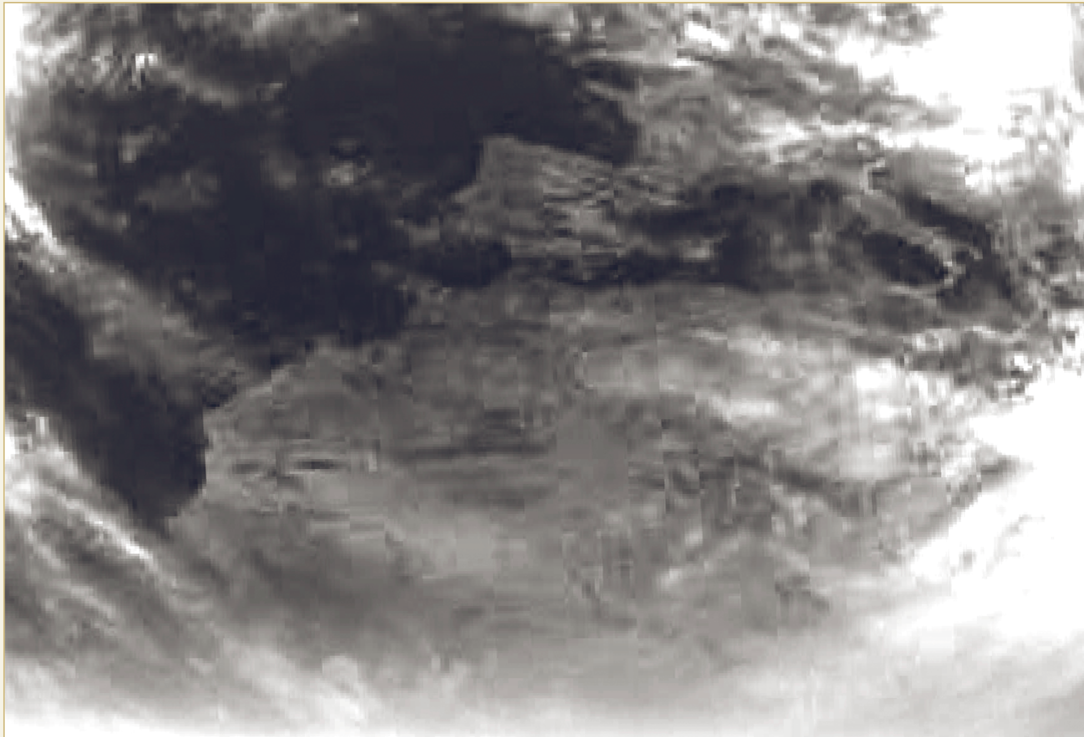

Globalization & Europe:

Prospering in the New Whirled Order

Germany and Globalization

by Daniel S. Hamilton and Joseph P. Quinlan

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Preface and Acknowledgements

Germans are gloomy about globalization, yet Germany has been one of globalization's great winners. The German public and German opinion leaders understand that their prosperity is tied to an open, vibrant global economy, yet most believe that globalization's gains and pains have not been fairly shared within German society. Many are anxious about the pace of global economic change. They worry that a job gained abroad means a job lost at home, that their hard-won prosperity could simply slip away. They are concerned that the future winners of globalization could live in Mumbai, Shanghai and Dubai rather than in Mannheim, Stuttgart or Dortmund.

These concerns are real, widespread, and legitimate. They are exacerbated, in turn, by home-grown problems "made in Germany." The population is shrinking and aging. The German education system, once a world-beater, has become the "Achilles heel" of the German innovation economy. Unemployment remains stubbornly high, yet tens of thousands of jobs go unfilled for lack of skilled applicants. Twenty years after unification, many areas of eastern Germany still struggle. Globalization did not create those problems, but it has exposed them.

What are globalization's benefits and burdens, and what do they mean for Germany? In this study we offer an up-to-date look. We chart changing flows of trade, investment, people, money and ideas. We look at how globalization has affected inflation, interest rates, incomes, jobs, wages, and economic growth. We explain globalization's effect on German consumers, workers, companies and governments. Who wins, who loses, and why. We highlight opportunities and identify challenges.

