

# The Shadow Economy in Europe, 2013

The economic crisis has given governments the impetus to take on Europe's massive shadow economy. Electronic payments can help tackle the problem.



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Visa Europe works at the forefront of technology to create the services and infrastructure that enable millions of European consumers, businesses, and governments to make electronic payments. Its members are responsible for issuing cards, signing up retailers, and deciding cardholder and retailer fees.

Visa Europe operates a high-volume, low-cost business model that provides services to its members. Its surplus is reinvested into the business and used to improve capital and reserves. In the past six years, Visa Europe has invested over €1 billion in new technology and infrastructure.

There are 470 million Visa cards in Europe; €1 in every €6.75 spent in Europe is on a Visa card. Almost 80 per cent of Visa Europe's business is on debit cards and in 2012 €1.05 trillion was spent on Visa debit cards. Annual online spending on Visa cards in Europe topped €200 billion for the first time in this period and now accounts for more than 20 per cent of Visa Europe's processed business.

Since 2004, Visa Europe has been independent of Visa Inc. and incorporated in the United Kingdom, with an exclusive, irrevocable, and perpetual licence in Europe. Both companies work in partnership to enable global Visa payments. As a dedicated European payment system, Visa Europe is able to respond quickly to the specific market needs of European banks and their customers—cardholders and retailers—and to meet the European Commission's objective to create a true internal market for payments.

For more information, please visit [www.visaeurope.com](http://www.visaeurope.com).

## **Friedrich Schneider, PhD**

Dr. Schneider is one of the leading experts on the shadow economy. He has published multiple articles and books on the shadow economy. He is a professor of economics and chair of the Department of Economics at the Johannes Kepler University of Linz in Austria.

## **A.T. Kearney**

A.T. Kearney is a global team of forward-thinking, collaborative partners that delivers immediate, meaningful results and a long-term transformational advantage to our clients and colleagues. Since 1926, we have been trusted advisors on CEO-agenda issues to the world's leading organisations across all major industries and sectors. Today we serve the largest global clients in all major industries and have specific expertise in cards and payments. A.T. Kearney's offices are located in major business centres in 39 countries, including 27 offices in Europe.

Change is coming fast these days. Globalisation and digitalisation have dramatically altered the way in which we live, work, and communicate. Across Europe, consumers are adopting smartphones—in the United Kingdom and Spain, more than 6 in 10 mobile users own smartphones—providing connectivity anytime, anywhere. An abundance of easily obtainable information has made today’s consumers more sophisticated and demanding of convenience across channels, devices, and applications. A shopper today can go to the local mall to try out several pairs of sneakers, then compare prices to other retailers—and even make a purchase—using her mobile phone.

Paradoxically, as consumers achieve this “modernity,” they still rely primarily on old-fashioned cash for most of their transactions. Dirty and heavy, cash is also easy to hide from authorities, fuelling one of society’s most damaging phenomena: the shadow economy—that blurry area of commerce that includes legal activity hidden deliberately from public authorities.

The shadow economy in Europe today is worth more than €2.1 trillion.<sup>1</sup> It is facing increased scrutiny as national governments seek to balance budgets while avoiding the tax increases and benefit cuts that can hamper economic recovery. It is nurtured by several interlocking factors: the predominance of cash, a lack of transparency surrounding transactions, and limited enforcement of laws. The shadow economy offers questionable individual benefits at the expense of many, resisting the world’s increasing digitalisation and connectivity and hampering the public good.

A.T. Kearney and Friedrich Schneider, PhD, professor of economics and chairperson of the Department of Economics at Johannes Kepler University in Linz, Austria, have teamed up once again to study the structure of the shadow economy in Europe and identify measures to reduce it. The study is based on an analysis of the shadow economy within 12 industry sectors in six focus countries in Europe (see appendix: About the Study on page 20). This report examines the findings of our study and how to address them.

## The Shadow Economy during Downturns

The shadow economy comprises legal business activities that are performed outside the reach of government authorities.<sup>2</sup> These activities typically fall into two categories that remain common across Europe. The first is **undeclared work**, which accounts for roughly two-thirds of the shadow economy. It includes wages that workers and businesses do not declare to the government to avoid taxes or documentation.<sup>3</sup> Undeclared work is widespread in construction, agriculture, and household services (such as cleaning, babysitting, elderly care, and tutoring). The other one-third comes from **underreporting**, which is when businesses—primarily those that deal heavily in cash, such as small shops, bars, and taxis—report only part of their income to avoid some of the tax burden.

Determining how best to address the shadow economy first requires an understanding of where we are, where we’ve been, and where we’re headed.

**The shadow economy in 2013.** The size of the shadow economy in Europe reached a 10-year low in 2013, and is now estimated at €2.15 trillion. On average across Europe, the shadow economy

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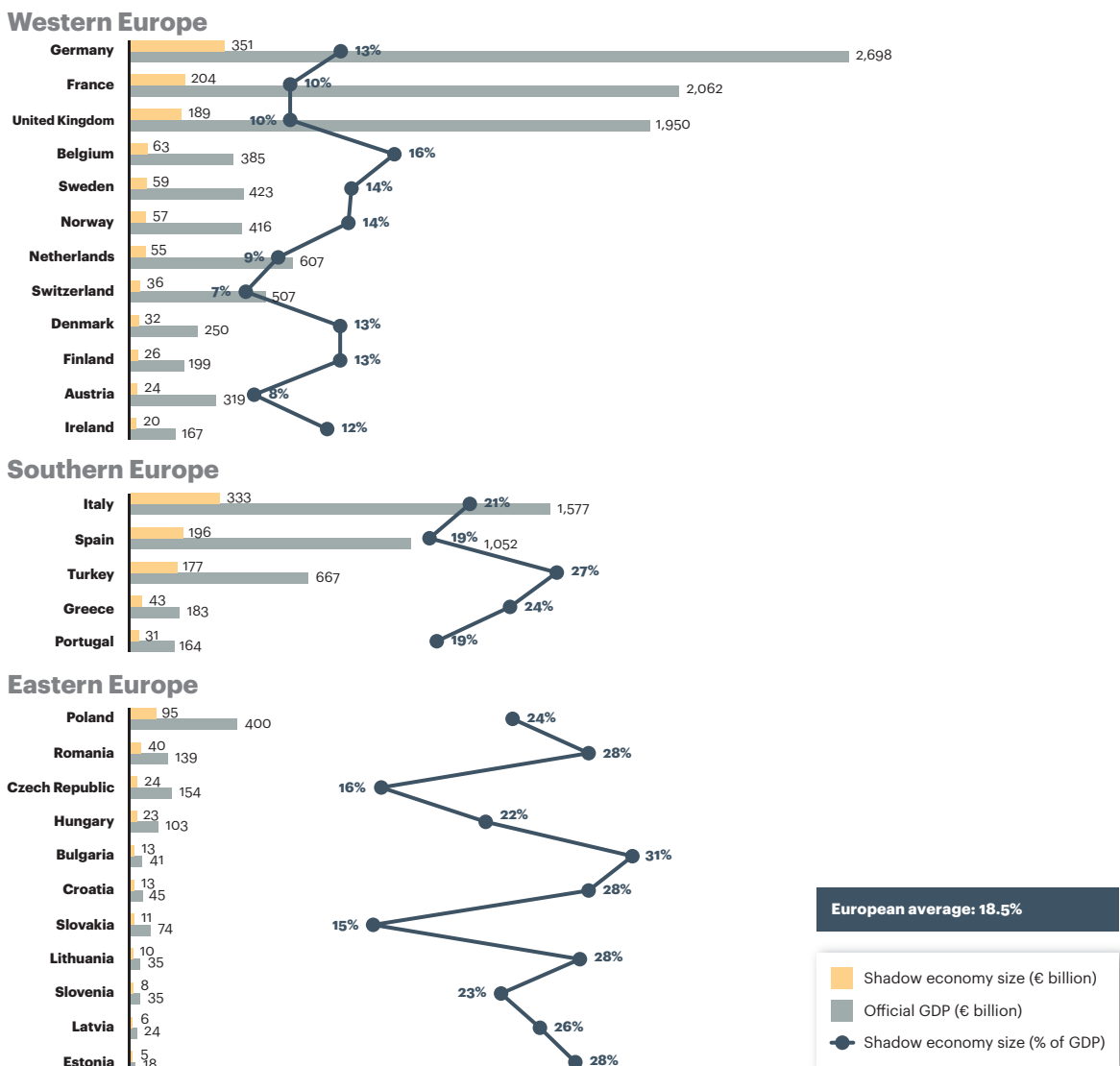
<sup>1</sup> All monetary figures in this paper are in euros unless otherwise noted.

<sup>2</sup> The shadow economy does not include illegal activities and crimes, including drug dealing, smuggling, money laundering, and embezzlement, or household enterprises that, by law, do not need to register with the government.

