

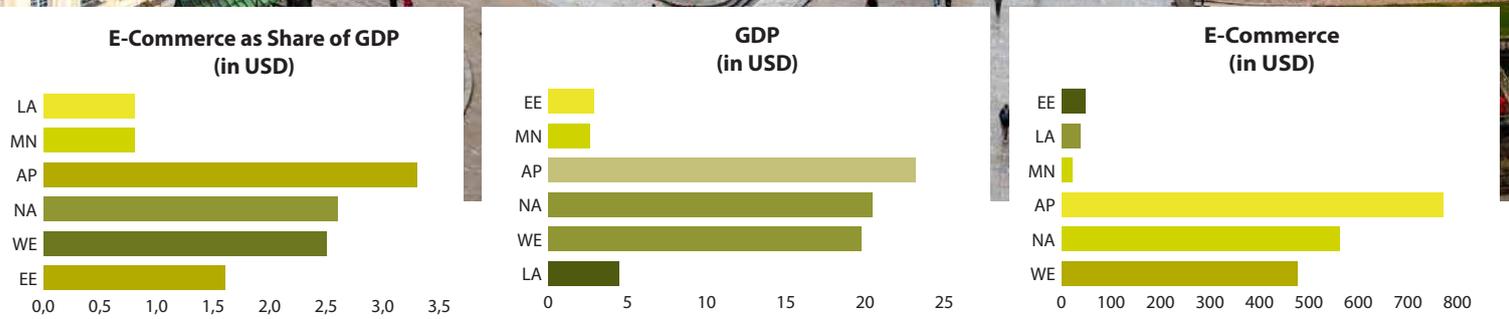


COMPUTOP'S PAYMENTS & E-COMMERCE REPORT EASTERN EUROPE



Eastern Europe – the term conjures up myriad images and associations, ranging from the iconic onion domes of Russian churches through the old city buildings of Krakow and Lwow to the beautiful landscapes of the Tatra mountains. It also evokes memories of a region that throughout history has been subject to considerable political, economic, and social change, with shifting national borders and territorial disputes. Exactly which countries can be classified as part of Eastern Europe is a matter for debate. This report, however, focuses on 8 of the key e-commerce markets which fall in the territory between Western Europe and Asia: Bulgaria, the Czech Republic, Hungary, Poland, Romania, Russia, Slovakia, and Ukraine.

When taken together, these countries represent more than 80% of all e-commerce turnover in the region. While metropolitan centres in these countries offer a wealth of opportunities for local consumers and tourists alike, consumer culture is still evolving following the collapse of the Soviet Union nearly three decades ago, and much of the region is undeveloped in terms of commercial offerings. With countries ranging from those which have successfully transitioned to a market economy, such as Poland and the Czech Republic, to those which are still in the process of transition, such as Bulgaria, e-commerce trends are widely divergent.



AP = Asia-Pacific; NA = Northern America; WE = Western Europe; EE = Eastern Europe; LA = Latin America; MN = Middle East & North Africa

With 47.2 bn USD in transactions annually, Eastern Europe is the fourth largest e-commerce market in the world, trailing Asia-Pacific, North America and Western Europe by a significant margin. In contrast to more developed markets, where e-commerce growth has slowed, the relatively young e-commerce market in this region offers significant opportunities for growth. E-commerce currently accounts for 1.6% of Eastern Europe’s GDP of 2,893 bn USD, and e-commerce growth in the region is expected to exceed 15% in the near future. With 362 million people over the age of 14 living in the region, 186 million of them, or around 50%, use the Internet. 58 million of these currently shop online, often using price comparison websites to get the best deal, and this is a figure which looks set to grow in coming years.

Internet penetration is relatively low in comparison with the rest of Europe, but this gap is gradually being closed with the roll-out

of more stable and sophisticated infrastructure and increased smartphone penetration. With a rapid adoption rate, smartphones are increasingly being used to gain access to e-commerce opportunities which would otherwise be restricted by poor infrastructure, a problem which is particularly prevalent in rural areas. The influence of mobile devices is especially noticeable in countries such as Poland and Ukraine, where m-commerce growth is outpacing e-commerce growth; in the Ukraine, for example, more than 40% of mobile users have used their device to make at least one purchase.

Increased accessibility is not the only factor contributing to the rise of e-commerce within the region. Crossborder commerce plays a significant role in driving the sector, with many consumers choosing to purchase goods online which cannot be found domestically. Modern buildings in the New Town of Prague, Czech Republic Some countries, such as the Czech Republic, Poland,

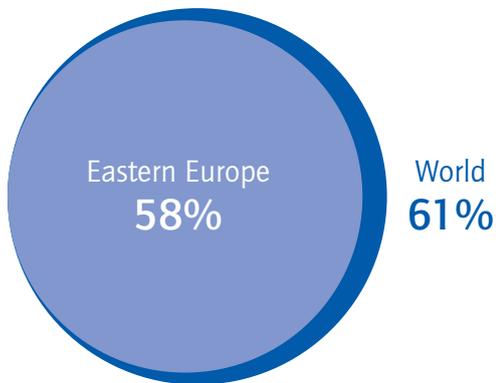
and Romania, have experienced particularly rapid growth in this area. In the Czech Republic, for instance, crossborder commerce expanded by 48% in 2013 alone.

