Investing in Germany

Thursday October 8 2015

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Buoyant mood prevails amid warnings of complacency

A robust economy has allowed the government to welcome the influx of refugees, say *Stefan Wagstyl*

Few cities could switch in a few days from welcoming tens of thousands of refugees to hosting millions of drinkers at the world's largest beer festival. But that is precisely what Munich has done, holding the annual Oktoberfest despite the effort of dealing with Germany's asylum seekers.

The city's success highlights the strength and depth of Germany — and of its economy. Without vast resources, it would have been impossible for chancellor Angela Merkel to welcome up to 1m, or on some estimates even 1.5m, refugees this year, as she looks set to do. The chancellor told the Bundestag last month: "As these last days have shown, robust finances make it possible for us to react immediately to emerging challenges."

Her comments sum up the general economic optimism permeating Germany. Even though the crises in Ukraine and Greece, the Middle East turmoil and China's faltering growth have left their mark, German exports are hitting records, while domestic consumption is strong, with wages rising and unemployment at its lowest level since reunification 25 years ago.

Safe hands: Kurdish Syrian migrants in the Koepenick district, Berlin — Getty

"Global economic conditions are not completely without risks," said the chancellor. "But we as the government are counting on economic growth of 1.8 per cent this year and next."

Yet there are dangers lurking, even in the domestic economy. With the population ageing rapidly, employers face growing skills shortages that will not be solved rapidly by the current immigration wave as it will take time to train the arrivals. Business leaders complain about creaky infrastructure, especially energy networks and worn-out roads and bridges.

Many economists warn about complacency in the government, pointing to the partial reversal of key labour market reforms, notably a cut in the retirement age for certain workers to 63 at a time when the general retirement age is rising from 65 to 67.

Ms Merkel, in turn, frets about technology and industry's sluggish response to digitalisation, which is seeing US-based internet groups target markets where German companies have long been strong, notably cars.

> Employers face growing skills shortages that will not be rapidly solved by the current immigration wave

Meanwhile, the scandal at carmaker Volkswagen, which has admitted cheating in US emissions tests, has raised questions not only about VW's future, but also about the damage done to "Made in Germany" — German manufacturing's global reputation for quality and reliability.

"Germany has wonderful companies and competitive industries," says Jörg Krämer, chief economist at Commerz-

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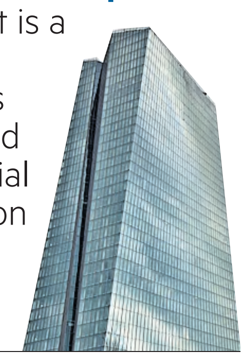

Refugee commitment takes chancellor into the unknown

Political overview

Merkel faces the biggest gamble of her career as an estimated 1m asylum seekers are expected to enter the country, says *Stefan Wagstyl*

Just when Angela Merkel, the German chancellor, seemed to have secured a degree of political calm with a deal in the Greece crisis, along comes something much bigger — the storm that has blown up in Germany and Europe over unprecedented streams of refugees.

Faced with the largest movement of people in the region since the second world war, the 61-year-old chancellor has made perhaps the biggest gamble of her political career by declaring that Germany would welcome more refugees, as up to 1m asylum seekers, or on some estimates even 1.5m, are expected to cross its borders this year.

Her officials then announced the imposition of border controls to create the impression that Germany would not be a soft touch when it came to enforcing immigration rules. But Ms Merkel stuck to her guns, saying a couple of days later: "If we now have to start apologising for the fact that we are showing a friendly face in an emergency situation, then this is not my country."

The commitment takes Ms Merkel into the unknown. In 10 years in office she has weathered everything from the global financial meltdown and successive Greek debt crises to turmoil in Libya, Syria and Ukraine. Until this summer, the main exception was the 2011 decision to shut all nuclear power by 2022 following the Fukushima disaster. And even that move was not as revolutionary as it seemed, because it accelerated an existing phase-out scheme.

However, Ms Merkel has now taken a leap into the dark that will mark German politics to the next election, in 2017, and beyond. The huge political capital, administrative effort, and financial cost will inevitably divert resources from other issues — including the economy. Business leaders are already concerned. "The government hasn't thought this through," says one.

Ms Merkel was almost certainly influenced by practical considerations, as she normally is. By the time she put out

Angela Merkel: practical concerns

the welcome mat a month ago, officials were forecasting that 800,000 asylum seekers would reach Germany this year, an all-time record and four times more than last year's 202,000.

With most already in the country, or on the road, officials may have judged it impossible to stop the flow as Germany, with its Nazi past, could not risk the international opprobrium that would accompany any use of force.

The chancellor also took the view that the Germany economy — and public budget — are robust enough to carry the extra costs of refugees and that an ageing country needs young immigrants. With her high standing in opinion polls, she could afford the possible political

> Merkel's critics say public euphoria will fade, as Germans see public money diverted to refugees

risk, especially as the strength of the public welcome in Munich suggested the voters would back her.

Unusually for Ms Merkel, emotion seems to have played a part. Earlier in the summer, she had been discomforted by a 14-year-old Palestinian girl who had cried in front of the chancellor at a televised meet-the-people gathering. The teenager said she and her family had been living in limbo for years, waiting for permanent residency.

Ms Merkel said then that Germany could not take everybody. A few weeks later she said in an interview that the right to asylum had "no upper limit".