<sup>3</sup> The shares of undeclared work and underreporting are estimates, as the data does not exist to allow a scientific conclusion to be drawn.

is as large as 18.5 percent of economic activity (see figure 1).<sup>4</sup> Almost two-thirds of the shadow economy is concentrated in Europe’s five largest economic powers—Germany, France, Italy, Spain, and the United Kingdom. However, in Eastern Europe the shadow economy is much larger in relation to the size of the official economy than in Western Europe. In Austria and Switzerland, the shadow economy equals roughly 7 to 8 per cent of the size of those countries’ official GDP, compared to Poland, which has a shadow economy of €95 billion, compared to an estimated GDP of €400 billion, or 24 per cent. In Eastern European nations such as Bulgaria, Croatia, Lithuania, and Estonia, the shadow economy is almost 30 per cent the size of the official economy.

Figure 1  
The shadow economy in relation to GDP



Notes: Data for EU-27 (excluding Cyprus, Luxemburg, and Malta) plus Norway, Switzerland, Croatia, and Turkey. The size of the shadow economy is calculated using the MIMIC method.

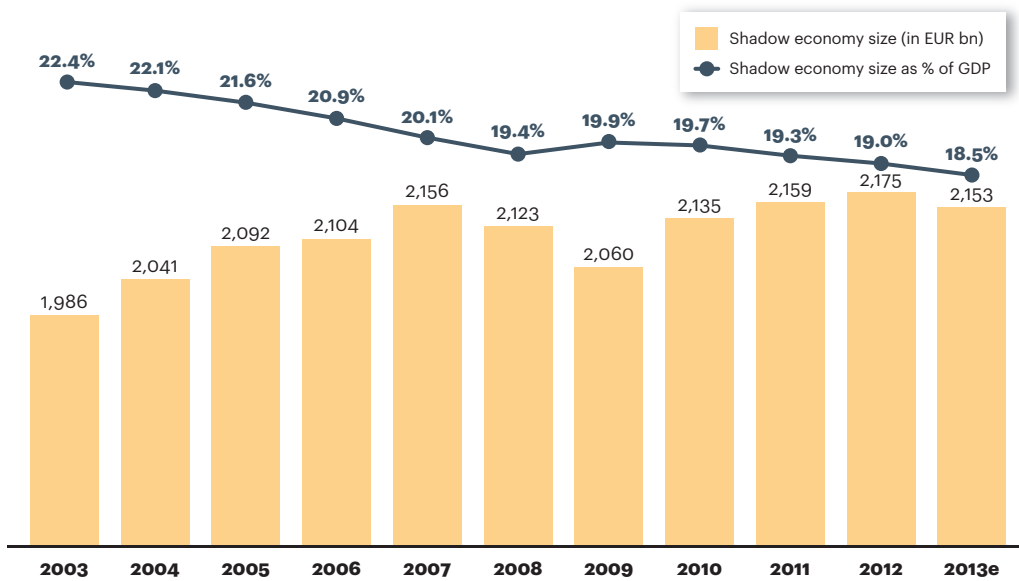
Source: Dr. Friedrich Schneider, Johannes Kepler University of Linz, Austria; Eurostat; A.T. Kearney analysis

<sup>4</sup> Friedrich Schneider, “Size and Development of the Shadow Economy of 31 European Countries from 2003 to 2013,” March 2013. The calculation encompasses the 27 countries of the European Union plus Croatia, Norway, Switzerland, and Turkey. The 2013 GDP estimates are from Eurostat, March 2013.

**Lessons from the past.** As reported in previous studies of the shadow economy, the size of the shadow economy correlates strongly to economic cycles. During times of economic downturn, rising unemployment, lower disposable income, and fears about the future, more individuals tend to drift into “shadow activities”—for example, taking on additional employment that goes unreported, or underreporting shop sales—in order to improve personal finances and compensate for missing income streams.

The economic crisis that began in 2008 confirms this. In 2009, the first full year of impact, the shadow economy surged 0.5 per cent relative to GDP. Figure 2 juxtaposes the development of the shadow economy in absolute euro terms with its size relative to GDP. Although the 2009 increase may not have been massive, it broke a steady long-term trend in which Europe’s shadow economy declined in comparison to GDP. The accompanying reduction in the absolute size of the shadow economy is compelling evidence of the depth of the continent’s economic decline. While more individuals sought alternatives to the official economy, the shadow economy could not compensate for the decline in the real economy.

Figure 2  
**The development of the shadow economy in Europe**



Notes: Data for EU-27 plus Norway, Switzerland, Croatia, and Turkey. The size of the shadow economy is calculated using the MIMIC method.  
 Source: Dr. Friedrich Schneider, Johannes Kepler University of Linz, Austria; Eurostat; A.T. Kearney analysis

Improving economic conditions since 2010 have helped recover this lost ground. By 2011, the shadow economy was below pre-crisis levels, and in 2013 the shadow economy is expected to shrink to an all-time low level relative to GDP. The size of this improvement, however, will depend on the speed and degree of economy recovery in the second half of the year.

**A “three-lane road” for Europe’s future.** The crisis brought pronounced differences in the shadow economy’s development across regions. Prior to 2009, the fight against the shadow economy bore fruit across all parts of Europe. Since 2011, progress in Europe has followed three different paths. In Western Europe, mild economic improvements and a long tradition of efforts

to reduce the shadow economy took effect again, keeping the shadow economy relatively small. In Eastern Europe, where GDP growth is generally high, the shadow economy remains strong but not as much as it once was. In Southern Europe, progress has ground to a halt, with minimal reductions in the shadow economy relative to GDP (see figure 3 on page 7). Spain's shadow economy relative to GDP is almost flat, from 18.7 per cent in 2008 to 18.6 per cent today. In Portugal, the shadow economy today is 19 per cent, higher than the 18.7 per cent mark in 2008 (see sidebar: The Shadow Economy in Construction).

## The Shadow Economy in Construction

Historically, construction has been highly susceptible to shadow economy activities. Professor Schneider's analysis reveals that close to one-third of this sector's gross value added is produced "in the shadow" and does not appear in the official statistics.

The bursting of the real estate bubble in 2008 hammered the construction industry. Output in the EU27 countries has declined on average by 3.1 per cent per year, even as GDP improved by 0.8 per cent per year. In Southern

Europe the impact was worst; a once-oversized sector was decimated. The construction industry has declined to two-thirds of its 2008 value in Spain and Portugal, half its value in Cyprus, and one-quarter of its value in Greece. As the order book shrank, the impact on employment was dramatic: More than 1.2 million official jobs were lost (see figure).

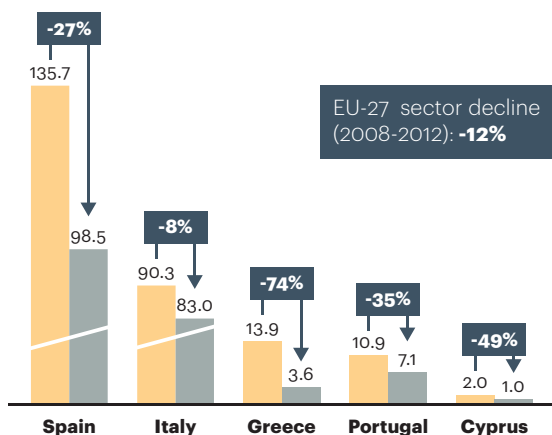
The shadow economy in construction was also hit. The dramatic decline in demand and output were reflected

proportionally in shadow activities. Although some of the lost jobs—both official and unofficial—may have moved to other sectors, the shock could not be fully absorbed. We believe this to be the reason that the shadow economy has been flat or even slightly smaller in Southern Europe. Without the drastic decline in construction, the shadow economy may have experienced more visible growth during the downturn.

Figure  
The downturn has hurt Southern Europe's construction industry

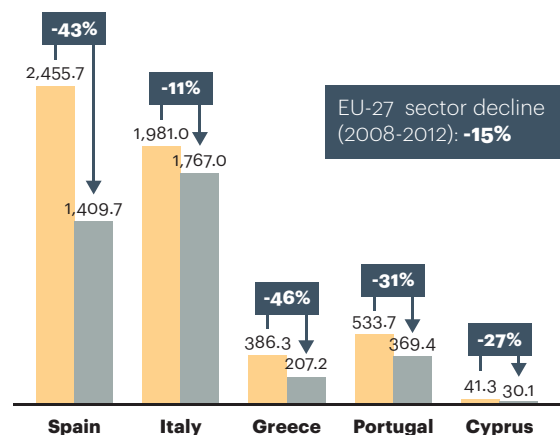
### Construction revenue

(gross value added, € billion)



### Construction employment

(thousands)



2008 2012

Note: Spain data is for 2011; 2012 data is not yet available.