In many areas relating to finance and commerce, the region demonstrates trends which are an inheritance of the planned economy under which it operated for so many years. Bank account penetration is still at an evolutionary stage; 58% of the inhabitants of Eastern Europe aged 15+ have bank accounts, compared to a global figure of 61%. Although credit card penetration is almost on a par with global levels, with a regional figure of 16% against the global 18%, this is also an area in which the financial industry experiences challenge. Banking and credit card providers are hindered by limited infrastructure, and a strong cultural preference for dealing in cash. As a result, we expect it to take some time before the region's e-commerce sector reaches full maturity.

In spite of the preference for paying in cash, the growth in e-commerce has brought about an increase in the number of payment methods available. Although 48% of e-commerce transactions are still carried out in a traditional manner, either by settling the bill at a designated physical location or paying cash on delivery, other methods are starting to gain a foothold, with the preferred payment type differing from country to country. In Poland, for example, bank transfer is rapidly becoming the most-used form of payment when buying goods online, whereas the inhabitants of Russia and the surrounding countries are more likely to use e-wallets. Several major Russian e-wallet players such as WebMoney have extended their reach beyond Russia's borders, and even have a presence in countries where e-commerce is almost nonexistent.



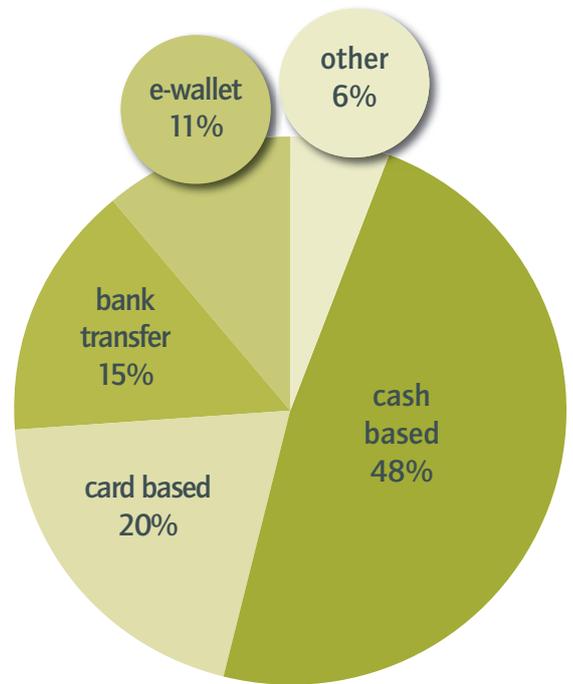
SOME BUBBLES ABOUT EASTERN EUROPE



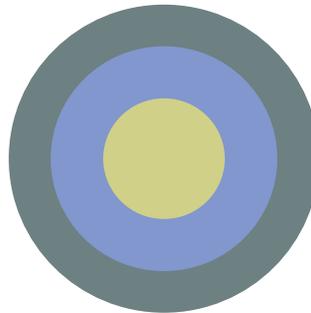
Bank Account Penetration



Credit Card Penetration



362 m people live in Eastern Europe 100%
186 m people use the internet 49%
58 m people shop online 22%





COMPUTOP'S PAYMENTS & E-COMMERCE REPORT

COUNTRY BREAKDOWN

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BULGARIA

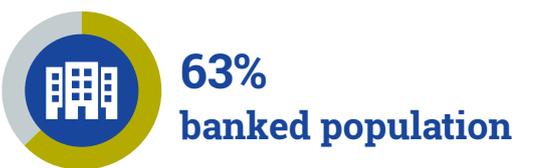


Bulgaria’s population of 7.4 million people is essentially urbanized, and concentrated in cities throughout the country’s 110,994 square kilometres of territory. The shift from a primarily agricultural economy in the middle of the last century to an industrialised society in the 1980s has resulted in a country with an emerging market economy. While Bulgaria has been challenged by political and economic change in recent years, both industry and the service sector make significant contributions to the economy. The country is Europe’s sixth-largest coal producer; leading exports include oil and copper products, and just over 35% of the population are employed in industry. The service sector accounts for a further 57.7% of employment, with tourists increasingly drawn by Bulgaria’s coastal resorts, historic towns, and competitive pricing.

FINANCIAL INCLUSION

Bulgaria has lower bank account penetration than many other European countries; however, 63% of Bulgarians have access to a bank account, a figure slightly higher than the 63% global average, and the 58% average throughout Eastern Europe. Credit card penetration, at 12%, is lower than the 16% found in

the region as a whole and this may be due to a lack of consumer information regarding personal finance options. Although Internet penetration is relatively high, online banking is used by only 5% of the population, which is low in comparison to Eastern Europe.



INTERNET & SMARTPHONE PENETRATION

The Bulgarian population mainly uses desktop computers and static Internet connections to access the Internet. Internet penetration is nevertheless relatively high in comparison to the rest of Eastern Europe, with 69% of the population (and 78% of those in urban areas) having access. This reliance on less technologically advanced devices and limited

smartphone adoption is due to expensive and under-developed mobile data packages. Some mobile operators – for instance Telenor in December 2015 – have only recently added 4G to their mobile offering. Despite this, the 48% smartphone penetration rate in Bulgaria is comparable to that in Eastern Europe as a whole, and higher than the global figure of 42%.