The developments have started to dent her commanding personal lead in opinion polls. An ARD television poll, published last week, showed her personal support falling 9 percentage points to 54 per cent in a month. According to other polls, her CDU/CSU bloc's position has not yet been seriously affected by the refugee crisis, not least because the social democrats, as coalition partners, share responsibility. A survey for ZDF television put the CDU/CSU at 40 per cent in mid-September, compared with the 41.5 per cent won in the 2013 election. The social democrats were on 25 per cent, little changed from the 25.5 per cent achieved in the election. The conservatives remain within sight of an outright majority.

However, Ms Merkel's critics warn that voters could turn more hostile if they decide the government is failing to master the crisis while public money is diverted from general social spending to refugees.

Chief among the naysayers is Horst Seehofer, head of the CSU, the Bavaria-based sister to the CDU. On the right of the CDU on social questions, the CSU has long raised doubts about immigration. Mr Seehofer has condemned Ms Merkel's relaxation of asylum seeker rules as "a mistake".

But the real risk is of a public backlash that could fuel rightwing sentiment. Fortunately, for Ms Merkel, the Alternative für Deutschland, the only national party to the right of the conservatives, has split after a power struggle which saw founder Bernd Lucke quit and found Alfa — the Alliance for Progress and Renewal.

But the core AfD is adopting a stronger rightwing agenda and making ground in eastern Germany, where anti-immigrant passions run high. In Saxony, heartland to such sentiments, the AfD recently scored 13 per cent in an opinion poll by the Infratest Dimap agency, compared with 10 per cent in last year's regional assembly elections.

Saxony is not all of eastern Germany, and western Germany is four times larger, in population, than the east. But Ms Merkel will be watching Saxony closely.

Buoyant mood prevails amid risk of complacency

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bank. "But its competitiveness has started to erode . . . We have a perception that the German economy is unsinkable, which is wrong."

Germany has had by far the strongest recovery in the eurozone from the global financial crisis, with cumulative gross domestic product growth since the end of 2007 to 2014 of more than 5 per cent. The common currency area as a whole remains stuck below zero. However, even Germany lags far behind the US, which has seen growth of more than 11 per cent, powered partly by the development of internet-based industries. Even in the EU, German is not the leader, with non-eurozone neighbour Poland surging 25 per cent over the same period.

In the current year, economists see a slight slowing, because a weakening in domestic capital investment and declining net exports in the face of faltering global demand. Deutsche Bank says "disappointing" GDP figures for the April-June quarter, the latest for which data are available, have "tainted" the outlook for 2015.

Deutsche warns of the danger signals flashing in world financial markets: "All this highlights the very heightened uncertainty about the global outlook, which in turns points to risks for the German economy as it remains very vulnerable to external shocks."

But the global economy also drives some fair winds across Germany. The economy is among the biggest beneficiaries of the fall in world oil prices. Germany also gains from the European Central Bank which has extended years of easy money policies with QE — government bond buying.

While the ECB aims to revive demand in the weaker corners of the eurozone, German borrowers also reap the rewards. Chief among these is the government, which has seen the interest burden on its debts collapse, helping hawkish finance minister Wolfgang Schäuble achieve a balanced budget in 2014, a year sooner than planned.

With tax revenues surging, because of buoyant consumer spending, the government could see €20bn surpluses both this year and next. Despite pressure from the International Monetary Fund and others to relax the purse strings to stimulate the eurozone economy, Mr Schäuble is determined to reduce the ratio of public debt to GDP from more than 80 per cent five years ago to 60 per cent in 2020 — the eurozone's would-be ceiling level. He has set aside an additional €6bn for next year for extra refugee costs, but insists the crisis will be financed "if possible" without new government debts.

The overall economic impact is unclear — since almost all the money for refugees will be spent in Germany, it is expected to boost growth a little and so raise tax revenues. DIW, the Berlin-based economic institute, estimates the crisis could drive up GDP growth next year by a quarter of a percentage point.

Germany's greatest long-term challenge is demographic, with some 500,000 people forecast to retire each year. By 2050, the UN says, the percentage of Germans aged under 15 is forecast to fall to 13 per cent. The number of people over 60 is expected to rise from 27 per cent to 39 per cent.

With fewer Germans working, it will be difficult to maintain GDP growth even at the current long-term rate of 1.2 per cent. Pensions and healthcare costs are expected to grow more rapidly, increasing the burden on a shrinking working population.

The European Commission forecast this year that the total cost of caring for the elderly would rise in Germany from 19 per cent of GDP in 2013 to 23.8 per cent in 2060, assuming economic growth of 1 per cent. Germany's costs are expected to rise more than the EU average due to rapid ageing and generous pensions.

This prospect has encouraged the finance ministry to redouble its debt reduction efforts — and to look positively on the large current account surpluses. The income from accumulating foreign assets may be needed to help finance domestic public spending.

However, Marcel Fratzscher, head of DIW, is more concerned about low investment in Germany, which he says is undermining growth. Germany invests about 17 per cent of GDP, compared with an average of about 20 per cent for the OECD, the developed countries' club. This year, a commission urged the government to increase public investment — and use tax and other policies to encourage private investment. Prof Fratzscher estimates that reaching the OECD average would entail boosting investment by €80bn annually.

> The economy is among the biggest beneficiaries of the fall in world oil prices

Business leaders are worried about the energy market, where Germany's pioneering push into green technologies has raised electricity costs and led to questions about the stability of supply, at a time when Berlin is committed to phasing out nuclear power by 2022.