After carefully examining many different metrics of globalization, we conclude that in overall terms Germany has benefited from freer movement and higher flows of goods and services, investment, capital and ideas, and faces an increasingly acute need to facilitate freer movement of high skilled labor. These gains have not been evenly shared, however, and do not directly benefit every worker, firm, and community. There have been winners and losers. Along the way, we found that for Germany the forces of "Europeanization" can be as profound as those of globalization. We were impressed by Germany's strengths and sobered by its challenges.

This study extrapolates from and builds on our larger book *Globalization and Europe: Prospering in the New Whirled Order* (Washington, DC: Center for Transatlantic Relations, 2008). We have taken the metrics of globalization outlined in that study, and applied them with more depth to Germany. Fuller detail on most points in this study may be found in the larger volume. We also draw on our annual survey *The Transatlantic Economy 2008*, which offers the most up-to-date set of facts and figures describing the deep economic integration binding European nations to America's 50 states. In June 2008 we released a companion volume, entitled *France and Globalization*, which offers interesting similarities and contrast to this study.

We would like to thank Jessica Martin, Michael Weber, Gretchen Losee, and Peggy Irvine for their assistance in producing this study. We would also like to acknowledge support from the members of the Executive Council of the American Chamber of Commerce to the European Union: Accenture, Agilent Technologies International, AIG, Alcoa, Caterpillar, Dow, Dupont de Nemours, GE International, Honeywell, HP, Intel, LyondellBasell, Mars Inc., Motorola, Oracle, SAS Institute, 3M and Warner Home Video International.

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Introduction

Globalization is changing all of our lives as the pace of economic interdependence grows between developed and emerging countries. Debate thrives about whether globalization has been good or bad for European consumers, workers, companies and governments and what are the prospects in the future. In a dynamic and uncertain world currently beset by a global financial crisis and a looming recession can Europe act to take advantage of the opportunities created by globalization and mitigate its challenges?

The Executive Council of the American Chamber of Commerce to the EU commissioned the study *Globalization & Europe: Prospering in the New Whirled Order* from Daniel Hamilton and Joseph Quinlan to contribute to the debate about globalization and to help shape Europe's response.

Given the huge importance of Germany not only in Europe but also in the global economy, the Executive Council decided to take a closer look at Germany. We asked the authors to take a series of metrics and measure the impact of globalization on Germany's consumers, workers, companies and governments. Critically, as we are still in the midst of financial turmoil, the authors look at the relationship between globalization and financial and economic stability. The result is this study "Germany & Globalization".

Our goal is to demystify globalization and to make it more understandable to individuals. Ultimately, by providing a fact based and objective analysis which demonstrates clearly that in overall terms Europe and Germany have reaped substantial and tangible benefits from globalization, we hope that the study will help make globalization more acceptable to individuals and point the way towards the actions that Europe and Germany can take to enable consumers, workers, companies and governments to benefit further from globalization.

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Chapter 1

Germany and Globalization: The Setting

"When has the entire earth ever been so closely joined together by so few threads? Who has ever had more power or more machines such that with a single impulse, with a single movement of a finger, entire nations are shaken?"[1]

Johann Gottfried von Herder, 1774

This book seeks to demonstrate how economic globalization has affected Germany and how well Germany is positioned to capitalize on economic globalization's gains while minimizing its pains. Economic globalization is not a new phenomenon, but this time it's different. Today's globalization is different in size and scale than previous eras. It is different in volume, velocity, variety and visibility. Most importantly, it is different in kind. Never have so many new workers and consumers entered the global economy as quickly and suddenly as in the years since the Berlin Wall fell, Germany was united, and the Soviet empire collapsed. The communications and computing revolutions have transformed the nature of competition. Trade in products has been supplemented by trade in tasks. Companies have supplemented trade with investment and moved from geographically concentrated production networks to geographically dispersed networks. Near-unfettered flows of capital have fueled capital investments and generated job growth worldwide. Yet as the current global economic crisis underscores so dramatically, dense financial interlinkages can mean that a financial problem in one nation can quickly morph into a problem for other nations. We are truly living in a new "whirled" order.