BULGARIA

E-COMMERCE TRENDS

Bulgaria's B2C e-commerce sector is worth a total of \$0.63 billion USD, and e-commerce overall has a growth rate of 18.1%. This high growth rate is due to the fact that the e-commerce market is still very much in its early stages, with an average spend per consumer of \$243 USD, compared to the global average of \$1,304 USD. The most popular purchases are clothing,

sporting and household goods, travel, and holiday accommodations, and some large international retailers such as ZARA and IKEA have begun to establish online stores in order to answer local demand. While only 7% of Bulgarian e-commerce is cross-border, a much lower figure than that in some neighbouring markets, this is another area experiencing growth.

Popular APMs

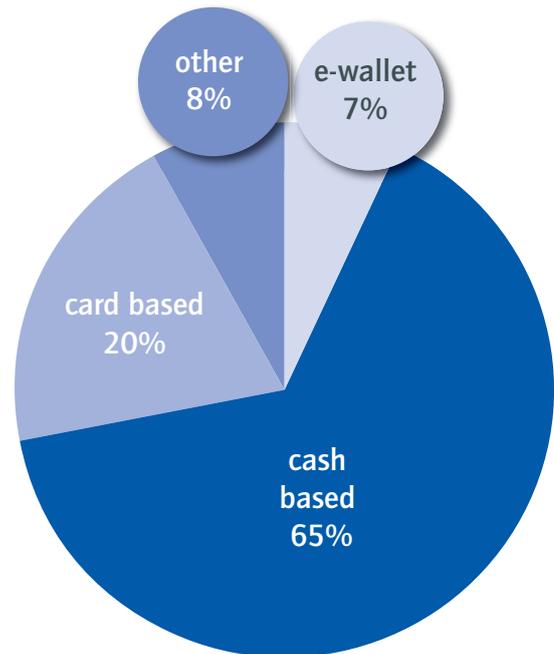


population: 7.3 m
GDP: 56.7 bn USD
GDP per capita: 7,851 USD

HOW PEOPLE PAY ONLINE

Cash on delivery is the preferred method of payment for goods purchased online, accounting for 65% of all transactions. Card-based transactions make up approximately 20% of payments overall, while e-wallets and other payment methods are used in 7% and 8% of transactions respectively.

With cash transactions being so popular, local PSPs such as ePay – which allows customers to shop online without entering their card details for each transaction – are currently slow to gain traction.



Share of e-commerce transaction



CZECH REPUBLIC

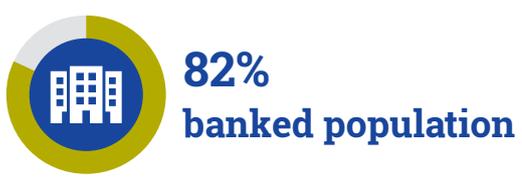


With a population of 10.5 million people in a territory measuring 78,866 km², the Czech Republic is a country that has undergone significant change throughout history. It is now the most prosperous and stable of the post- Communist states, with a well-developed, high-income economy, and annual growth of over 6% in the three years prior to the most recent global economic crisis. The Czech Republic benefits from its strong ties with other EU countries, with almost 80% of its exports going to other member states in 2012. Low unemployment, a strong manufacturing industry, and burgeoning tourism all contribute to the country's development.

FINANCIAL INCLUSION

Inhabitants of the Czech Republic are among the most likely in the region to have access to a bank account, with 82% of the population banked, and 26% using credit card services: figures significantly higher than the region's 58% and 16%. Czechs typically use current accounts, and will have a single account (only

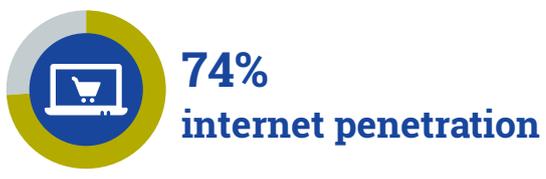
1 in 4 have more than one). They are more likely than the inhabitants of other Eastern European countries to use online banking: 56% of the population accessing such services, and high smartphone penetration is contributing to growth in this area.



INTERNET & SMARTPHONE PENETRATION

The country has a high Internet penetration rate both in comparison to the rest of the region, and the world overall: 73.5% of Czechs have access to the internet via a desktop computer. Internet access is heavily demarcated by age: 76% of those aged 16-24, and 80% of those aged 25-34 make use of online resources,

including e-commerce offerings. The country has the highest smartphone penetration in the region, with 59% versus Central and Eastern Europe's 48%. It is anticipated, however, that it will cede this position to Poland in 2017.





CZECH REPUBLIC

E-COMMERCE TRENDS

The B2C e-commerce sector in the Czech Republic was worth \$3.57 billion USD in 2014, and is a growing market, with a forecasted CAGR for 2016 – 2020 of 9.1%. An estimated 42% of Czech shoppers shopped online in 2015 in comparison to 39% in 2014, with an average spend of \$962USD per head. The Czech Republic's share of online stores increased by 1% over

the past twelve months to 8.1%, and is forecast to reach 10% by 2018. Cross-border commerce, which currently makes up 7% of e-commerce, presents another area of opportunity. Online shopping is becoming increasingly popular, with consumers prioritizing purchases of consumer electronics and physical media, followed by clothes and shoes, and furniture and home appliances.