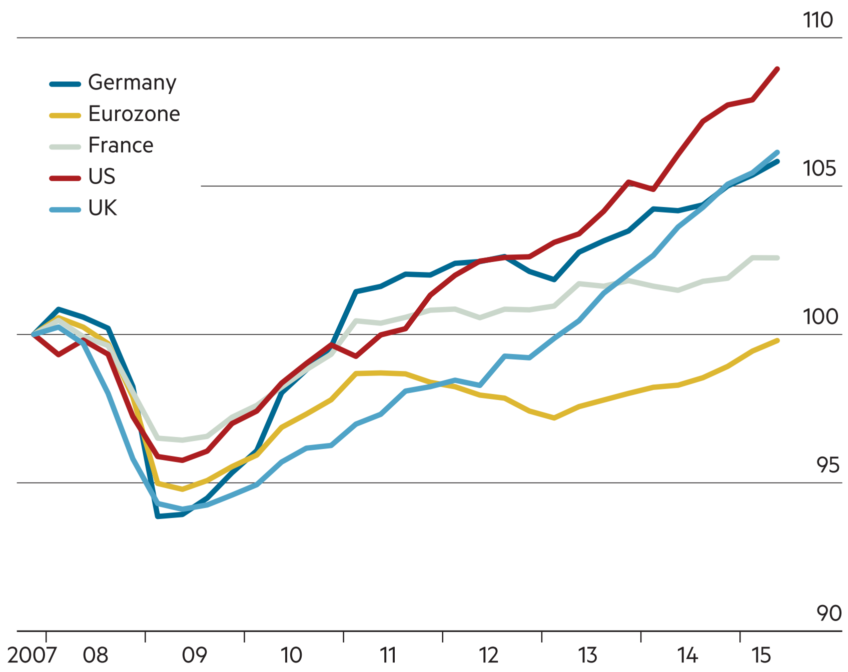
Finally, there is the digitalisation challenge. Ms Merkel has lobbied industry for more research and development to help Germany close the gap with the US and leading Asian R&D centres. German companies often locate R&D investments abroad, to tap foreign talent and be close to fast-growing markets.

"German companies are operating in a global economy. Diversification is a natural response," says Mr Krämer.

Germany in numbers

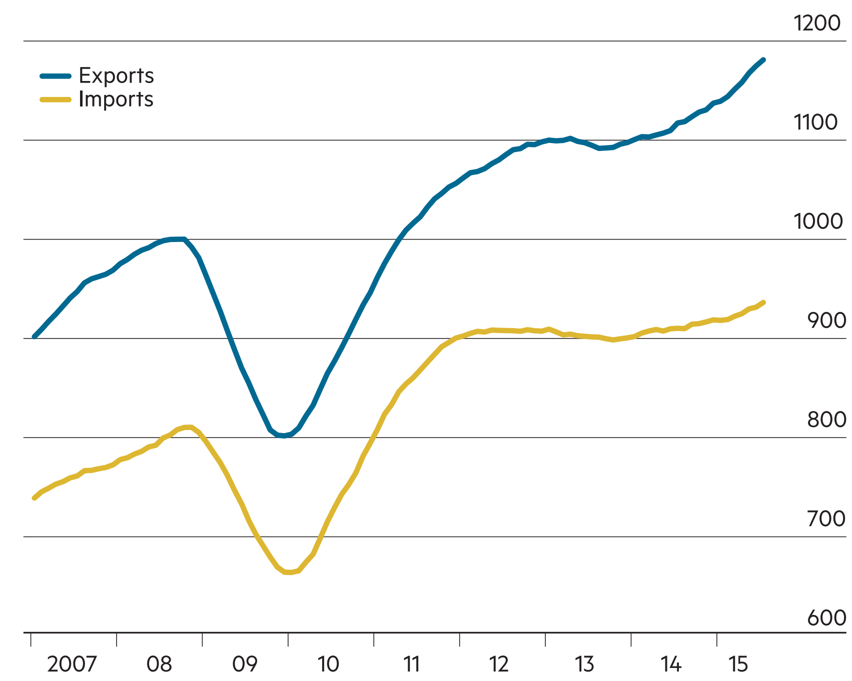
Growth powers ahead of rest of eurozone but lags behind the US

Real GDP (Q4 2007=100)



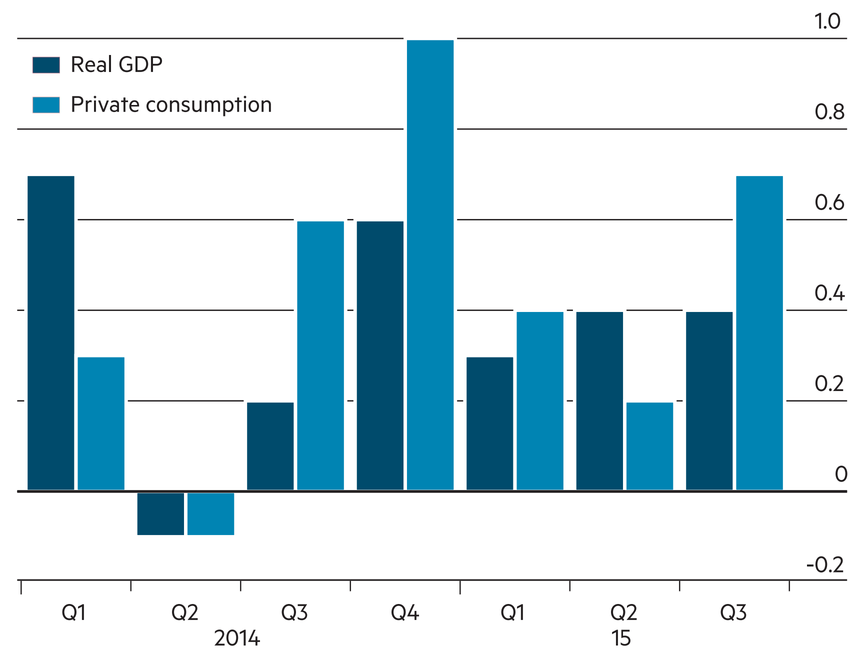
Current account surpluses still mount, drawing envy and criticism