Europe is a central arena of globalization and Germany, overall, has benefited significantly. A variety of forces — rapid technological diffusion, greater trade opportunities, lower barriers to investment, policy reforms at home — have generated greater flows of goods and services, people, capital and ideas within Europe and Germany and between Germany and the rest of the world. On the whole, these forces have fostered large gains for Germany: robust growth in exports and imports; strong outflows and inflows of investment; greater technological diffusion; net portfolio inflows; net inflows of labor; more jobs, higher incomes, modest increases in wages; and higher GDP growth. Some effects are cross-cutting: lower priced imports push inflation downward while rising food and fuel costs push inflation upward. On balance, most Germans are living better today than they were when the Iron Curtain fell and the Cold War ended, in part because of globalization.

These benefits have not been evenly shared, however, and for many Germans globalization has meant disruption and uncertainty. There have been winners and losers. Globalization's gains are widespread, but often they may seem abstract or diffuse. Globalization's pains, on the other hand, can be tangible and traumatic, and can have an outsized impact on particular companies or communities. Globalization is not the only source of economic change and disruption in Germany, but like other sources it can inflict real costs on particular members of society.

These changes have generated a great deal of ambivalence in Germany about a world that is increasingly characterized by unfettered movements of goods, services, capital, people and technology. Germans understand more clearly than most that their economic prospects are tied to success in the global economy. But most believe that globalization is moving too fast and that its benefits and burdens are not being shared fairly within German society.

According to a December 2007 worldwide poll by the BBC World Service, 17% of Germans think economic globalization is proceeding "much too quickly" and an additional 35% believe it is moving "a bit too quickly." 23% said globalization was advancing "a bit too slowly" and 4% "much too slowly." The Germans thus seems less concerned about the pace of globalization than the French, the British, the Italians, the Spanish, even the Americans and Canadians.[2] But when asked whether globalization's benefits and burdens are being shared fairly within their country, 45% of Germans answered "not very

fairly" and an additional 26% answered "not fairly at all," compared to 20% who answered "somewhat fairly" and 3% answering "very fairly." German thus seem to have less faith than those polled in the U.S. and the UK that globalization's gains and pains are being shared somewhat or very fairly, but more faith than those polled in France, Spain and Italy.[3]

Popular concerns about widening inequalities in Germany are not entirely unfounded. But is globalization always the culprit, and may it in some instances offer solutions? We address these issues in the following pages.

Globalization has affected Germany's primary stakeholders — consumers, workers, companies, governments — in different ways. All face accelerating economic change. Some have adapted and thrived, others have hesitated or have acted to block globalization's surge. In this study we seek to measure economic globalization's impact on Germany – both the good and the bad.

The setting: Germany starts strong...

Germany remains one of the largest and most competitive economies in the world thanks in part to globalization. Overall, Germany has benefited from freer movement and higher flows of goods and services, investment, capital, people and ideas. Germany is deeply tied into the global economy and is in a strong position to seize the opportunities presented by globalization. Through greater integration with the global economy, Germany's trade flows have remained strong and been redirected towards consumption-oriented, rapidly developing nations. Foreign direct investment flows to and from Germany are robust. Financial globalization—the near 24/7 movement of global capital—has provided needed funds to promote investment and growth at home. The global earnings of corporate Germany have soared over the past half decade, generating investment, creating employment and boosting the income of millions of German workers. Globalization, in general, has helped raise Germany's real economic growth and maintain the nation's status as one of the most prosperous nations on earth.

Due to globalization, the degree of trade openness of many countries has increased significantly (as measured by total exports and imports of goods and services as a ratio of GDP). In the German case, the relevant figure amounts to roughly 75% in 2008, compared with just over 60% in 1990.[4]

The German economy is the world's fifth largest, measured by purchasing power parity, and of the five is the most tightly tied to the global economy – more than the U.S., China, India or Japan.