Popular APMs

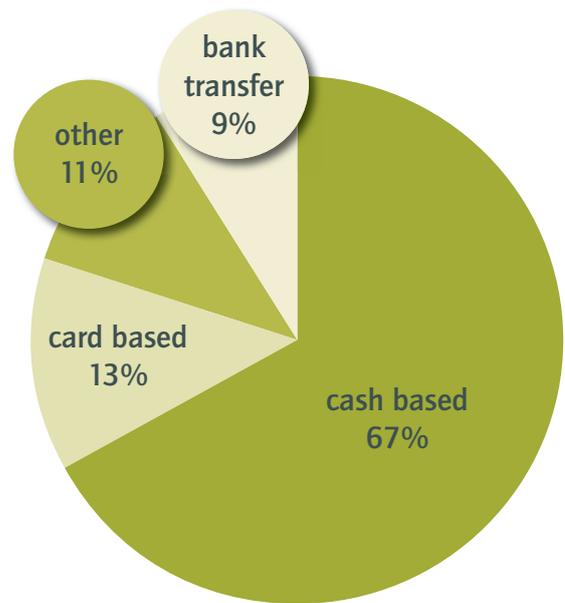


population: 8.9 m
GDP: 205.3 bn USD
GDP per capita: 19,530 USD

HOW PEOPLE PAY ONLINE

In spite of high bank account penetration and increasing use of online banking services, cash-on-delivery remains the most popular option, making up 67% of all transactions. 13% of payments are card based; bank transfers account for a further 9% of transactions, with other methods being used in the remaining 11% of cases.

TrustPay and Sofort offer online banking payment options, either by using local bank transfers, or by the consumer logging into their online bank account. paysafecard and GoPay offer prepayment and e-wallet options, where shoppers can buy digital vouchers or top up wallets using their mobile phone, bank account, credit card or recharge voucher. And as an alternative to cash on delivery, superCASH enables purchasers to pay an invoice at one of more than 8,000 physical locations.



Share of e-commerce transaction



HUNGARY

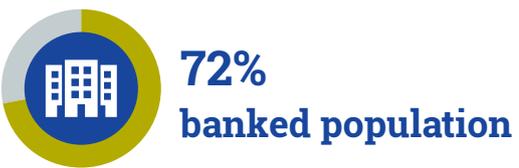


Hungary's territory of 93,030 km² provides a home to nearly 10 million inhabitants. Its high-income mixed economy is highly rated, making it one of the leading nations for foreign direct investment in Central and Eastern Europe. Hungary's strong economy makes it a major exporter to other EU member states, and it also invests significant amounts overseas. With a strong focus on mobile technology and information-security research in addition to more traditional industries such as pharmaceuticals and motor vehicles, Hungary is driving innovation in the region, hosting a large number of start-ups as well as Fortune Global 500 firms such as MOL Group.

FINANCIAL INCLUSION

72% of Hungarian inhabitants have access to a bank account, a high figure compared to the regional average of 58% and the global figure of 61%. Just under a third of consumers use online banking. Only 12% of Hungarians, however, have access to a credit card, which is lower than the Eastern European average of

16%. The banking sector suffered from a tax imposed by the government to reduce fiscal deficit following the 2007-2008 crisis, but has benefited from government support to achieve majority Hungarian ownership by buying foreign owned subsidiary banks.



INTERNET & SMARTPHONE PENETRATION

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HUNGARY

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Popular APMs



population: 9.9 m

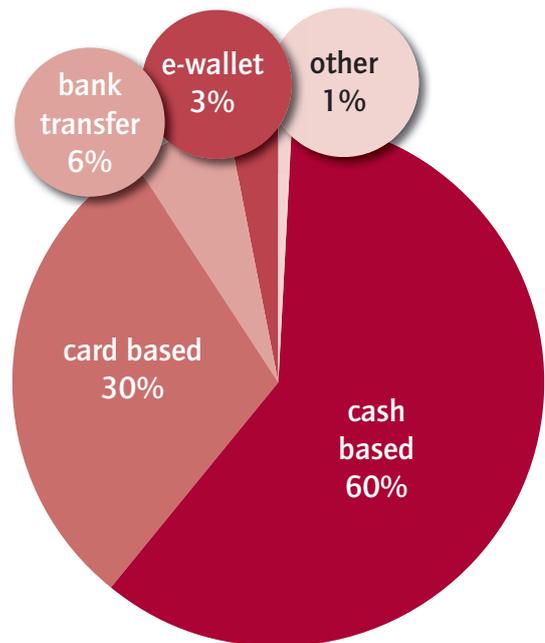
GDP: 138.3 bn USD

GDP per capita: 14,029 USD

HOW PEOPLE PAY ONLINE

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Share of e-commerce transaction



POLAND



Poland is the most populous post-Communist member state of the EU, with over 38.5 million people inhabiting 312,679 km². The country's high-income economy is considered to be one of the fastest-growing in the EU, and has managed, so far, to avoid the effects of the recent recession. This is, in part, due to the country not being dependent on any single export sector. Poland is notable for its successful transition from a planned economy to a market economy, and has a well-developed banking sector which has attracted interest from strategic foreign investors.

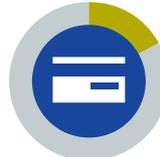
FINANCIAL INCLUSION

With 78% bank account penetration, Poland ranks highly among Eastern European countries, and growth is projected to be high over the next few years. The banking sector is one of the largest in Eastern Europe – 13 new banks have been created in the past decade – and has encouraged consumers to embrace newer methods of payment such as contactless. Credit card penetration at 17% is slightly higher than the regional 16%, but

credit card usage is not yet on a par with that of Western European countries – this can be explained by the fact that 44% of adults surveyed expressed a preference for saving. Credit card usage does, however, appear to be growing: payments processed by SIX payment services, a local payment processor, grew by 27.51% in November 2015.