Trade in goods, sum over previous 12 months (€bn)



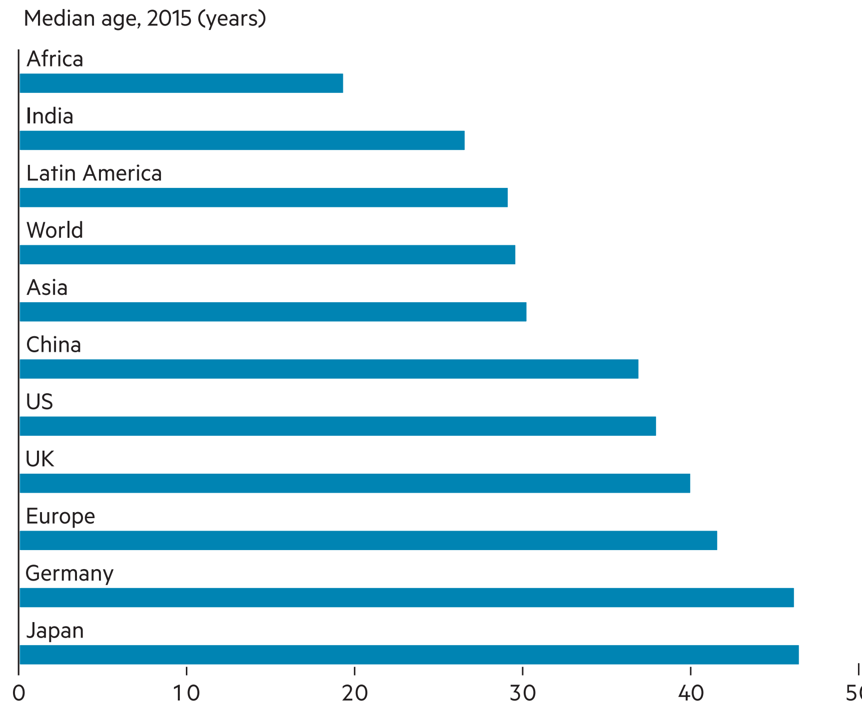
But consumption has grown into a bigger driver of the economy

% change on previous quarter



While ageing could be an increasing drag on growth

Median age, 2015 (years)



Sources: Thomson Reuters Datastream; Deutsche Bank; UN Population Division

Influx of refugees may ease the problem of a shrinking workforce

Employment

A falling birth rate and an ageing population have led to a skills shortage and there is no quick solution in sight, writes *Claire Jones*

There is much to applaud in Germany's labour market. A set of government reforms, ushered in during the early years of the last decade, has led to a sharp drop in unemployment and created a more flexible labour force.

Until the introduction of the Hartz reforms, the jobless rate had risen from 1 per cent in the 1970s to more than 10 per cent in the early 2000s. Today, an economy that in 1999 was tagged by The Economist as "the sick man of the euro", is viewed as the euro zone's economic powerhouse.

Yet the fall in unemployment, which at 4.6 per cent is at a post-unification low, has created one of the biggest challenges facing the country: a shortage of skilled labour. A recent study by the Cologne-based IW think-tank identified shortages in 96 industries.

The problem will become more serious in the decades ahead, as the generation born in the years following the second world war retires, says Clemens Fuest, president of the ZEW think-tank, based in Mannheim. The German population is set to fall almost 10 per cent, from a 2002 peak of 82m to 74.5m by 2050, according to UN figures.

The proportion of those aged over 60 is expected to rise from 27 to 39 per cent, while the country's percentage of young people will be among the lowest in the world. Germany's average age, at 46, is second only to Japan.

Game on: the proportion of those aged over 60 is rising — Dreamstime

"This will be a big shock to the German labour markets," says Mr Fuest. "And trying to solve the issue by people having children will not work, because it's too late for that."

The recent influx of refugees — Germany is expecting 1m, or even 1.5m according to some estimates, to arrive this year — could help to redress some of the shortage of skilled labour, he adds. "There is potential there and over the past decade or so, Germany has made its laws more immigration-friendly . . . [the next step is] about making sure immigrants have sufficient professional skills," Mr Fuest adds.

Increasing childcare provision would also help redress the relatively low number of women in the labour market.

Christian Reichel, a partner in labour law at Baker & McKenzie's Frankfurt office, believes there is more that Berlin can do to address this problem. He would also like to see the government introduce more flexible working conditions for older people and encourage retirees to work part-time.

Outsourcing online work to other countries could allow German companies to tackle the shortage of skilled workers. While this would benefit companies in some parts of the services sector, it would be trickier in manufacturing.