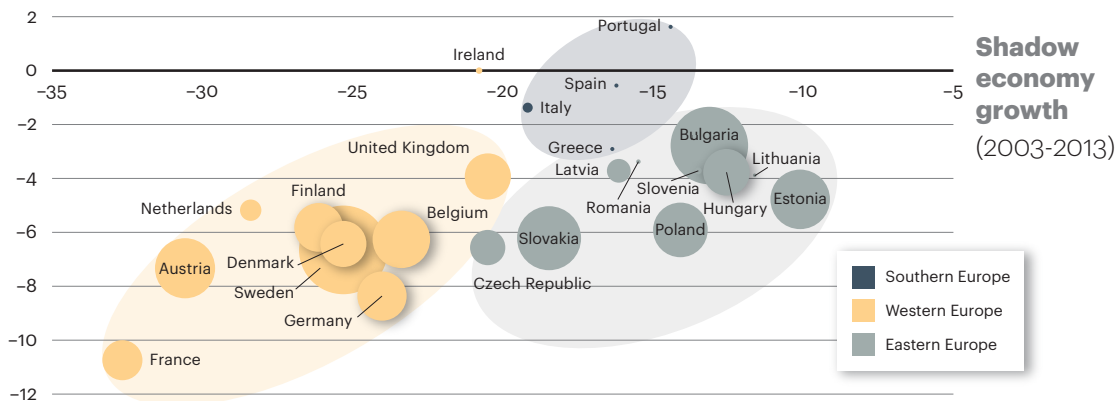
Source: Eurostat; A.T. Kearney analysis

Figure 3

**Southern Europe's progress against the shadow economy has ground to a halt**

**Shadow economy growth**

(2008-2013)



Notes: Bubble size equals GDP growth between 2008-2012; countries with negative growth (such as Greece, Hungary, Ireland, Portugal, Romania, Slovenia, and Spain) are represented with the smallest size of bubble. Data is for EU-27 (excluding Cyprus, Luxembourg, and Malta). The size of the shadow economy is calculated using the MIMIC method.

Source: Dr. Friedrich Schneider, Johannes Kepler University of Linz, Austria; Eurostat; A.T. Kearney analysis

## Shedding Light on the Shadow

What fuels the shadow economy and what motivates people to engage in it? There are four main factors.

**Savings.** By working outside the active economy, participants can avoid taxes and possibly social security payments, circumvent tax and labour regulations, and sidestep paperwork. A strong causal relationship exists between a country's tax rate and the size of its shadow economy. This relationship is especially pronounced during downturns.

**Lack of a "guilty conscience."** The shadow economy is often considered a normal part of society. This attitude is prevalent in countries where the perceived quality of state institutions and benefits is low or confidence in the state has been shaken.

**Low risk of detection.** Participating in the shadow economy is illegal, but the less chance there is of getting caught and the lower the penalties, the more individuals will consider the risk worthwhile. Thus, reducing the shadow economy requires a clear legal stance and the strength of law enforcement.

**Ease of participation.** Paying with cash makes it easier to engage in the shadow economy, since cash payments cannot be traced. The shadow economy is clearly a cash-based economy, and cash is the fuel in its engine.

These four factors have evolved since we first studied the shadow economy in 2008. Although all remain valid, their relative weight has changed. The economic crisis forced many European governments to tighten their belts by cutting spending and raising taxes. Sixteen of the 27 countries of the EU have increased ordinary value-added tax (VAT) since 2008; seven have

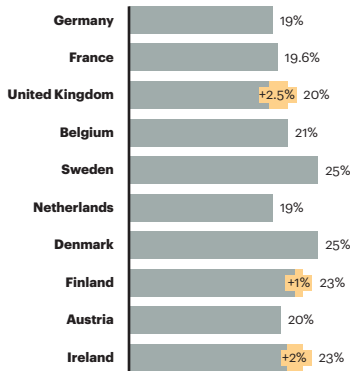
increased personal income taxes, especially for top earners (see figure 4). VAT increases adopted by Eastern European countries have been counterbalanced by selective decreases in personal income taxes and historically flat tax rates, and the shadow economy has shrunk. In Southern Europe, where tax hikes have touched multiple categories and are relatively high, the shadow economy has declined only marginally or has stayed level.

These tax hikes have been accompanied by stricter enforcement: more frequent controls, higher penalties, and visible condemnation of offenders. When we conducted our first shadow

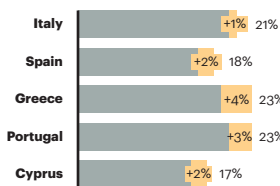
Figure 4  
**Tax increases in Europe**

**Value-added tax rates**  
 (%)

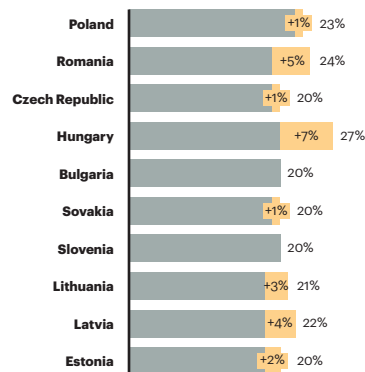
**Western Europe**



**Southern Europe**

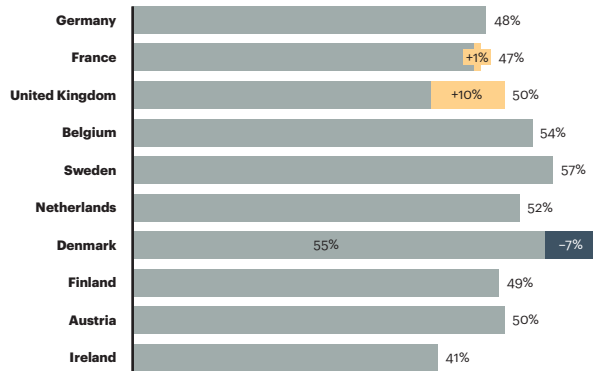


**Eastern Europe**

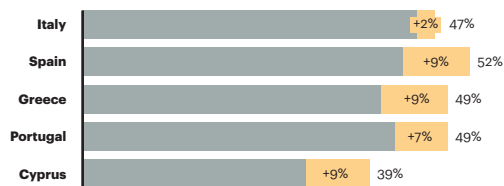


**Top personal income tax rates**  
 (%)

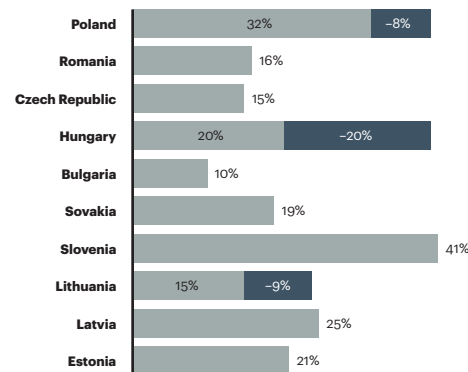
**Western Europe**



**Southern Europe**



**Eastern Europe**



■ 2012 tax level ■ Tax increase since 2008 ■ Tax decrease since 2008

Note: Data is for the EU-27 only (excluding Luxemburg and Malta).

Source: Eurostat, European Commission, "Taxation trends in the European Union," 2012, [http://ec.europa.eu/taxation\\_customs/taxation/gen\\_info/economic\\_analysis/tax\\_structures/index\\_en.htm](http://ec.europa.eu/taxation_customs/taxation/gen_info/economic_analysis/tax_structures/index_en.htm); A.T. Kearney analysis



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economy study, there were few high-profile cases of tax evasion, and those dragged on for years only to peter out without a visible outcome. This situation has changed as Europe has enhanced law enforcement in reducing the shadow economy. Actions include increased tax scrutiny for high-net-worth taxpayers, mandatory use of certified invoicing programs for small and medium enterprises (SMEs), cross-checking VAT declarations with merchant point-of-sale (POS) transactions, and the creation of new bodies responsible for securing tax compliance.

However, closing legislative, tax, and executive loopholes will only go so far and must be accompanied by efforts to improve the transparency of financial transactions. Cash decreases transparency, since transactions cannot be tracked to ensure compliance. Meanwhile, several Southern European markets have seen moderate declines in the number of POS terminals over the past two years, leading to slower growth in electronic transactions. While downturn-related shop closures make up a sizable portion of the POS returns, a number of merchants have become reluctant to process electronic payments. Recently, a large Portuguese retailer stopped accepting card payments for amounts below €20; smaller merchants were quick to follow suit. While reducing costs is only natural in a downturn, increasing the number of cash transactions on a national level can help foster growth in the shadow economy and all of its associated downsides.

Lastly, more Europeans are disillusioned with politics and the growing distance between citizens and government. Although perhaps economically justified, austerity programme extremes—slashed wages and pensions, budget cuts in healthcare and education, shop closures, and rising unemployment—have amplified these attitudes. The appearance of new parties and political movements, falling participation rates in national elections, and political impasses, such as that which recently occurred in Italy, reflect strong discontent with the existing governance. Citizens feel left alone to deal with the consequences of the crisis. Hence, the step into the shadow economy is shorter and made with less remorse than before.

Looking at the recent interplay among the four influencing factors, the balance has been positive: The shadow economy in Europe has remained on a downward trajectory. But the pace of decline has slowed significantly in all but two European countries, and the gains against the shadow economy since 2008 have been roughly half of those during the early 2000s. Looking ahead beyond a continued focus on tangible measures and actions, it will be important to take into account evolving attitudes about the shadow economy and perceptions of the role of public institutions.

## Confronting the Shadow Economy

Since 2008, governments have sought smart ways of reducing fiscal deficits without sacrificing economic growth or employment. As a result, many European countries have seen value in creating measures to curb the shadow economy. In previous editions of our shadow economy study, we interviewed public officials to identify measures that were in use to limit shadow activities and closely examined the shadow economy of 12 European countries to assess the impact and effectiveness of these actions. For this latest study, we have taken a more global view: identifying common patterns in governments' response to the shadow economy across Europe and exploring ways to take those responses to the next level.