78%
banked population



17%
credit card penetration

INTERNET & SMARTPHONE PENETRATION

Internet penetration currently stands at 60.8%, and is expected to reach nearly 65% by 2019. That's over 10% higher than the average for Central and Eastern Europe as a whole. More than half of Poles (52%) own a smartphone and this is expected to grow: 72% of the country's inhabitants have a mobile phone, and will

probably select a smartphone when upgrading their device. Consequently, smartphone penetration in Poland is expected to demonstrate high growth, as in the rest of the region, where year-on-year growth is currently at 36.9%.



61%
internet penetration



52%
smartphone penetration



POLAND

E-COMMERCE TRENDS

B2C e-commerce in Poland was worth \$7.41 billion USD in 2014, and the country has one of the fastest growing e-commerce markets in the European Union, with stable year-on-year growth of 25%. 46% of Poles regularly shop online (and 75% of the population overall have tried the activity) with an average spend per consumer of \$705 USD, almost half the global figure of \$1,304 USD. Polish

consumers see Polish websites as a less risky choice for online purchases, and cross-border transactions are limited given the size of the potential market, with only 13% of consumers choosing foreign stores. Clothes and shoes are the most popular purchases, followed by consumer electronics and physical media, with special interest goods coming in third place.

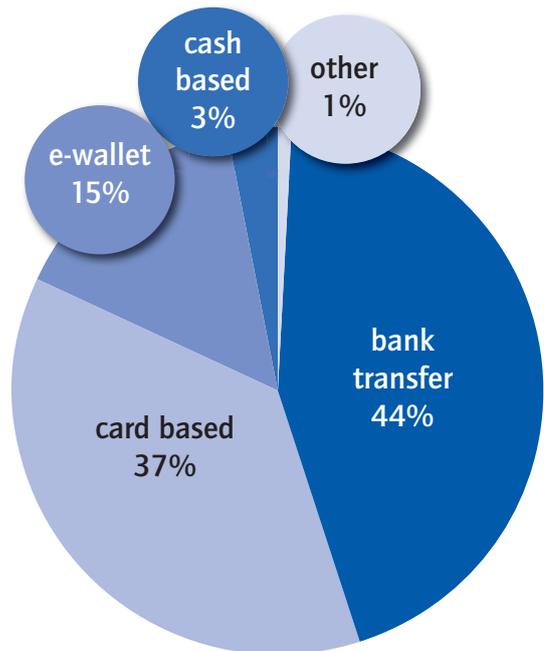
Popular APMs



population: 38.5 m
GDP: 545 bn USD
GDP per capita: 14,343 USD

HOW PEOPLE PAY ONLINE

A well-developed banking infrastructure and a familiarity with alternative payment methods makes Poles the exception in the region: cash-based payments account for a mere 3% of all online transactions. Bank transfer is the most popular payment method used in 44% of cases; card based payments make up 37% of transactions, e-wallets 15%, and other methods 1%. Bank transfer services are widely available, and offer options ranging from proprietary solutions (Pay By Links, operated by PayU, Poland's leading PSP) to payment via online banking portals, or invoices which can be settled in cash at physical locations (dotpay). The BLIK mobile banking app allows consumers to complete payment by entering a onetime code generated by the app when checking goods out. E-wallet services such as paysafecard offer the option to buy vouchers which can be stored in a virtual wallet; alternatively, YetiPay provides an e-wallet which can also be used for P2P payments.



Share of e-commerce transaction



ROMANIA

Romania covers 238,291 km² and with a population of nearly 20 million, it is the seventh most populous state in the EU. The country experienced strong economic growth in the early years of the millenium, and is now primarily service-based, although industry and agriculture make significant contributions (36% and 13% respectively) to GDP. Tourism accounts for an additional 5% of GDP, with the Black Sea resorts and istoric sites in Transylvania attracting significant numbers of tourists annually. Industrial output is focused on automotive production, industrial machinery, metallurgic products and military equipment, with the country's main trading partners within the EU being Germany and Italy.

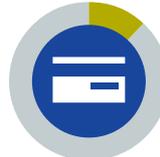
FINANCIAL INCLUSION

Bank account penetration in Romania is on a par with the world average of 61%, but is low compared to the other major regional markets covered in this report. Credit card penetration is low at 12% (in comparison to 16% in Eastern Europe, and 18% globally) and the number of cards on the market has remained static over the past few years. It is expected that financial service

providers will attempt to stimulate the market by offering ancilliary benefits and payment methods such as contactless. With the Romanian market free from legacy systems, some companies such as M-Pesa, which offers mobile transfer services, have seen considerable opportunities for growth. Mobile payments are expected to grow significantly as such services become established.



61%
banked population



12%
credit card penetration

INTERNET & SMARTPHONE PENETRATION

Just over 54% of the country's inhabitants have Internet access; while this is in line with the region, and well above the global figure of 40.7%, Romania overall lags behind Western European countries with poor infrastructure in rural areas affecting access. However broadband, where

it is available, offers some of the best speeds in Europe. At 46%, smartphone penetration in Romania is slightly lower than the regional average. But this figure is rising rapidly, with smartphone ownership increasing from 2.5 million devices in 2012 to 10 million in 2015.