Tech start-ups in Berlin try to replicate Silicon Valley's perks to attract staff. Wooga, a mobile games developer, rents flats to recruits and offers translation help with rental contracts to encourage workers to move to Germany. While it is difficult for German companies to match the pay of US technology groups, some have played on Berlin's appeal as a vibrant and comparatively cheap capital city and the good conditions available for workers.

Mr Reichel believes Germany's larger, more traditional companies should look to the start-up scene for ideas. "Companies can become more dynamic in how they allow employees to work. The [working] landscape hasn't changed in a decade and a restricted labour market has become even less flexible," he says.

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‘Conservative’ consumers have little appetite for data or calls

Telecoms Operators are investing in the hope of stimulating consumption , says *Jeevan Vasagar*

Keeping in touch: Deutsche Telekom is Europe's biggest phone company by revenue
Bloomberg

With their strip lights and stacks of cheap goods, Germany's discount supermarkets are a reminder that the nation prizes parsimony.

Telecoms is no exception; prices for voice and data services have been declining steadily in recent years because of intense competition as well as pressure from "over-the-top" businesses such as WhatsApp that provide free services over the internet.

It appears that German consumers lag behind other countries when it comes to paying for telecoms.

Peter Nielsen, an analyst at Kepler Cheuvreux, says: "Germans historically have one of the lowest usages of voice calls. Germans speak less [on the phone]. They also use data less. We ascribe this to traditional German cautiousness and conservatism."

However, as telecoms companies have invested in modernising their networks, customers have started using more data.

"I think what you're seeing is, as the coverage becomes more complete — if you can use [your phone] even when you're in your summer house — people start to use the data more," says Mr Nielsen.

There has been a revival of confidence in German telecoms this year. Since Telefónica's takeover of E-Plus last year, creating Germany's largest mobile operator by customer numbers, mobile prices have stayed stable.

Analysts say network operators have focused on retaining customers while the virtual operators, which lease network capacity from another telco, have raised fees to close the gap with the big three providers.

Deutsche Telekom, Europe's biggest phone company by revenue, expects free cash flow to rise by about 10 per cent annually to 2018. Deutsche Telekom's revenue in Germany continued to fall last year, but the rate of decline slowed and sales in its home market are expected to stabilise next year.

Telefónica Deutschland reported a 13.5 per cent increase in core profit, in the second quarter. The business benefited from rising mobile data consumption, with more customers adopting higher value tariffs.

In February, Telefónica Deutschland introduced a data automatic feature, giving customers who exceed their mobile data limit an extended data allowance for an additional monthly fee.

Selling customers more data while they are still in their contracted terms is "one of the million dollar questions that have been puzzling mobile operators for years", say analysts at Berenberg. The tactic has yielded "impressive early results", they add.

However, of the three main operators, Vodafone faces the greatest challenge. This month, Hannes Ametsreiter, outgoing chief executive of Telekom Austria, will become head of Vodafone's German unit.

Germany is Vodafone's largest country by sales, but the business has suffered from declining service revenue as it has lost customers to Deutsche Telekom.

Mr Nielsen says that Vodafone made the mistake of neglecting to upgrade its network. "They've suffered from that in subsequent years — they really lost customers, not only to Deutsche Telekom but to others."

Now, even though Vodafone is investing heavily in Germany, it is still underperforming the rest of the market, he adds. "It takes a little while from when you upgrade for the perception to spread among customers."

Uncertainty surrounded Vodafone's German business after the disclosure in June that it was in talks to swap assets with Liberty Global — any such move would have attracted opposition from Deutsche Telekom.

Liberty owns Unitymedia, Germany's second largest cable operator, and a deal with Vodafone would allow it to combine with Kabel Deutschland, the market leader, which Vodafone bought two years ago. However, Vodafone confirmed last month that talks with Liberty had been terminated.

Deutsche Telekom's long-term strategy is to be Europe's leading telecoms provider, offering a "quadruple play" of TV, internet, mobile and fixed line in one package. While earnings from T-Mobile US have boosted revenue, the German telecoms group regards the US unit as influential in the North American market rather than a long-term part of the business.

"The European business is sufficiently cash generative, so if [the US unit is] sold, that wouldn't have any negative impact. It doesn't really matter — it's just a financial investment," says Stefan Zehle, an analyst at Coleago, a consultancy.

> All the operators have spent heavily on new spectrum in an auction of radio frequencies

After last year's consolidation, analysts expect a stable German telecoms market in the coming years, with an emphasis on improving the quality of services rather than competing on price to poach customers.

This year, all the operators have spent heavily on new spectrum in an auction of radio frequencies. Vodafone bid €2.1bn, the highest figure of any of the three, for the biggest slice. The low frequency 700MHz band can be used to extend mobile broadband coverage to rural areas, meeting a German government target of rolling out fast internet access countrywide by 2018.

Telecoms operators are hoping that, despite their frugal habits, German consumers will acquire sufficient appetite for data to boost revenue and help them recoup their investment.

A bet on the rise of ecommerce that appears to have paid off

Start-ups

The growth of Zalando, the online fashion retailer, mirrors Berlin's flourishing entrepreneurial scene, writes *James Shotter*

In 2008, Zalando was a start-up selling shoes from a Berlin flatshare. This year, the German group is on course to make comfortably more than €2.5bn in sales, and has established itself as Europe's largest online-only fashion retailer.

In a country famed for its dominance of the old economy, Zalando — which sells clothes, shoes and fashion accessories — is one of the most prominent of a younger generation of tech-driven companies, such as HelloFresh and SoundCloud, spawned by Berlin's effervescent start-up scene.

