseco	www.asseco.com/see/
11	Romsys	www.romsys.ro/
12	Advantage Software Factory	www.asf.ro/
13	Allevo	www.allevo.ro/
14	TotalSoft	www.totalsoft.ro/
15	Eutron	www.eutron.ro/

Insurance sector

1	Virtual Broker	www.brokervirtual.ro/
2	Bursa Asigurarilor	www.bursaasigurarilor.ro/
3	Life Is Hard	www.lifeishard.ro/

Data and analytics

1	IBM	www.ibm.com/at-de
2	SAS	www.sas.com
3	predictR	www.predictr.eu

FinTech companies mentioned in the report

Romania

Payments

1	PayU	www.payu.ro/
2	Azimo	www.azimo.com/
3	Netopia	www.netopia.ro/
4	WorldRemit	www.worldremit.com/
5	Vodafone	www.vodafone.ro/
6	GarantiBank	www.garantibank.ro/
7	Seamless	seamless.se/
8	BRD Groupe Societe Generale	www.brd.ro/
9	Orange Money	www.orangemoney.orange.fr/
10	Bucharest's public transport operator	www.ratb.ro/
11	Bucharest metro operator	www.metrorex.ro/
13	Orange	www.orange.ro/

Capital raising and personal finance

1	Cetelem	www.cetelem.ro/
2	BNP Paribas	www.romania.bnpparibas.com/
3	Provident	www.provident.ro/
4	Ferratum	www.ferratum.ro/
5	4finance	www.4finance.com/
6	Simplu Credit	www.simplucredit.ro/
7	Viva Credit	www.vivacredit.ro/
8	Lendia	www.lendia.ro/
9	Credit Agricole	www.credit-agricole.ro/
10	Alpha Bank	www.alphabank.ro/
11	Financial View Media Services	www.financialview.ro/
12	Friend Credit	www.friendcredit.ro/
13	Sprijina	www.sprijina.ro/
14	Crestem Idei	www.crestemidei.ro/

FinTech companies mentioned in the report

Slovakia

Payments

1	Tatra banka	www.tatrabanka.sk/
2	Misys	www.misys.com/
3	SAS	www.sas.com/
4	Sungard	www.sungard.com/
5	BAE Systems Detica	www.baesystems.com/
6	Asseco	www.ce.asseco.com/
7	Cisco	www.cisco.com/
8	Inloop	www.inloop.eu/
9	Czech Air Bank	www.airbank.cz/

Insurance sector

1	Generali	www.generali.sk/
2	Onlia	www.onlia.sk/
3	iSanon - Universal SK	www.isanon.universalsk.sk/
4	Audatex	www.audatex.sk/

Payments

1	IBM	www.ibm.com/at-de
2	SAS	www.sas.com
3	predictR	www.predictr.eu

FinTech companies mentioned in the report

Slovakia

Banking sector

1	Software Daten Service	www.sds.at/
2	s IT Solutions Austria	www.erstegroupit.com/at-de/home
3	UniCredit Business Integrated Solutions Austria	www.unicreditgroup.eu/
4	Raiffeisen Informatik	www.raiffeiseninformatik.at/
5	Raiffeisen Software	www.r-software.at/de/home/
6	Raiffeisen e-force	www.e-force.at
7	Number 26	www.number26.eu
8	Sweep	www.sweep.co/
9	Holvi	www.about.holvi.com/en/
10	Bank fur Gemeinwohl	www.mitgruenden.at/
11	NF Innova	www.nfinnova.com/
12	FintecSystems	www.fintecsystems.com/
13	Assentis Technologies	www.assentis.com/de/
14	Baningo	www.baningo.com/
15	BeeOne	www.beeone.com/index.html

Insurance sector

1	Uniq IT Services	www.uniqagroup.com/
2	Generali IT Solutions	www.generali.at
3	Generali VIS Informatik	www.generali.at
4	SAP	www.go.sap.com/index.html
5	Versichern24	www.versichern24.at/
6	Durchblicker	www.durchblicker.at/
7	Gut oder Schlecht	www.versicherungsmakler.gut-oder-schlecht.at/
8	L'amie direct	www.lamie-direkt.at/

Payments

1	MasterCard	www.mastercard.sk/
2	VISA	www.visa.sk/
3	VUB Bank	www.vub.sk/
4	Intesa Sanpaolo Card	www.intesasanpaolocard.com/
5	Telefonica	www.telefonica.com/
6	Slovak Telekom	www.telekom.sk/
7	Deutsche Telekom	www.telekom.com/
8	ClickandBuy	www.clickandbuy.com/
9	CSOB	www.csob.sk/
10	VIAMO	www.viamo.sk/
11	ZUNO	www.zuno.sk/
12	TrustPay	www.trustpay.sk/
13	24-Pay	www.24-pay.sk/
14	NFD	www.nfd.sk/
15	Besteron	www.besteron.sk/
16	GexPay	www.gexpay.com/
17	Papaya POS	www.papayapos.com/