Three main findings have emerged:

**Undeclared work remains a “hot topic.”** In many countries, the first step in fighting the shadow economy has been seeking to curb undeclared work. Our database of anti-shadow economy measures finds that more than half of the roughly 200 measures focus on undeclared work—including many recent entries. In 2012, Czech authorities passed an amendment to the Act on Employment permitting sizable fines to persons and companies that use commercial contracts instead of employment contracts. This system, commonly known in the Czech Republic as “švarcsystém,” after the entrepreneur and inventor Miroslav Švarc, creates a workforce that operates outside of the bounds of employment legislation and, therefore, without social or health benefits. People “employed” under the švarcsystém can be fined up to €4,000, and companies risk penalties of €10,000 to €400,000.

Measures focused on undeclared work tend to be unpopular, and their success depends heavily on controls, sanctions, and penalties for enforcement. In Bulgaria, a law required all employees caught working without a valid labour contract to pay a penalty equal to three monthly social security contributions, but it was ruled illegal by the Constitutional Court. A 2011 royal decree in Spain imposed new obligations on businesses to monitor the contracts of employees hired through subcontractors before they start working. In addition to demanding stricter penalties of up to €187,500 for very serious infringements, the decree states that sanctioned companies will not be eligible to bid for public contracts for five years and can be deprived of labour market subsidies for up to two years.

**Tax evasion measures are generating hype.** Faced with ailing fiscal budgets, public authorities have focused on addressing tax evasion and fraud. Tax evasion is certainly related to the shadow economy but is not considered an integral part of it. Measures against tax evasion are frequently part of the same package as those that address tax fraud and are hard to separate, so our analysis captures both.

Portugal and Turkey are forerunners in this effort. Both countries have defined, publicised, and unveiled national strategies for fighting the shadow economy, with a particular focus on improving tax compliance. Portugal mandates invoices for all activities and certified invoice programmes for companies with revenues of greater than €100,000. It is aiming for substantially increased e-invoice and email usage for fiscal purposes by 2016. Several controls are built in, including mandatory reporting of merchant POS transactions by banks to tax administrators. Turkey has introduced a system for cross-checking VAT declarations with credit card transactions from the banks. It recruited 1,500 new tax officers in 2012 to ensure enforcement. The first positive signs are already visible: Roughly 360,000 tax contributors were added in 2012, and the number of noncompliant VAT taxpayers is believed to have decreased significantly.

**Negative enforcement still prevails.** New regulations, controls, and penalties that seek to limit the shadow economy by the force of law are generally considered “negative” measures, since they punish offenders rather than motivate people to change their behaviours.

Some of the most powerful actions taken to curtail the shadow economy are actually indirect measures. Foremost among these is revamping tax and social security systems to make them simpler and, in many cases, cheaper. In Germany, for example, the “mini-jobs” reform has simplified red tape and taxes to encourage lower-wage workers, such as domestic workers, to join the official economy. Despite some initial scepticism, the number of employees improving their income by taking on an additional mini-job reached 2.6 million in 2012, three times more than in 2003. On top of this, 4.8 million individuals (almost 13 per cent of the German population

between 16 and 64 years old) registered as mini-jobbers only, a surge that can be attributed to increased reporting.

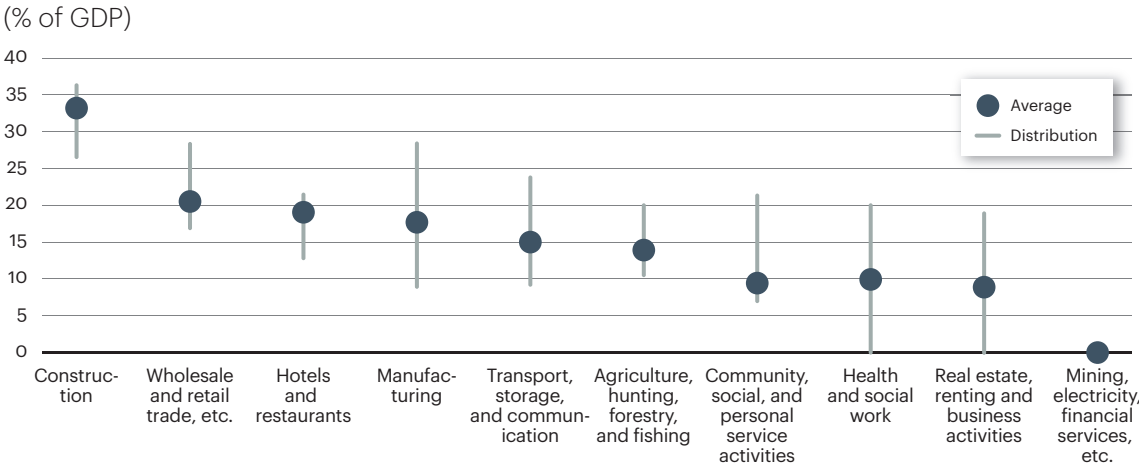
Incentives to encourage participation in the official economy have become less common but remain a powerful mechanism. In the past decade, many Eastern European countries, including Russia, the Czech Republic, and Hungary, introduced flat tax rates for individuals and corporations and reduced social security contributions to discourage tax evasion. According to Forbes, when Bulgaria did this in 2008, tax revenues rose 5.24 per cent in the first year. Still, the flat tax does not have it easy in the current economic climate. In January 2013, Slovakia, one of the early adopters, abolished the flat rate after nine years and reintroduced a directly progressive income tax as part of an austerity package. Although no other country has followed suit yet, discussions are underway in Bulgaria and Romania.

Some countries have endeavoured to produce results by improving the lines of communication between citizens and governments. In the Philippines, a multi-year “Ask for Receipt” campaign by the Bureau of Internal Revenue sought to raise public awareness about the impact of sales underreporting and to give incentives for participating, including a chance to win a million pesos and other exciting prizes. In 2013, Turkey initiated new tax consciousness training for elementary schools across the country. These types of campaigns require time before results become visible, especially in countries where the shadow economy is an entrenched part of doing business. Still, they do bring the shadow economy to the public’s attention and provide a forum for reporting incidents.

## Smart Focus: Increased Benefit

Our study finds that heavily regulated industries and those that rely on regular contracts with customers, such as electricity and financial services, have the smallest shadow economies (see figure 5).

Figure 5  
**Some sectors have consistently large shadow economies across countries**



Note: Examples are based on data for six focus countries: Germany, Spain, Italy, Poland, Romania, and Turkey.

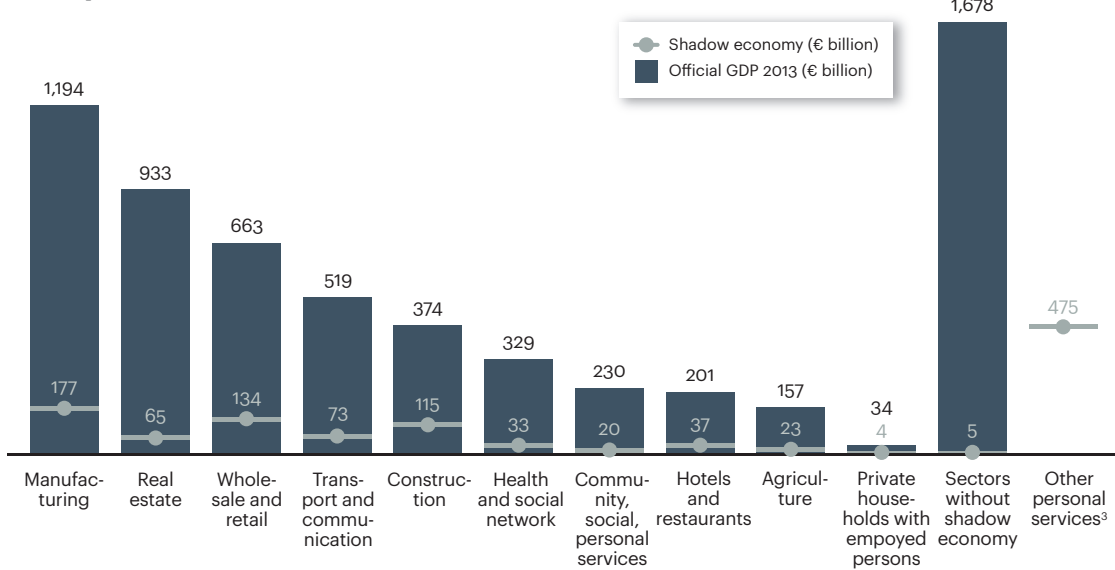
Source: Dr. Friedrich Schneider, Johannes Kepler University of Linz, Austria; Organisation for Economic Co-operation and Development; Eurostat; A.T. Kearney analysis

On the other hand, construction, manufacturing, and wholesale and retail all have the highest share of the shadow economy; in Turkey, transportation and real estate also top the list (see figure 6). A few factors increase the shadow economy in these businesses. One is their traditionally high level of underreporting—particularly in construction, especially when dealing with subcontractors. Undeclared work is also widespread, for example in construction and retail. Another factor in several of these industries is the large number of small, cash-based transactions: a cheap taxi ride, one night at a hotel, a quick meal at the sandwich shop. In each case, small- and medium-sized enterprises in particular are prone to trading largely in cash and evading taxes.