Germany is also the world's #1 exporter of goods and the #3 exporter of services. Germany accounts for only 1.5% of the world's population yet in recent years has actually boosted its share of global markets -- despite the rise of China, India and other rapidly developing countries, the staggering costs of German unity, a record-shattering rise in value of the euro, often sluggish growth at home, soaring energy and food prices, and global financial crises. In fact, it is the only large economy outside China that is continuing to grow its share in world trade. "Made in Germany" is still a worldwide symbol for quality, reliability and innovative engineering.[5]

Germany is Europe's largest economy, accounting for roughly a quarter of European GDP. It is the world's fourth largest manufacturing producer and the fourth largest producer of automobiles. It is the world's third largest commercial services exporter; the third most important source of foreign direct investment (FDI); is third in global patents, and boasts the third most developed financial sector.

Germany ranks as the seventh most competitive nation in the world according to the Global Competitiveness Index, behind only the United States, Switzerland, Denmark, Sweden, Singapore, and Finland. Germany ranks second worldwide as a destination for R&D investments by foreign companies. German micro-regions account for 9 of the top 20 regional innovation leaders in Europe.

Table 1: Germany and Globalization: Key Strengths and Challenges

Metric	Strengths	Challenges
Trade	• #1 global goods exporter • #3 global services exporter • Trade surplus with both developed and developing countries contributes up to 1.9% to German GDP contributes up to 1.9% to German GDP • Exports doubled this decade • Knack for integrating innovation into "classical" medium/high	• Perenially sluggish domestic demand renders Germany particularly reliant on high export growth markets • Reliance on manufacturing may be difficult as rising developing countries export manufactures • Trade deficit in services
Investment	• #3 global source of FDI • #1 European investor in China • Successfully expanding production networks within larger EU Single Market	• Offshoring: 7% of total job losses • Relative difficulty attracting FDI or M&A • #20 globally in ease of doing business
Capital	• #3 developed financial sector • Monetary stability within eurozone • Euro and intra-firm trade mitigate effect of currency swings • More capital (portfolio flows) entering Germany than leaving it	• German banks exposed to bad debts on housing market in U.S. and elsewhere • Germany should lead the way in creating a pan-EU capital markets that would strengthen the financial sector of Europe and Germany
People	• Highly-skilled labor force	• Germany is shrinking and aging. Growing skill shortages in key areas, together with persistently high unemployment • Magnet for the unskilled, but unable to attract the high-skilled migrants it needs • Outflow of native talent is troubling • Internal east-west migration still difficult to digest
Ideas	• Top tier of global innovation leaders • German micro-regions: 9 of top 20 innovation leaders in Europe • Every fourth euro invested in R&D is provided by foreign firms • German-owned affiliates the #1 foreign R&D investor in the U.S • #3 in global patents	• Underperforming education sector is "Achilles Heel" of German innovation economy • Germany 8th among 16 advanced innovation countries • Germany 9th globally in R&D as percentage of GDP

But also faces some challenges…

Globalization also presents Germany with challenges. Its perennially sluggish domestic demand renders it particularly reliant on high export growth. Continued reliance on its manufacturing sector may be difficult as rising developing countries also begin to develop significant manufacturing industries geared to exports, yet it has a trade deficit in services. It is finding it relatively difficult to attract FDI and high-skilled immigrants, even as its population shrinks and ages. Unemployment remains stubbornly high, even though it has declined in recent years, and yet at the same time tens of thousands of jobs go unfilled due to lack of qualified applicants. Despite key strengths, German innovation is uneven and its education system is failing to meet the nation's needs. Germany risks being squeezed between the high technology challenge posed by the U.S. and Japan and the catch-up innovation challenge posed by rapidly developing countries. German banks failed to escape the contagion of the U.S. financial crisis and also engaged in financial adventures that ultimately infected the German economy and dampened prospects for growth.