FinTech companies mentioned in the report

Slovakia

Capital raising and personal finance

1	Zlty melon	www.zltymelon.sk/
2	Bondora	www.bondora.sk/
3	Zinc Euro	www.zinceuro.sk/
4	Plan B	www.planb.sk/
5	123pozicky.sk	www.123pozicky.sk/
6	Pozickovo.sk	www.pozickovo.sk/
7	National Bank of Slovakia	www.nbs.sk/
8	Provident	www.provident.sk/
9	Sberbank Slovensko	www.sberbank.sk/
10	mBank	www.mbank.sk/
11	Slovenska Sporitelna	www.slsp.sk/
12	Dakujeme.SME.SK	www.dakujeme.sme.sk/
13	LudiaLudom	www.ludialudom.sk/
14	Dobra Krajina	www.dobrakrajina.sk/

Data and analytics

1	QlikView	www.qlik.com/
2	EMARK	www.emark.sk/
3	UniCredit Leasing	www.unicreditleasing.sk/
4	Erste Bank	www.erstegroupit.com/
5	Finviz	www.finviz.com/
6	Finila	www.finila.com/
7	Exponea	www.exponea.com/
9	Predictale	www.predictale.com/

Other software

1	Archiles	www.archiles.sk/
2	Datamolino	www.datamolino.com/
3	Xero	www.xero.com/
4	Sage One	www.sageone.com/

FinTech companies mentioned in the report

Slovenia

Banking sector

1	HRC	www.h-rc.si/
2	Bankart	www.nlb.si/
3	NLB	www.unicreditgroup.eu/
4	NKMB	www.nkbm.si/
6	Abanka	www.abanka.si/

Insurance sector

1	Moneta	www.moneta.si/
2	Telekom Slovenije	www.telekom.si/
3	Nova KBM bank	www.nkbm.si/
4	Halcom Placila	www.halcom.si/
5	Bank of Slovenia	www.bsi.si/
6	Bitstamp	www.bitstamp.net/
7	Grecom	www.grecom.si/
8	Krip.to	www.beta.krip.to/
9	Bitnik	www.bitnik.eu/
10	Cashila	www.cashila.com/
11	Gatehub	www.gatehub.net/
12	Ripple	www.ripple.com/

Capital raising and personal finance

1	Borza Terjatev	www.borzaterjatev.si/
2	Bisnode	www.bisnode.si/
3	Toshl Finance	www.toshl.com/
4	Moneyrebel	www.moneyrebel.com/

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92. <http://letstalkpayments.com/how-to-build-your-own-ewallet-or-payment-system-in-the-shortest-terms/>
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Glossary

CEE	Central and Eastern Europe	MTF	Multilateral Trading Facility
API	Application Programming Interface	NBR	National Bank of Romania
AQR	Asset Quality Review	NBA	next best action
ATM	Automated Teller Machine	NBO	next best offer
AuM	Assets under management	NFC	Near Field Communication
ATX	Austrian Traded Index	NPL	Non-performing Loan
B2B	Business to Business	OCR	Optical Character Recognition
B2C	Business to Customer	OECD	Organisation for Economic Co-operation and Development
BCR	Banca Comerciala Romana	BCBS	Basel Committee on Banking Supervision
BT	Banca Transilvania	P&L	Profit and Loss Statement
BAMC	Bank Assets Management Company	P2P	Peer-to-peer
BDaaS	Big Data Analytics-as-a-Service	PAYD	pay as you drive
BPM	Business Process Management	PCI DSS	Payment Card Industry Data Security Standard
BPO	Business Process Outsourcing	PSD	Payment Services Directive
SSC	Shared Services Center	PFM	Personal finance management
CBS	Core Banking Solution	PIN	Personal Identification Number
CIS	Commonwealth of Independent States	PKI	Public Key Infrastructure
CIT	Corporate Income Tax	PaaS	Platform-as-a-Service
CRM	customer relationship management	POS	Point of sale
CAC	Customer Acquisition Cost	PSE	Prague Stock Exchange
CCM	Customer Communication Management	UJP	Public Payments Administration of the Republic of Slovenia
DESI	Digital Economy & Society Index	QR	Quick Response
ECB	European Central Bank	R&D	Research and Development
EMEA	Europe, the Middle East and Africa	ROI	return on investment
FDI	Foreign Direct Investment	RPA	Robotic Process Automation
FMA	Finanzmarktaufsicht	RWD	Responsive Web Design
FX	Foreign Exchange	SaaS	Software as a Service
GDP	Gross Domestic Product	SDK	Software development kit
GSM	Global System for Mobile Communications	SMEs	Small and medium-sized enterprises
GWP	Gross written premium	SPD	Short Payment Descriptor
HCE	host card emulation	FSA	Financial Supervision Authority
ICT	Information and communications technology	ZSE	Zagreb Stock Exchange
IBAN	international bank account number	TMT	Technology, Media, and Telecommunications
IoT	Internet of Things	TKM	Total Cost Indicator
LTD	Loan to Deposit	UBI	Usage-based insurance
MNO	Mobile Network Operator	UBIS	UniCredit Business Integrated Solutions Austria
MTPL	Motor Third Party Liability	VAT	Value Added Tax
mPOS	Mobile Point of Sale		



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