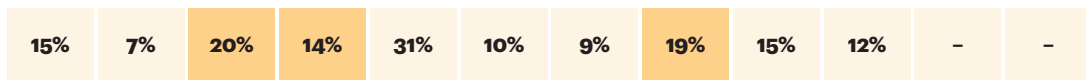
Figure 6

**Manufacturing, construction, and wholesale and retail have the highest share of shadow economy**

**GDP split**



**Shadow economy as % of sector**



Notes: Eurostat reports by industry only on gross value added (GVA); GDP sector split derived from the reported GVA numbers. Other personal services include entertainment, massage, prostitution, household services, and others. Material costs account for roughly 30 percent of that segment, they include new and second-hand goods and materials and may partly be reported both in the official and unofficial GDP.

Source: Eurostat, Dr. Friedrich Schneider, Johannes Kepler University of Linz, Austria; A.T. Kearney analysis

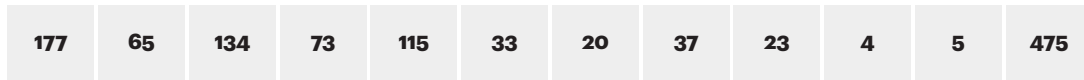
We conducted a more detailed analysis of three industries—wholesale and retail, hotels and restaurants, and transportation and communication—which represent an estimated 25 to 35 percent of the shadow economy. These industries have a large share of underreporting, both in business-to-business (B2B) and business-to-consumer (B2C) sales (see figure 7 on page 13). They are also wide-ranging. For example, transportation and communication includes both highly regulated services with a miniscule shadow economy, such as mail, telecom, and air travel, and unregulated, cash-based markets, such as taxis.

Figure 7

**The three focus industries represent more than 25 per cent of Europe’s shadow economy**

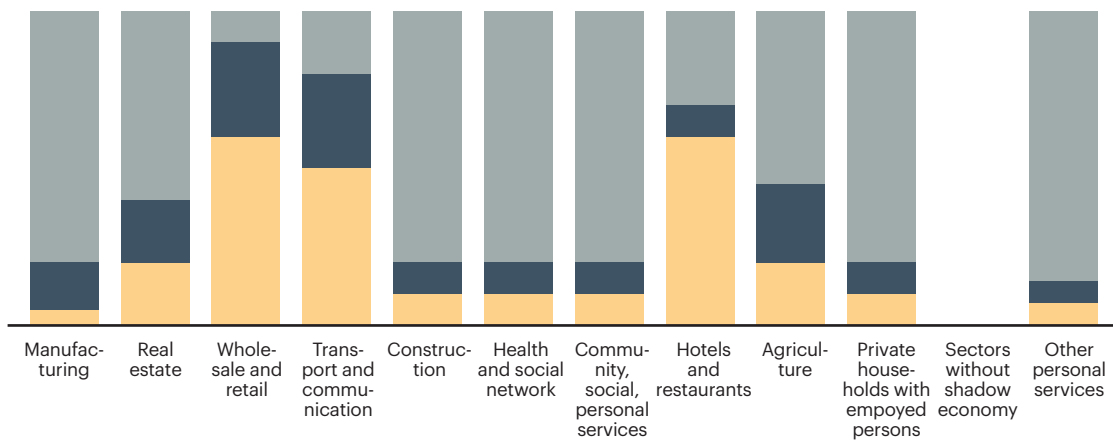
**Size of the shadow economy**

(€ billion)



**Shadow economy split**

(%)



**Underreporting**

(€ billion)



Undeclared work    B2C underreporting    B2B underreporting

Note: B2C is business-to-consumer; B2B is business-to-business.

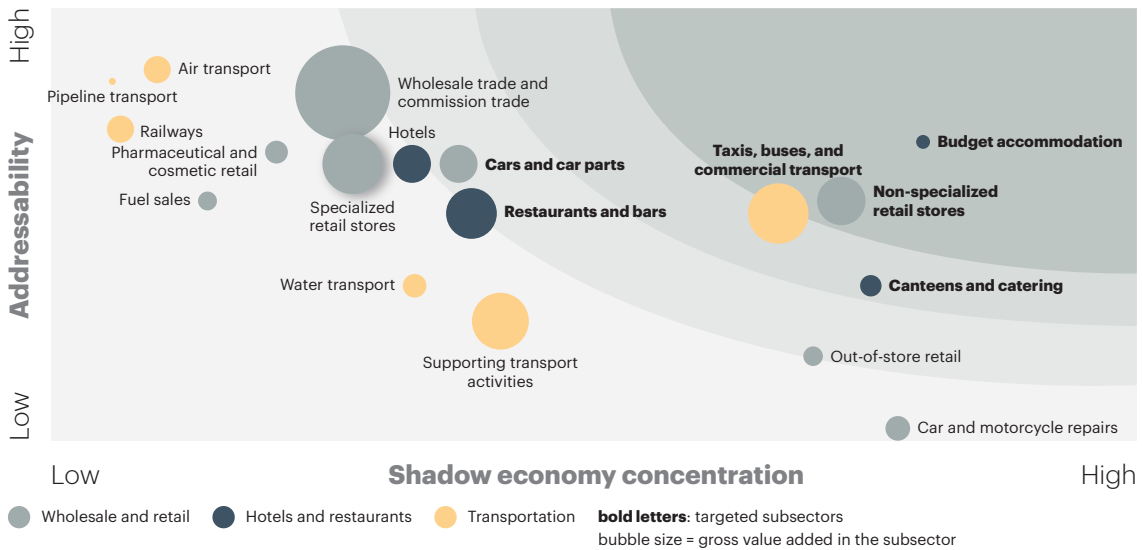
Source: Eurostat; Dr. Friedrich Schneider, Johannes Kepler University of Linz, Austria; A.T. Kearney analysis

Our analysis determined which sectors could benefit most from electronic payments by comparing the size of the shadow economy in that sector to its potential for introducing electronic payment systems. To measure this potential, we took into account factors such as the current prevalence of payment systems and the convenience of using them. We also selected sectors with a higher share of underreporting than undeclared work—these sectors would benefit from increased electronic transactions.

Based on these criteria, we identified several sectors that would benefit most from electronic payments (see figure 8 on page 14). These sectors include cars and car parts, non-specialised retail stores, restaurants and bars, catering, and transportation (such as taxis). We found a few other sectors specific to individual countries: small corner shops in Turkey and budget hotels in Italy and Spain. By targeting these sectors, governments could address up to €200 billion of the shadow economy. Although fully “transferring” these sectors into the official economy is unrealistic, the potential gains at stake for even a chunk of it are significant enough to call for action.

Figure 8

**Sectors with high shadow economy concentration and addressability would benefit from electronic payments**



Note: The focus countries for this analysis are Germany, Italy, Spain, Poland, and Turkey  
 Source: A.T. Kearney analysis

## Electronic Payments: A Secret Remedy

Increasing banking inclusion and the use of electronic payment systems brings more transparency to transactions and makes participating in the shadow economy more difficult. In fact, as shown in figure 9 on page 15, a strong negative correlation exists between the prevalence of electronic payments in a country and its shadow economy. Countries with high levels of electronic payment usage, such as the United Kingdom and the Nordic countries, have smaller shadow economies than those with minimal levels of electronic payments, such as Bulgaria, Romania, and Greece.

Professor Schneider’s research has found that increasing electronic payments by an average of 10 per cent annually for at least four consecutive years can shrink the size of the shadow economy by up to 5 per cent. The convenience of electronic payments can bring behaviour shifts, particularly among those who are “unconscious participants” in the shadow economy—those who receive no benefits from the merchants who underreport sales.

In reviewing measures countries have used to curb shadow transactions, it is clear that electronic payments produce tangible results, both in developing markets and in well-developed countries with more technological sophistication.