Investors have welcomed its rise. A year after it listed amid much fanfare on the Frankfurt stock exchange, Zalando's market capitalisation now stands at €7.3bn — higher than more established names such as Lufthansa, Germany's national airline.

Rubin Ritter has been there almost from the start. He gave up a job at McKinsey at the end of 2009 to join the fashion company set up by Robert Gentz and David Schneider, two friends from his student days at WHU — Otto Beisheim School of Management, a German business school.

"It's funny when we sit together — we also used to do case studies together at university," says the 33-year-old, sitting in a room in the group's office in east Berlin, which features both a mounted lady's shoe and a life-size cardboard cut-out of Mr Bean.

"It's a similar atmosphere, but of course much more serious, and also much more fun, because we are building a company together."

Mr Ritter, who is a member of the management board, joined just after Tengelmann, the German retail conglomerate, had made the first big outside investment in Zalando, and just as the group was beginning to take off.

Rubin Ritter: Zalando will focus on expansion

In 2009, Zalando drew in €6m in revenue. In 2010 it was €155m. "At the beginning of 2010, we increased the company by a factor of 10 within two months," Mr Ritter recalls. "And off it went."

Despite the rapid growth, Zalando's progress has not been without glitches. The most recent came this year, when Zalando's profit margin took a hit after the company suffered a wave of fraudulent orders at the same time as it increased the value of goods customers could pay for by invoice.

In response, Zalando has increased its investment in the scoring systems it uses to assess the creditworthiness and reliability of its customers, as well as tightening its invoicing policy in some cases. "We have put a big internal focus on the topic," says Mr Ritter.

> Ritter believes that the German attitude to failure needs to be more relaxed

However, despite this and other setbacks, Mr Ritter says the company's leadership has never lost faith that their bet on the rise of ecommerce was fundamentally right.

"There are days when you come to the office and some things don't work and you have to fix them and you think, 'OK where is this ever going to go'," he says.

"But ultimately, I think we always believed in the success of the company, and always were optimistic, because fashion is such a big opportunity and is so clearly moving online that we are sitting on this megatrend."

Zalando's growth has coincided with the flourishing of Berlin's start-up scene. Low rents have helped attract young entrepreneurs priced out of other cities, and an infrastructure catering to their needs has emerged, providing everything from technological know-how to short-term office space.

Mr Ritter says that over the past five to 10 years a great deal has changed. "You have some successful start-ups and this leads to venture capitalists spending more time in the city, or maybe also later-stage investors spending time in the city, which of course nurtures the ecosystem."

However, despite the progress, Mr Ritter believes the German attitude to failure needs to become more relaxed if the country is to achieve higher rates of entrepreneurship.

"The whole mindset that founding a company and failing and then starting again is fine — too many people are afraid of that process. Look at Robert and David. They tried twice before Zalando, but the third try was a huge success. I think that kind of culture is still missing," he says.

"Of course, sometimes you have to be sceptical. But I think we are missing out too much in believing in the size of some opportunities. I hope what is happening in Berlin now can help change that."

In the coming year, Mr Ritter says Zalando — which ships its wares to 15m customers in 15 European countries — will focus on expansion, although he is not expecting to enter any new markets.

To manage this, the group has been hiring rapidly — it expects to have 10,000 staff by the end of the year, up from 7,500 in March — and Mr Ritter says the rapid hiring will continue in 2016.

Zalando is also planning to open a distribution hub in northern Italy to enable it to speed delivery to customers outside its German-speaking heartland.

"We believe Zalando is still quite small compared with what it can be," he says. "Currently, we have a market share of 1 per cent in Europe [of the total fashion market]. We think this share can be 5 to 10 per cent."

Aversion to risk hampers growth of fintech sector

Start-ups The bulk of innovation has focused on consumer-facing finance, says *James Shotter*

Fast lane: there is a vibrant start-up scene in Berlin
Dreamstime

Last year fintech really caught the imagination of investors. Around the world, $12.2bn was poured into groups applying new technology to the world of finance, according to Accenture. That was three times the level invested in 2013.

Fintech's rise has been driven by a variety of factors. Perhaps the most important is the inexorable rise of mobile technology, which has encouraged consumers to organise increasing parts of their life online. But other factors such as low interest rates have also played a role, by making start-ups a more attractive investment for those with capital at their disposal, and few attractive sources of yield.

Many of the biggest investments in 2014 came in the US, where Lending Club, the world's biggest peer-to-peer lender, raised $865m in a stock market listing, and where KKR and other investors injected a total of $3.5bn into the payment processing company, First Data Corp.

However, Germany, which has a vibrant start-up scene in its capital, Berlin, also has an array of fintech companies it can point to. Last week, Kreditech, which provides credit and banking products for consumers who have little or no credit history, raised €82.5m in a funding round involving investors such as JC Flowers.

Other fintech groups attracting attention and funding include Weltsparen, which allows savers to switch their money between accounts in different countries to take advantage of the various interest rates paid on deposits; and WebID, which allows customers to sign up for bank accounts by identifying themselves online, thus sparing them a trip to their local branch or post-office.

Asset management and insurance are also in fintech's crosshairs. One fintech group going after the insurance market is Clark, which helps customers keep track of and optimise their insurance policies online, a smart move in Germany where adults have, on average, five insurance contracts.

So far, the bulk of the innovation in the fintech sector has focused on the consumer-facing parts of finance, such as transaction services, balance checks and peer-to-peer lending.