It is also important to keep in mind that for the past two decades the German economy has been saddled with the costs of German unification. Germany's relative decline in comparison with other major economies in the 1990s had a good deal to do with the economic consequences of German unity. First of all, for a decade and a half the government financed west-east transfers of €100 billion a year, which blew holes in the German budget.[6] Workers financed a considerable portion of these transfer payments to eastern Germany with their social security payments, resulting in a dramatic rise in non-wage labor costs. In addition, the decision for a 1:1 exchange rate between the worthless east German mark and the world-class west German Deutsche Mark (DM) made it difficult for east German industries to remain competitive. Rapid wage increases in eastern Germany, without commensurate increases in productivity, made investment there unattractive.[7] To compound matters, considerable mistakes were made during the massive privatization of east German enterprises; efforts to root out those responsible for the east German system's abuses often took precedence over efforts to put companies on a solid competitive basis. Many failed.[8]

The result has been a dramatic outflow of people from eastern Germany. Sustainable growth has only been achieved in a few regions. Whereas countries such as Poland, the Czech Republic or Slovakia have been able to engineer a successful economic transformation, this has not yet been the case for eastern Germany – almost twenty years after unification.

Germany and Globalization
Five Key Trends

1. Germany is the only large European country that continues to maintain a strong and persistent presence in high- and medium-high-technology manufacturing. German industry accounts for 87% of Germany's trade. German economic strength resides less in pure technical wizardry than in the capacity to integrate cutting-edge innovation into "classical" manufacturing products and processes, often rendering medium-tech industries into high-tech leaders. This is particularly evident in machine tool and auto production, chemicals and electronics engineering. Intelligent production processes are thus a key basis for German prosperity. Germany's strength is not only due to household name large companies but to the dynamism of its Mittelstand of world-leading smaller firms. The test is whether Germany can keep ahead of the game through continuous process and production innovation in industries coming under greater direct pressure from rapidly developing countries as well as high-tech developed countries.

2. Germany's trade has shifted to developing countries, but German investment remains focused overwhelmingly on developed countries. Nine of the ten fastest growing export markets for Germany since 1990 have been developing nations. German exports to the latter increased by nearly 10% annually since 1990, versus a comparable rate of 5.8% to non-EU-15 developed nations. More than two-thirds of Germany's outwards investment stock, however, is in developed nations.

3. German companies are often front-runners in both Europeanization and globalization. They are taking advantage of the larger European Single Market to integrate new EU member states into their manufacturing production processes. 87% of German offshored jobs stay in Europe. Germany is offshoring manufacturing jobs within Europe and services jobs to Asia. The investment of German companies in the initial ten central and east European accession countries to the EU rose from €350 million in 1990 to €41.4 billion in 2004, and the number of people in these countries employed by German companies during this period jumped 25 times – from 31,000 in 1990 to 757,000 in 2004. Europeanization has its limits, however – in reaction to the 2008 global financial crisis German leaders refused to participate in any Europe-wide plan that would potentially draw on German taxpayer funds to rescue banks in neighboring countries. Despite the euro, the EU's financial sector is still more fragmented than united. This is inefficient and makes it hard for Europe to craft a coordinated and effective response in times of crisis.

4. Germany is shrinking, aging, and losing ground in the battle for global talent. Every year 300,000 fewer children are being born than needed to keep Germany's population stable. An older German work force is exacerbating skill shortages and exposing mismatches between available jobs and relevant skills. Globalization is not responsible for these demographic pressures, but it exposes the demographic challenges starkly. Immigration is essential to Germany's future prosperity, and Germany remains a top destination for migrants. But Germany is a magnet for the unskilled and recent efforts to facilitate the inflow of skilled migrants have yet to demonstrate success. Domestic reforms and new approaches are urgently needed.

5. Despite key strengths, German innovation is uneven and its education system is failing to meet the challenge. Germany ranks high in key cutting-edge economic sectors, boasts vibrant regional clusters, and invests considerably in innovation at home and abroad. Yet Germany ranks 8th among 16 advanced innovation economies and risks being squeezed between the high technology challenge posed by the U.S. and Japan and the catch-up challenge posed by rapidly developing countries.