54%
internet penetration



46%
smartphone penetration



ROMANIA

E-COMMERCE TRENDS

In Romania, B2C e-commerce was worth \$1.60 billion USD in 2015, with an average spend per shopper of \$731 USD. Just over 22% of the population shop online and are active consumers, making an average 8.2 purchases per person per year. There has been a marked increase in card payments for transactions made in online shops, with Visa noting a 20%-25% growth in card usage from 2014 to 2015. This figure seems

likely to increase as more cards are issued. However, an estimated 60% of online credit card transactions were international, indicating a preference for shopping cross-border among Romanian consumers. Preferred purchases are consumer electronics and physical media, followed by special interest goods, trailed in turn by clothes and shoes.

Popular APMs

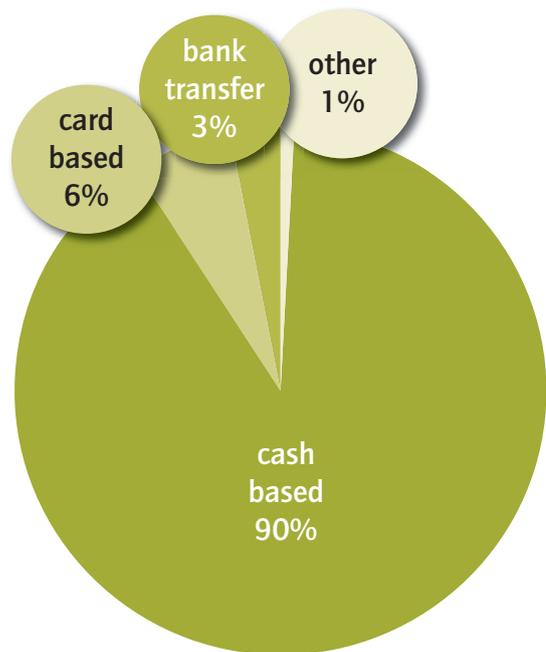


population: 20 m
GDP: 199 bn USD
GDP per capita: 9,997 USD

HOW PEOPLE PAY ONLINE

Cash is overwhelmingly popular when paying for online transactions, accounting for 90% of purchases overall. Cards make up a further 6% of transactions, with 3% of online purchases being paid for by bank transfer, and 1% by other methods.

Online bank transfers are supported by a number of banks such as Raiffeissen, ING and Alfabank, while paysafecard provides the same e-wallet services as it does in many other countries throughout the region.



Share of e-commerce transaction



RUSSIA

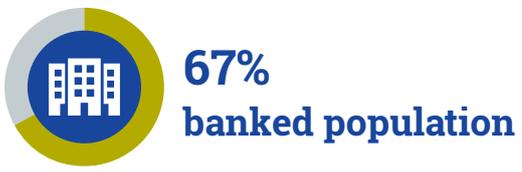


Russia is the largest country in the world with a population of more than 146.6 million people spread across 17,075,200 km². The massive expanse of land covers multiple time zones and plays host to a wealth of nationalities. Economically, Russia has benefited from vast oil and natural gas reserves, making it the 6th largest economy in the world by purchasing power parity. Economic growth has been slowed by the decline in prices for oil and natural gas, and political tension with trading partners has led to a decline in both imports and exports.

FINANCIAL INCLUSION

Although financial inclusion in Russia is low compared to Western European levels, it is higher than average for the region, with 67% of Russians having access to a bank account. Credit card penetration is also relatively high at 21% against the Eastern European average of 16%; however, growth in the payment card sector is

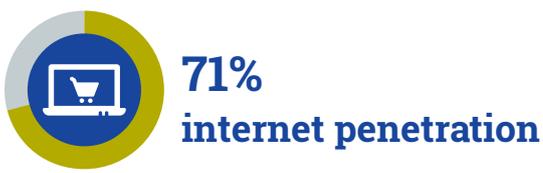
negatively affected by consumers fears about security, lack of consumer education and a poor acceptance network. This results in low usage rates, with many Russian using their payment cards only once or twice a month to withdraw their salaries.



INTERNET & SMARTPHONE PENETRATION

Internet penetration in Russia is high, with 70.5% of the country's inhabitants, and nearly 100% of young consumers, having access to online resources. This is considerably higher than both the global figure of 40.7%, and the regional average of 52.2%, giving Russia an online population of nearly 85 million people.

The marked rise in Internet access has been facilitated by smartphones and tablets. 45% of Russians own a smartphone, and in 2015, 37.2% of Russians used their smartphone to access the Internet, with 19.2% using their tablet, a notable increase on the figures of 17.6% and 8.5% respectively for 2014.



RUSSIA

E-COMMERCE TRENDS

The Russian B2C e-commerce market was worth \$19.9 billion USD in 2014, and e-commerce accounts for 2% of retail overall. With an average spend per online shopper of \$865 USD, e-commerce offers great opportunities: sector growth (including cross-border) is estimated at 42%, with Chinese trade being a main driver. By September 2015, there were 43,000 ecommerce sites, with household appliances and consumer electronics, clothes and shoes, and car spare

parts being the most popular online purchase categories. E-commerce growth is potentially hindered by a number of factors: lack of consumer confidence in the Russian postal system, which is seen to be both too expensive and unreliable to act as a delivery channel, and lack of trust in the security of electronic payments, and particularly cards. As a consequence, the majority of customers choose to pay cash on delivery for their purchases.