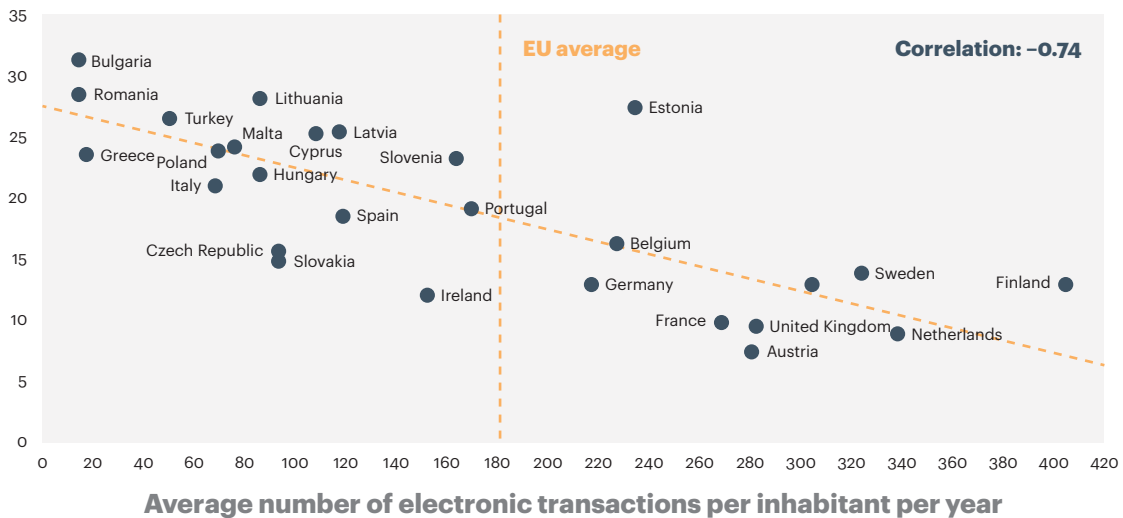
In 2010, a strategic initiative by the Visa Polska Executive Committee aimed to double the size of Poland’s acceptance network. Financed by Visa Polska’s members, the programme focused on expanding acceptance of both Visa and other systems’ cards, along with terminal modernisation for medium-sized retailers in small towns and rural areas, where acceptance was limited. This “Visa cards accepted everywhere” initiative has been a huge success. Since its start, more than

Figure 9

**Countries with more electronic payments have smaller shadow economies**

**Share of shadow economy**

(% of GDP)



Note: Data is for the EU-27 (except Luxemburg, due to data availability) plus Turkey. The 2011 data for electronic payments is based on latest available publication by ECB

Source: European Central Bank; Interbank Card Center; Dr. Friedrich Schneider, Johannes Kepler University of Linz, Austria; A.T. Kearney analysis

120,000 new terminals have been registered, most in predominantly cash-based industries with high sales underreporting, such as food and drink retailing, hotels, restaurants, and catering. This has contributed to the dynamism of the country’s acquiring community and has been commended by many stakeholders, including the National Bank of Poland, the Ministry of Finance, and the Polish Bank Association.

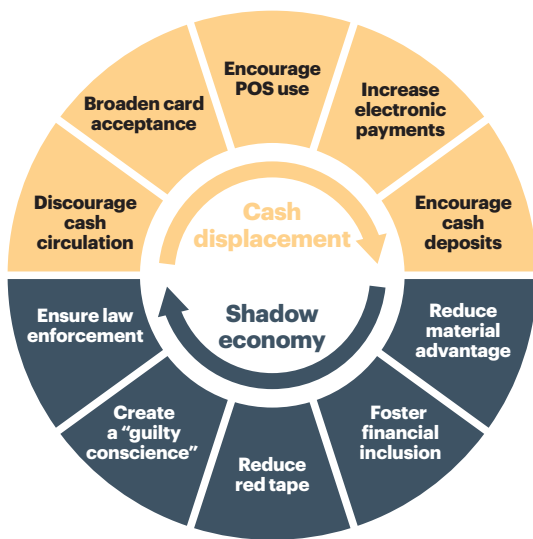
Poland has also seen success in the growth of contactless payments, also attributed to the programme’s implementation. The number of POS terminals capable of accepting payments by contactless cards and by smart phones with Visa payment applications is approaching 40 percent of all POS terminals in Poland and could top 50 per cent by the end of the year. Poland is now second only to the United Kingdom in the number of contactless cards, which has transferred low-value payments from cash to cards. Since the launch of the “Visa cards accepted everywhere” programme, the shadow economy in Poland has dropped from 26 per cent to 23.8 per cent. Undoubtedly, many factors are contributing to this decline, but the targeted effort to crack down on cash outside of large cities is certainly playing a significant role.

Meanwhile, Sweden—which introduced the world’s first banknotes in 1661—has made significant moves to abolish cash. Many bars do not accept cash; tickets are purchased with a text message or using contactless solutions, and a growing number of businesses only take cards. Of the 780 branches of the three leading banks, 530 no longer process or pay out in cash. Swedish retailers can turn their iPhones into POS terminals by plugging devices into them. The big banks are expected to launch a joint service allowing customers to transfer money between accounts in real time using cell phones. And in Uppsala, Sweden’s fourth largest city, merchants are now being educated in how to reduce cash as part of a programme to eliminate cash in the city.

Since Sweden discontinued the 50 öre (€0.06) coin in 2012 (having eliminated all lower denominations in previous years), the value of all cash and notes in Sweden has fallen below 3 per cent of GDP, well below the 7 per cent in the United States, 10 per cent in the eurozone, and 18.8 per cent in Japan. According to the Swedish Bankers' Association, the reduced amount of cash is making a dent in crime. The number of bank robberies in Sweden plunged from 110 in 2008 to 16 in 2011, the lowest level since the association started keeping records 30 years ago; robberies of security vehicles have also dropped. We believe that the lower level of cash transactions limits the possibilities for engaging in shadow activities as well.

Figure 10

**Addressing the shadow economy through direct measures and cash displacement**



Source: A.T. Kearney analysis

## Breaking the Cycle

Figure 10 illustrates the two primary areas in which authorities have fought the shadow economy. The first are **general measures to address the shadow economy directly**; these have historically been the prevailing tactics, and they have seen an additional boost during the downturn. These include first and foremost rules, controls, and penalties, along with the strengthening of human and technical capabilities to ensure law enforcement. Reducing red tape, especially by simplifying tax forms and enabling electronic submission, has become ubiquitous; meanwhile, providing incentives for not participating in the shadow economy—through the material advantage of lower taxes and social security contributions, or by creating a guilty conscience—has dropped in priority.

Fostering financial inclusion—and thus reducing the size of the shadow economy as more people have access to banks—is one measure that has come into increasing focus with the European Commission’s commitment to making financial services accessible and affordable to everyone. The commission’s 2011 recommendation improving access to basic current accounts has led both to enhancements of already existing legislation and new initiatives in the EU



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member states. The Netherlands changed existing rules to allow access to basic accounts for people with structural debt problems; Portugal allowed people to convert existing banking accounts into basic accounts at any time; and Ireland introduced a national financial inclusion strategy. Italy, a newcomer to this measure, introduced one of the strictest rules, a decree supported by an agreement between public authorities, the Italian Banking Association, the Italian Postal Service, and the Italian Association of Payment Institutions that requires banks, post offices, and payment institutions to provide basic accounts to consumers as of 1 June 2012.

The second area of measures, **cash displacement**, is more complex, since it means changing habits and coordinating actions among many stakeholders, including governments, banks, payment providers, and merchants. Planned initiatives must build on one another to ensure improvement, starting with creating the infrastructure and ending with rewarding consumers for using non-cash options. We have identified several ways that electronic payments can encourage cash displacement and help reduce the shadow economy.

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## **The shadow economy is nurtured by several interlocking factors:** the predominance of cash, a lack of transparency surrounding transactions, and limited enforcement.

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**Discourage cash circulation.** Easy access to cash, particularly with no-fee automated teller machines (ATMs), slows down the transition to electronic transactions. Typically, the absence of ATM fees leads to uninhibited cash withdrawals and subsequent cash payment at the point-of-sale. Not charging ATM fees could be perceived as a clear sign in favour of cash and uphold the common perception that “cash is free.”

During the past decade, many countries have discontinued the smallest denominations of their currencies. Belgium stopped producing its one- and two-cent coins in 2004, following in the footsteps of eurozone partners Finland and the Netherlands. There are important economic reasons behind such decisions. For instance, in Canada, where the penny was discontinued in 2012, the government said it cost 1.6 cents per coin; the elimination of the penny has saved taxpayers more than €8 million a year (CA\$10 million). Gradually reducing cash in circulation and creating more transparency about its true cost can help discourage cash usage.

**Broaden card acceptance.** Credit and debit card acceptance is not yet a given in Europe. Even countries with many POS terminals, such as Portugal or Turkey, have had issues with certain merchant categories, such as bars and taxis, that have been slow to adopt. In this context, a recent agreement to equip the entire fleet of Belgium’s largest taxi company with payment terminals—also allowing contactless payments—is an exciting experiment. It will be interesting to track the potential impact on this sector’s shadow economy in the years to come.

Countries with more limited POS networks can take a first step simply by making it easier to use cards. Success is evident not only in Visa Polska’s “Visa cards accepted everywhere” initiative, but also in other parts of the world. In 2003, Mexico established a fund to subsidise

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the cost of electronic payment terminals at small shops, which brought a measurable increase in terminal penetration and transactions. This occurred despite some issues with how the fund was set up, which led eventually to the program's discontinuation.