However, this balance could well change, as the established banks start to play a larger role in the sector. Commerzbank, Germany's second-largest bank, which invests in start-ups through its Main Incubator and CommerzVentures entities, has so far made five fintech investments in a variety of companies, some of which could have applications for either private or corporate clients.

Deutsche Bank, Germany's largest lender is also entering the fray. It plans to open innovation hubs in London, Berlin and Silicon Valley to try to improve its use of digital technology.

According to Phil Gilligan, who is in charge of the project, Deutsche's hub in Berlin is likely to focus more on applying fintech ideas to retail banking, while the hub in London will experiment with technologies that could have applications for other parts of the bank. The focus for the Silicon Valley hub has not yet been set.

In aggregate, however, investments in German fintech are lagging behind the levels seen in other European countries.

> 'Germany is not the first place in which you would try out new products'

According to Accenture, German fintechs attracted $82m in investments in 2014. That compared with $306m in the Netherlands, $345m in the Baltic region, and $623m in the UK and Ireland.

People involved in the fintech scene cite a variety of reasons for this shortfall. One, says Christopher Oster, chief executive of Clark, is that some German investors tend to be more risk-averse than their peers elsewhere.

Another problem is regulation. Entrepreneurs say that German financial regulators often err on the side of goldplating their rules, which can make it harder for start-ups to thrive.

One example, says Thomas Fürst, managing director and founder of WebID, was Germany's interpretation of a European rule that people wishing to open a bank account should identify themselves "face-to-face". This, he says, forced banks and consumers to follow a laborious process of identifying themselves in branches, rather than online.

Bettina Orlopp, head of group development and strategy at Commerzbank, takes a similar line. "Consumer protection rules are tougher in Germany than elsewhere . . . There is a lot of talent in Germany, but it's not necessarily the first place you would try out new products."

However, Germany also has factors in its favour. Although language barriers can make it more expensive for fintech groups to expand in Europe, rather than in the US, for example, Germany is still Europe's biggest single market, giving access to a population of 80m.

The presence of Frankfurt, one of Europe's main banking centres, is also a boon for those interested in financial innovation. And a well-educated population also helps.

Those start-ups that do succeed will transform the face of banking, says Jürgen Moormann, professor of bank and process management at the Frankfurt School of Finance and Management. "Most fintechs will die. But some will prosper, just like direct banks 20 years ago," he says, referring to the online-only lenders that have challenged the branch-based model of traditional banks.

"People said then that they had no chance. But now they are established."

Compromise and opposition on road to renewable energy

Power

Support is high but there is opposition to the perceived blight of pylons crossing the country, says *Jeevan Vasagar*

Winds of change: German turbines

From the wind turbines that dot the plains of northern Germany to the solar panels speckling the roofs of Bavarian farmers, the shift to renewable energy has transformed the German landscape.

It has reverberated through the economy too, squeezing the profits of traditional utilities and prompting complaints from industry over high electricity prices.

In June, the utility Eon shut down its Grafenrheinfeld nuclear plant seven months ahead of schedule, marking a milestone in Germany's transition from nuclear power. The closure of Grafenrheinfeld, serving the manufacturing heartland of southern Germany, underlined the country's phasing out of nuclear energy and the simultaneous growth of renewables that have taken up the slack.

Proponents of the *Energiewende* say the success of the shift has defied the sceptics. Patrick Graichen, executive director of Agora Energiewende, a Berlin-based think-tank, says: "We will probably reach 30 per cent [of electricity generation from renewables] this year, compared with where we were 15 years ago — which was 6 per cent.

Three challenges remain. While the use of nuclear power is shrinking, the country remains heavily dependent on lignite and coal, which generated 26 per cent and 18 per cent respectively of German electricity output last year.

Angela Merkel's government is under pressure to curb the use of coal and lignite to meet its target of a 40 per cent reduction in carbon emissions by the end of the decade from 1990s levels.

But Germany abandoned plans to raise emissions charges for older coal-fired power stations in July, in the face of an outcry from the power sector. Instead, 2.7 gigawatts of lignite-fired plants will be placed into a reserve from 2017 and then closed after four years.

Gas-fired plants, which produce CO_2 in lower quantities than burning coal, have struggled to compete with cheaper coal at a time when carbon allowances are at rock bottom prices. In March, Eon filed to close two gas-fired plants in Irsching, Bavaria, because there was no prospect of operating them at a profit.

The carbon-intensity of Germany's energy mix needs political commitment to resolve, according to analysts.

"We will probably go down a path similar to what we did on phasing out [hard] coal mining," says Dr Graichen. "We had a long debate . . . which resulted in the *Kohle-Kompromiss*."

Germany's "coal compromise" of 1997, was an agreement between the government, business and the mining union under which subsidies were gradually cut and pits closed, with finance provided to retrain miners.

A second challenge is to build the power lines needed to transfer wind power from the north to industrial regions in the south. While public support for the shift to clean energy is high, there is determined opposition to the perceived blight of power cables and pylons straddling the country.

> Germany's use of nuclear power is shrinking, but it depends on lignite and coal

Henrich Quick, head of asset management at 50 Hertz, the transmission grid operator in northern and eastern Germany, says: "Renewable power development in Germany is so quick that we can't build the required grid to integrate and transmit it at the same speed.

"You can build a wind farm in three to four years. Getting permission for an overhead line takes 10 years."