Popular APMs



population: 143.5 m

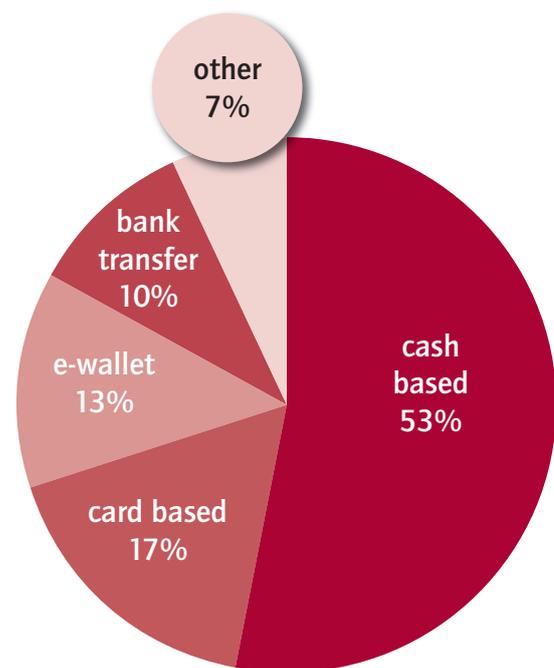
GDP: 1,860.6 bn USD

GDP per capita: 12,736 USD

HOW PEOPLE PAY ONLINE

Despite the relatively widespread use of e-wallets (13% of all online payment transactions), cash is still used to pay for purchases in 53% of transactions. Card-based transactions make up a further 17% of online payment, while bank transfers and other methods are less popular with online consumers (10% and 7% of transactions respectively).

Both Qiwi Wallet and WebMoney have a strong presence in Russia and other countries in the region; 45% of online stores accept Qiwi, which has a high consumer recognition rate, and both services offer the customer the option to top up e-wallets via an extensive network of kiosks, as do Yandex money and RBK Money.



Share of e-commerce transaction



SLOVAKIA



Slovakia is one of the smaller, less populous countries in Eastern Europe, with a population of more than 5 million inhabiting approximately 49,000 km². Like Poland, it has successfully managed the transition from a planned economy to a free market economy, and demonstrated sustained growth prior to the economic crisis of 2008. GDP is mostly generated by the service sector, but industry also makes a contribution, with the country utilizing its strengths in electrical engineering and car manufacturing to become the world's largest producer of cars per capita in the world.

FINANCIAL INCLUSION

With 77% of Slovak inhabitants having access to a current account, the level of financial inclusion in the country is high, both in comparison to the regional average, and to the global figure of 61%. Savings accounts are also popular, with a market penetration rate of around 60%. Approximately half of those who have a bank account also use online banking, indicating

an acceptance of less traditional approaches when it comes to financial services. Credit card penetration, however, is low at 17%; card issuers are only able to spread the fixed costs resulting from card issues and transaction processing over a limited number of transactions, typically leading to high fees, and potentially further discouraging usage.



77%
banked population



17%
credit card penetration

INTERNET & SMARTPHONE PENETRATION

Internet penetration is high in Slovakia, with 80% of the population, or nearly double the world average, having online access. The Slovak government is committed to extending this by providing high-speed Internet access to all households by 2020. Additionally, the country's young population drives up the average number of Internet users, with 99.1% of those aged 16-24 accessing the Internet. Many of the 65% of the

population who own a smartphone use their device for online searches (44%), emailing (35%), social networking (35%) and online shopping (3%). Of those Slovaks with Internet access, 46% have an average of 2.6 devices per person, and use their smartphones as often as their computer to access online goods and services.



80%
internet penetration



65%
smartphone penetration



SLOVAKIA

E-COMMERCE TRENDS

B2C e-commerce in Slovakia totals \$0.91 billion USD in 2016 to date, with an average spend per shopper of \$684 USD. The e-commerce market has exhibited high growth of 15%-20% in recent years and attitudes towards e-commerce are positive: an overwhelming majority (90%) of survey respondents stated that online shops offer better prices than physical locations, while 80% found shopping via the Internet more comfortable than visiting a bricks and mortar location. The 8,500 online shops currently in existence in Slovakia are

supported by a strong preference for shopping on domestic websites; of the 31% of the Slovak population which shopped online in 2014, 80% of those chose to buy from domestic sites. Cross-border commerce has, however, increased by 3% in the last three years. In terms of consumer preferences, popular product categories differ little from other countries in the region, with clothes, shoes, books, cosmetics, sports and electronic goods and hobby products all ranking highly.

Popular APMs



population: 5.4 m

GDP: 100.2 bn USD

GDP per capita: 18,501 USD

HOW PEOPLE PAY ONLINE

Slovakian consumers have access to a number of local and international payment options, including bank transfer and e-wallets. 39% of the population use online banking, with services provided by banks such as TatraPay and Sberbank (WebPay).

Prepayment and e-wallet services also have a presence in the country, providing purchasers with the ability to buy vouchers to redeem against online purchases (paysafecard) and top up their e-wallet via mobile phone, bank account, credit card or recharge voucher (GoPay).