**Encourage POS use.** Most day-to-day transactions, especially those worth less than €15, are cash-based. Creating incentives for individuals to use their cards in these situations is an easy way to change behaviour. Argentina provided a rebate of 5 percentage points on debit card transactions at the point of sale—in effect a 25 per cent discount on the general VAT rate of 21 per cent. South Korean tax authorities offer citizens a lump-sum refund if card usage exceeds 20 per cent of individual gross income for credit cards and 25 per cent for debit cards. As a result, South Korea has seen a phenomenal increase in card usage in the past two decades, from less than 5 per cent of private spending in the early 1990s to 25 per cent in 2000 and more than 65 per cent in 2012.<sup>5</sup>

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## **Increasing electronic payments by 10 per cent** annually for at least four consecutive years can **shrink the shadow economy by up to 5 per cent.**

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Similar measures, although appealing and effective, would be difficult to enforce in Europe's current economic environment. Therefore, levelling the playing field for different payment methods can go a long way. Europe is in the process of adopting a new set of rules on consumer rights, which will prohibit online traders from charging clients more for paying by credit card (or other means). Still, some countries are going the opposite direction. A U.S. District Court ruling allowed store owners in many states to charge shoppers a surcharge of up to 4 per cent for using a credit card. Past experiences on surcharges from Australia show that while few retailers used it at first, about one-third do now. And not only that: Surcharges have spiralled above card acceptance costs, causing the Reserve Bank of Australia to revisit and relax the rules. Surcharging can influence consumer preferences in favour of cash when searching for the best payment alternative in their wallets, and it presents a risk, especially in markets with still below-average card adoption and usage.

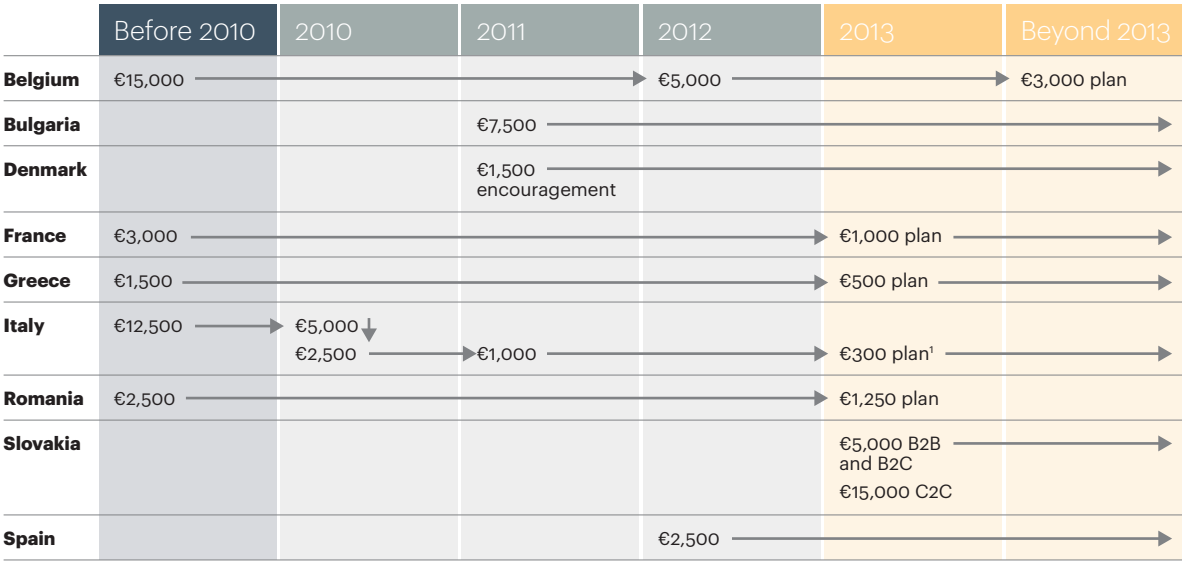
**Increase electronic payments.** In any economy, governments are among the largest initiators and recipients of payments, and they can serve as role models by adopting electronic payments. Governments have many options, including mandating that salary payments for public sector workers are made to checking accounts, that unemployment benefits or pensions are distributed to prepaid cards, that taxes and fines are paid online, and that cards or money transfers are used for all public sector purchases. In Europe, most governments are not only using electronic payments for all transactions they initiate, but also providing opportunities for citizens and businesses to pay to them with means other than cash. This is a particularly important topic in Eastern European countries, such as Romania, which has established a national system for POS and online tax payment via bank card and managed to raise tax payments by card by 34 per cent year-on-year.

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<sup>5</sup> Most personal spending is paid through credit cards, which has resulted in a high level of household indebtedness in South Korea.

One of the most commonly used measures in Europe is limits on cash transactions. Although countries such as Belgium or France have had such limits for years, more countries added them during the economic crisis (see figure 11). While measures vary in scope (B2B, B2C, or both), limits have generally dropped significantly. In the past decade, Italy's government lowered the ceiling for cash payments from €12,500 to €5,000, then to €2,500 in 2010. The ceiling was lowered further to €1,000 in 2011, and there are rumours of future decreases. However, while European legislation has encouraged EU member states to adopt stricter regulations to restrict large cash payments, the reality is that these measures are hard to enforce.

Figure 11  
**Countries are lowering transaction limits on cash payments**



<sup>1</sup> Current considerations of Bersani government; before 2013 elections, considerations for a limit of EUR 50 were rumored  
 Note: B2B is business to business; B2C is business to consumer; C2C is consumer to consumer.  
 Source: A.T. Kearney research

**Encourage cash deposits.** Few measures have been created to encourage depositing cash in banks, yet plenty of measures exist that discourage such behaviour. For example, the fees that banks in Brazil or Israel charge to deposit cash make it difficult for those countries to reduce the amount of cash in circulation, which in turn sets back other efforts against the shadow economy. Free cash deposits, the ability to make ATM deposits, and attractive interest rates on balances are steps to encourage cash displacement.

The mix of measures above provides insight into Europe's areas of focus in reducing cash use. Most measures are clustered around increasing electronic payments—yet more can be done to improve the payment infrastructure and discourage widespread cash usage. Besides measures taken to put a maximum on cash transactions, which can be difficult to control and enforce, there has been little change since our last report. The long-term e-government initiatives, particularly electronic payments for public sector activities, are a commendable step and a critical element in changing old habits and reinforcing the government as a role model. Still,

electronic payment for government services too often remains an option rather than a requirement or a norm.

However, the bottom line is positive. The economic crisis has given European governments a powerful impetus to combat the shadow economy. There is a common understanding and agreement that cash fuels shadow activities. We expect initiatives focused on cash displacement to surge in the coming years.

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**Electronic payments produce tangible results,** both in developing markets and in well-developed countries with more technological sophistication.

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## Call for Action

The lesson this year is that governments are not powerless to recoup the revenue lost to shadow economies. Electronic payments can help countries increase revenues while reducing cash, the shadow economy's key enabler. Public mandates to increase the use of electronic payments have proven to reduce the size and scope of the shadow economy. Banks and payment system companies can do their part through innovation in the area of low-value payments and by encouraging small merchants and public officials to use payment systems. And consumers do not need to be mere spectators: They can contribute to the efforts by being aware of the cost of cash and through their choice of payment method.

Reducing the shadow economy requires persistence, dedication, and the collaboration of many stakeholders. But it is achievable. Just in the past several months, we have seen promising signs that Europe has taken steps to move away from the shadow economy. Now Europe needs to keep up the momentum. Even through these tough economic times, the fight against the shadow economy remains particularly important.

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# Appendix

## About the Study

Measuring the shadow economy is a complex science, and explaining all of the approaches would fill a book. Following is a brief overview of the methods we used to measure the shadow economy of six countries: Germany, Italy, Poland, Romania, Spain, and Turkey.

**Direct.** We analysed publicly available information about the shadow economy, such as information from anonymous surveys. Researchers have found that survey participants were surprisingly honest and provided important details about the shadow economy.

**Indirect.** We used macroeconomic indicators of the real economy to discern the shadow economy's impact. Such approaches must rely on macroeconomic figures that are often not dependable or suffer from systematic failures. These issues include discrepancies between national expenditures and income statistics, differences between the official and actual labour force, statistics on transactions and currency demand, and comparisons between electricity consumption and the output of the real economy.

**Model or latent estimation.** We used a statistical technique called MIMIC (multiple indicators, multiple causes) to create a structural model for the shadow economy and examine the relationships between this economy and several input factors, such as the share of direct taxation or the social security burden. The model consists of observed and unobserved variables and specifies causal relationships among the unobserved variables.

## Breakdown by Industry Segments

We broke down the shadow economy by industry segments to compare it to the official economy. This is difficult because the European economy has industry classifications that are different from those listed on the questionnaires. As a result, we were forced in some cases to exercise our own judgment when dividing up industries, and some activities, such as entertainment and some household services, could not be placed into official categories.

As there is no official breakdown of the GDP per industry segment, we use GVA (gross value added), which is the value of the goods or services minus the cost of inputs used to produce them. The difference between GVA and GDP is mainly in the treatment of taxes and subsidies on products or services.

The following three-step approach was used to evaluate areas most likely to be helped by electronic payments:

**Country analysis.** We selected the six focus countries with relevant shadow economies and then divided each shadow economy into 12 sectors, based on our research and questionnaires. We used our own estimates to compare undeclared work against underreporting.

**Sector analysis.** We selected the three sectors with the highest share of sales underreporting, based on our estimates, and split them into 30 subsectors, based on official categories. As detailed questionnaires weren't available for each subcategory, we used information on industry subsectors and researcher judgment to produce an educated estimate.