Horst Seehofer, the premier of Bavaria, has questioned the need for power transmission lines to his state. He has suggested that as nuclear plants are phased out, gas-fired power stations could take up the burden instead.

However, Germany's vice-chancellor Sigmar Gabriel, warns that this could lead to a split power market in Germany, with higher prices for Bavaria.

There is also the challenge of managing the reform of financing for the renewables industry. By 2017, Germany is due to shift from feed-in tariffs to a competitive tender process to determine the level of funding for clean energy.

The feed-in tariffs, financed through a levy on customers' bills, have ensured that renewables have expanded swiftly. The state-guaranteed income has encouraged a range of renewable energy producers, with community wind farms and small investors playing a leading role.

Under the auction system, the government wants to curb costs and bring a market element to the financing of renewable energy.

A pilot auction was held this year, to supply 150MW of photovoltaic energy. This was "oversubscribed several times over" according to the German economics ministry, which said there had also been a broad range of bidders — an indication that citizens' participation in the Energiewende could be maintained even after the switch to an auction system.

Fifteen years after Germany embarked on its radical plan to rewire Europe's biggest economy, the path ahead remains as thorny as ever.

'The wind-oriented north is fighting the solar-oriented south for subsidies'

Interview

Clemens Fuest illustrates the growing influence of the country's think-tanks, writes *Claire Jones*

Clemens Fuest is the head of Mannheim-based ZEW, one of Germany's most highly regarded think-tanks. In April 2016, he will become the head of Munich's Ifo, another think-tank.

To many, the phrase think-tank translates into something vague: a body set up to steer the debate on public policy and whose influence is hard to measure.

In countries such as the UK, with a central bank and a government free to set economic policy in the national interest, that view fits. But in Germany, where the introduction of the euro has at times appeared to reduce the role of the central bank to that of a glorified research institute, think-tanks take on an altogether more meaningful role.

The reduction in power of Germany's economic institutions to set policy at home, a natural consequence of currency union, levels the playing field for influence in economic decision-making. It was the man whom Mr Fuest will succeed at the Ifo, Hans-Werner Sinn, who led German criticism of the European Central Bank's efforts to heal the eurozone's economy through programmes of mass government bond buying.

While Mr Fuest's status as a research economist in both the UK and Germany has propelled him to prominence, he is not as well known as Mr Sinn, who has become a media fixture in recent years.

"Hans-Werner Sinn is clearly the most influential economist in Germany at the moment," says Mr Fuest. "It makes no sense at all to try to imitate him, so I have my own style and will continue being myself and do it the way I do now. At the same time, the institute is successful and I will of course try to build on that success."

In Mr Fuest's view, there are two ways to ensure academic research becomes influential. One is to publicise the research, the other — a channel with which he is perhaps more familiar — talking directly to politicians. "My experience is that most politicians are very open to discussions and advice, if it's communicated in the right manner. That doesn't mean they always follow that advice, but I think that's perfectly legitimate."

Germany's economic institutions may have found themselves hamstrung domestically, but the intellectual current in the country now extends beyond its borders in a way it did not before the creation of the euro. The most obvious example is the fiscal straitjacket that the eurozone, partly at Germany's insistence, has forced on Greece, Cyprus, Portugal and Ireland.

On the ECB, Mr Fuest's views are more nuanced than those of Mr Sinn. While he shares the view that the central bank may have overstepped its mandate at times, he is adamant that ECB president Mario Draghi must act in the interests of the eurozone as a whole.

> 'The current government doesn't think hard enough about domestic growth'

"It is not the mandate of the ECB to pursue either German or French economic interests, but those of the eurozone as a whole," he says.

"There is no democratic control of monetary policy. There is a high degree of independence and that means that the ECB needs to be very, very careful to stay within its mandate."

He believes the ECB mishandled the Greek crisis by extending some €90bn in loans to Greek banks through sanctioning so-called Emergency Liquidity Assistance from the Bank of Greece throughout the recent turmoil.

"It was bad policy. If they had stopped ELA in February or March, which would have been perfectly justified, [Greek prime minister Alexis] Tsipras would have been willing to negotiate and come to a deal much earlier," he says.

"My concern is that the ECB has given in too easily to those who want it to manage the euro crisis. By interpreting its mandate more restrictively it could have prevented part of the damage that has been done in Greece."

Closer to home, Mr Fuest is scathing about the *Energiewende*, "energy turnround" policy, an attempt to move Germany towards greater reliance on renewable energy. He calls the policy is "utterly disastrous".

He adds: "If you look at the objectives — security of energy supply, environmental issues and affordable prices — the policy fails in all these dimensions."

The policy mirrors the EU's much criticised common agricultural policy of the 1960s and 1970s, he says, by providing expensive subsidies that clash with market forces. "We have massive entrenched lobby groups. The wind-oriented north is fighting the solar-oriented south for subsidies. It's like butter and wine in the old days in Europe."

"If I could have one wish for changing economic policy in Germany, perhaps that's it: completely restart and think differently about energy policy."

He views the failure of *Energiewende* as emblematic of a broader inability of the government to encourage innovation and entrepreneurship. And while Germany remains one of the strongest economies in the eurozone, Berlin is in danger of succumbing to complacency.

"If you look at the current government and political debate, there is this danger of complacency and of being too optimistic about the situation of the German economy."

He adds: "The current government is just focused on income redistribution policies such as rent regulation or minimum wages. It doesn't think hard enough about growth, in particular domestic growth."

Clemens Fuest: nuanced