UKRAINE



Ukraine covers 603,628 km², with a population of approximately 44.5 million. By land area, it's the largest country entirely within Europe. Having suffered from hyperinflation following the collapse of communism, the country attempted to stabilise its economy by introducing a new currency together with a framework for the privatisation of state enterprises. While the country is classified by the World Bank as a middle-income state, it faces significant challenges such as undeveloped infrastructure, corruption in business, and the disruption caused by conflict with Russia over the disputed territory of the Crimean Peninsula.

FINANCIAL INCLUSION

Bank-account penetration in Ukraine in 2014 was 53%, significantly lower than the 58% throughout Eastern Europe as a whole. Both the banking industry and, consequently, consumers have been deeply affected by the events of recent years and the economic recession: over 20 banks have lost their licenses in the recent past, and the Ukrainian hryvna has reached its

lowest point ever. With 27% of the population having a credit card, penetration is high for a country within the region, 11% higher than the average for Eastern Europe overall. PrivatBank, founded in 1992, is the country's largest commercial bank, and the leading issuer of Ukrainian credit cards.



INTERNET & SMARTPHONE PENETRATION

Internet penetration in Ukraine remains low in comparison to other countries in the region, and to the region overall: only 43% of Ukrainians having access to online resources in comparison to 52% of the population of Central and Eastern Europe, and 41% of the population worldwide. This is in part due to the complex ongoing political situation and a lack of

effective infrastructure. In spite of economic difficulties, smartphone penetration has doubled since 2013, with 24% of inhabitants of Ukraine owning a smartphone. Notwithstanding this recent rise, smartphone penetration is half the average figure for the region, and considerably lower than the 42% global figure.





UKRAINE

E-COMMERCE TRENDS

The Ukrainian B2C e-commerce sector was worth \$2.2 billion USD in 2014, and experienced annual growth of at least 25%. The average spend per online shopper was \$747 USD, and in 2015, e-commerce accounted for 2% of all retail sales. However, the sector has been strongly impacted by political unrest and economic uncertainty which came to a head in 2014: the national

currency was devalued, and e-commerce sites lost approximately 17% of their traffic due to military action in eastern Ukraine. Relatively low Internet penetration also affects the e-commerce landscape, but Ukrainians do make use of the resources at their disposal, preferring products in the tourism, home appliances, clothing and footwear, and cinema ticket categories.

Popular APMs

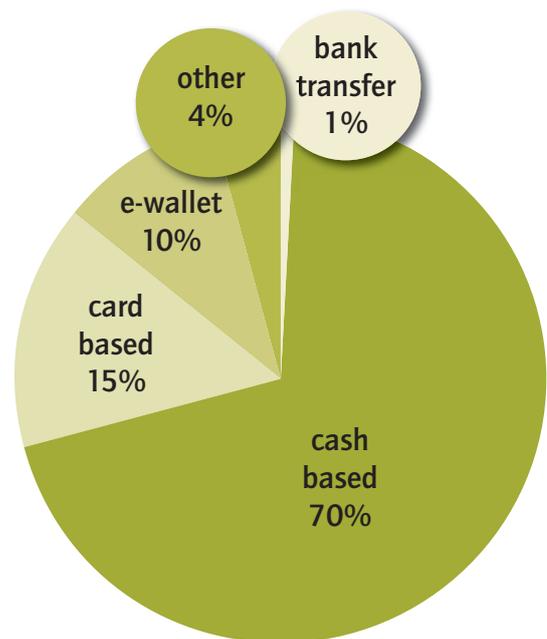


population: 45.5 m
GDP: 131.8 bn USD
GDP per capita: 3,082 USD

HOW PEOPLE PAY ONLINE

70% of all online transactions are still paid for in cash, with card based payment methods and e-wallets close to each other at 15% and 10% of e-commerce transaction share. Other methods account for 4% of transactions, while bank transfers, with 1% of all transactions, are almost never used.

Alternative payment methods in widespread use often have their origins in Russia: Yandex money is accepted by more than 76,000 merchants worldwide, and moneta.ru offers the online shopper the ability to make a push transaction, i.e. to pay the merchant without any data ever being entered on the merchant website.



Share of e-commerce transaction

Computop is a leading global payment service provider that provides compliant and secure solutions in the fields of e-commerce, POS, m-commerce and Mail Order and Telephone Order (MOTO). The company, founded in 1997, is headquartered in Bamberg, Germany, with additional independent offices in China, the UK and the US. Computop processes transactions totalling \$24 billion per year for its client network of over 14,000 large international merchants and global marketplace partners in industries such as retail, travel and gaming. Global customers include C&A, Fossil, Metro Cash & Carry, Rakuten, Samsung and Swarovski. In cooperation with its network of financial and technology partners, which it has expanded over many years, Computop offers a comprehensive multichannel solution that is geared to the needs of today's market and provides merchants with seamlessly integrated payment processes.

Sources: PPRO and Edgar, Dunn & Company



Computop have been partnering with PPRO for a number of years and many of the alternative payment methods mentioned in this guide are provided through this partnership. PPRO provides Computop access to, processing and collection services for alternative payment methods and value added services, all through one API. Computop's merchants can benefit from this partnership via only one contract for more than 100 alternative payment methods, via their same integration, a single platform and with only one settlement for multiple APMs.

<https://www.ppro.com/acquiring/>

For questions and inquiries about Computop's solutions, contact a payment specialist in your area or visit www.computop.com.

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