**Addressable areas.** We identified the most promising subsectors for electronic payments by analysing the suggested amount of shadow economy concentration (based on the sector analysis), the size of the subsectors, and the potential impact of payment systems. We determined this impact by deriving the number of low-value payments, current penetration of electronic payments, convenience of electronic payments, profit margins, and the share of undeclared work.

## Appendix

### The shadow economy in Europe, 2008-2010

	2008			2009			2010		
	GDP (millions of euros)	Share of shadow economy	Shadow economy (millions of euros)	GDP (millions of euros)	Share of shadow economy	Shadow economy (millions of euros)	GDP (millions of euros)	Share of shadow economy	Shadow economy (millions of euros)
Austria	283,085	8.1%	22,930	274,818	8.5%	23,277	286,197	8.2%	23,468
Belgium	345,006	17.5%	60,376	339,162	17.8%	60,371	352,941	17.4%	61,412
Bulgaria	34,118	32.1%	10,952	34,933	32.5%	11,353	36,034	32.6%	11,747
Cyprus	17,248	26.0%	4,484	16,946	26.5%	4,491	17,465	26.2%	4,576
Czech Republic	147,879	16.6%	24,548	137,162	16.9%	23,180	145,049	16.7%	24,223
Denmark	233,027	13.9%	32,391	222,410	14.3%	31,805	234,006	14.0%	32,761
Estonia	16,073	29.0%	4,661	13,840	29.6%	4,097	14,305	29.3%	4,191
Finland	184,649	13.8%	25,482	173,267	14.2%	24,604	180,253	14.0%	25,235
France	1,948,511	11.1%	216,285	1,889,231	11.6%	219,151	1,932,802	11.3%	218,407
Germany	2,495,800	14.2%	354,404	2,374,500	14.6%	346,677	2,476,800	13.9%	344,275
Greece	239,141	24.3%	58,111	235,017	25.0%	58,754	230,173	25.4%	58,464
Hungary	105,536	23.0%	24,273	92,942	23.5%	21,841	98,446	23.3%	22,938
Ireland	181,816	12.2%	22,182	160,596	13.1%	21,038	155,992	13.0%	20,279
Italy	1,567,851	21.4%	335,520	1,519,702	22.0%	334,334	1,548,816	21.8%	337,642
Latvia	23,037	26.5%	6,105	18,521	27.1%	5,019	17,974	27.3%	4,907
Lithuania	32,203	29.1%	9,371	26,508	29.6%	7,846	27,410	29.7%	8,141
Luxembourg	39,348	8.5%	3,345	38,073	8.8%	3,350	41,597	8.4%	3,494
Malta	5,678	25.8%	1,465	5,830	25.9%	1,510	6,164	26.0%	1,603
Netherlands	596,226	9.6%	57,238	571,145	10.2%	58,257	588,414	10.0%	58,841
Poland	362,415	25.3%	91,691	310,418	25.9%	80,398	354,318	25.4%	89,997
Portugal	171,920	18.7%	32,149	168,587	19.5%	32,874	172,721	19.2%	33,162
Romania	139,753	29.4%	41,087	117,457	29.4%	34,532	121,942	29.8%	36,339
Slovenia	37,135	24.0%	8,912	35,311	24.6%	8,686	35,416	24.3%	8,606
Spain	1,088,502	18.7%	203,550	1,053,914	19.5%	205,513	1,062,591	19.4%	206,143
Slovakia	64,778	16.0%	10,365	63,051	16.8%	10,593	65,906	16.4%	10,809
Sweden	334,227	14.9%	49,800	290,908	15.4%	44,800	346,669	15.0%	52,000
United Kingdom	1,815,417	10.1%	183,357	1,565,750	10.9%	170,667	1,696,583	10.7%	181,534
<b>Subtotal (EU-27)</b>		<b>19.3%</b>	<b>1,895,033</b>		<b>19.8%</b>	<b>1,849,020</b>		<b>19.5%</b>	<b>1,885,194</b>
Turkey	498,602	28.4%	141,603	440,367	28.9%	127,266	553,507	28.3%	156,642
Croatia	47,365	29.6%	14,020	45,666	30.1%	13,745	45,899	29.8%	13,678
Norway	309,251	14.7%	45,460	267,066	15.3%	40,861	311,855	15.1%	47,090
Switzerland	342,822	7.9%	27,083	354,735	8.3%	29,443	398,865	8.1%	32,308
<b>Total</b>	<b>13,708,421</b>	<b>19.4%</b>	<b>2,123,198</b>	<b>12,857,831</b>	<b>19.9%</b>	<b>2,060,335</b>	<b>13,557,110</b>	<b>19.7%</b>	<b>2,134,913</b>

Sources: Eurostat; Professor Dr. Friedrich Schneider, Johannes Kepler University of Linz, Austria; A.T. Kearney analysis

## Appendix

### The shadow economy in Europe, 2011-2013

	2011			2012			2013e		
	GDP (millions of euros)	Share of shadow economy	Shadow economy (millions of euros)	GDP (millions of euros)	Share of shadow economy	Shadow economy (millions of euros)	GDP (millions of euros)	Share of shadow economy	Shadow economy (millions of euros)
Austria	300,712	7.9%	23,756	309,901	7.6%	23,552	319,074	7.5%	23,931
Belgium	369,836	17.1%	63,242	376,840	16.8%	63,309	385,201	16.4%	63,173
Bulgaria	38,505	32.3%	12,437	39,668	31.9%	12,654	41,276	31.2%	12,878
Cyprus	17,979	26.0%	4,675	17,887	25.6%	4,579	17,536	25.2%	4,419
Czech Republic	156,217	16.4%	25,620	152,828	16.0%	24,452	154,394	15.5%	23,931
Denmark	240,453	13.8%	33,182	244,064	13.4%	32,705	249,725	13.0%	32,464
Estonia	15,951	28.6%	4,562	16,998	28.2%	4,793	18,040	27.6%	4,979
Finland	189,489	13.7%	25,960	194,469	13.3%	25,864	198,702	13.0%	25,831
France	1,996,583	11.0%	219,624	2,029,877	10.8%	219,227	2,061,511	9.9%	204,090
Germany	2,592,600	13.7%	355,186	2,643,900	13.3%	351,639	2,697,835	13.0%	350,719
Greece	208,532	24.3%	50,673	193,749	24.0%	46,500	182,924	23.6%	43,170
Hungary	99,819	22.8%	22,759	97,756	22.5%	21,995	102,763	22.1%	22,711
Ireland	158,993	12.8%	20,351	163,595	12.7%	20,777	167,412	12.2%	20,424
Italy	1,578,497	21.2%	334,641	1,565,916	21.6%	338,238	1,576,575	21.1%	332,657
Latvia	20,211	26.5%	5,356	22,258	26.1%	5,809	23,546	25.5%	6,004
Lithuania	30,807	29.0%	8,934	32,782	28.5%	9,343	34,722	28.0%	9,722
Luxembourg	42,625	8.2%	3,495	44,219	8.2%	3,626	45,636	8.0%	3,651
Malta	6,556	25.8%	1,692	6,756	25.3%	1,709	7,038	24.3%	1,710
Netherlands	601,973	9.8%	58,993	600,638	9.5%	57,061	606,967	9.1%	55,234
Poland	369,666	25.0%	92,416	381,361	24.4%	93,052	400,168	23.8%	95,240
Portugal	171,065	19.4%	33,187	165,409	19.4%	32,089	163,796	19.0%	31,121
Romania	131,327	29.6%	38,873	131,740	29.1%	38,336	139,357	28.4%	39,577
Slovenia	36,172	24.1%	8,717	35,466	23.6%	8,370	35,240	23.1%	8,140
Spain	1,063,355	19.2%	204,164	1,048,491	19.2%	201,310	1,051,833	18.6%	195,641
Slovakia	69,108	16.0%	11,057	71,463	15.5%	11,077	73,994	15.0%	11,099
Sweden	387,596	14.7%	56,977	408,467	14.3%	58,411	422,635	13.9%	58,746
United Kingdom	1,746,587	10.5%	183,392	1,901,001	10.1%	192,001	1,950,219	9.7%	189,171
<b>Subtotal (EU-27)</b>		<b>19.2%</b>	<b>1,903,922</b>		<b>18.9%</b>	<b>1,902,479</b>		<b>18.4%</b>	<b>1,870,435</b>
Turkey	555,100	27.7%	153,763	612,413	27.2%	166,576	667,431	26.5%	176,869
Croatia	44,384	29.5%	13,093	43,904	29.0%	12,732	44,849	28.4%	12,737
Norway	352,858	14.8%	52,223	390,009	14.2%	55,381	416,208	13.6%	56,604
Switzerland	476,054	7.8%	37,132	491,987	7.6%	37,391	507,405	7.1%	36,026
<b>Total</b>	<b>14,069,610</b>	<b>19.3%</b>	<b>2,160,133</b>	<b>14,435,812</b>	<b>19.0%</b>	<b>2,174,560</b>	<b>14,764,013</b>	<b>18.5%</b>	<b>2,152,671</b>

Sources: Eurostat; Professor Dr. Friedrich Schneider, Johannes Kepler University of Linz, Austria; A.T. Kearney analysis

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