Globalization affects German stakeholders in different ways

In the following pages we examine globalization and its effect on Germany through five primary lenses: trade, investment, capital, people and ideas. The interaction between these five flows also has cross-cutting derivative effects on German inflation and interest rate levels, employment, income, wages, and real GDP growth. In Table 2 we summarize the overall impact of these primary and secondary "globalization indicators" on Germany over the past fifteen years. Various metrics point to net gains to Germany as a nation and to key stakeholders in particular. In chapter 3 we explain the impact of each of these indicators.

Having sliced and diced these globalization metrics, we then reassemble them in chapter 4 to present a clearer picture of their impact on German consumers, German workers, German companies, and the country as a whole. In the final section we provide a summary view and offer thoughts on how Germany might capitalize on its strengths and tackle its challenges. Let us turn first, however, to the story that has stolen the thunder and the headlines from Germany's economic rebound – the global financial crisis.

Table 2: Summary Impact of Globalization on Germany

Metric	Outcome (Direct/Indirect)	Effect on Germany's Stakeholder
Trade	Solid gains in both exports and imports	Germany is #1 goods exporter and #3 services exporter in the world. Globalization has produced strong gains in both manufacturing and services trade. Export growth to developing nations has been notably strong, benefiting many companies and their employees.
Investment	Strong outflows/ inflows	Germany has experienced net outflows over the past decade, with outward FDI stock doubling that of inward stock. FDI outflows have helped boost the competiveness and earnings of German multinationals. FDI inflows have helped create jobs, promote innovation and boost the incomes of German workers.
Portfolio Flows	Strong Inflows	Greater access to the global savings pool has boosted capital investment and growth. But absent oversight financial interdependence also increases risks of financial contagion.
Labor Mobility	Improving	Greater labor mobility in the EU and net inflows have provided new sources of supply and demand for German firms. Although Germany maintains restrictions on immigrant workers, immigrants will act as an offsetting factor to declining populations Germany's aging population.
Inflation	Offsetting effects	Lower due to more competition and lower-cost inputs, notably from the developing nations. Benefits to all stakeholders. But greater resource and energy demand from the developing nations has created upward pressure on prices.
Interest Rates	Structurally lower	Low interest rates have been key in promoting real growth in Germany. The lower cost of capital has benefited all stakeholders in Germany, notably corporations and consumers. Recent financial crisis and higher commodity prices pushing inflation and thus interest rates up.
Employment	Net gains	Employment growth has slowed; labor regulations and inflexibility remain a concern, although greater cross border trade and investment has been a net positive in creating jobs in Germany.
Income	Modest gains	Beneficial to German consumers, with lower import costs, a greater variety of goods to choose from. The EC estimates that every EU household would gain €5,000 annually if Europe capitalized on globalization's gains.
Wages	Modest increases	Real wages have increased over the past decade, a trend supported by lower inflation, greater competition, more product choice and availability.
Real GDP Growth	Modestly upward	Real growth has trended higher in Germany, yet lags behind the U.S. and the developing nations. Notwithstanding periods of weakness, globalization has been a significant boon to Germany's exports and German competitiveness.
Technological Diffusion	Net gains	Germany needs to raise its technological capabilities and leverage existing technical skills. Greater dispersion of technology has helped boost greater trade in services and allowed companies in Germany to access more of the global technology skills of the developing nations.

Chapter 2

Germany and the Global Financial Crisis

"The world economy is entering a major downturn in the face of the most dangerous financial shock in mature financial markets since the 1930s."

--World Economic Outlook, October 2008, International Monetary Fund

Between 2004 and mid-2008 Germany's economy rebounded from its sluggish performance during the previous decade and a half. Growth picked up, order books filled, unemployment declined. Germany seemed on course for an across-the-board revival that would reestablish itself as Europe's economic dynamo. But that was before the series of shocks that hit global financial and commodity markets suddenly in 2007 and most dramatically in 2008.

The financial crisis of 2008 has put to rest any doubt about how interconnected the global economy has become over the past few decades. At the crisis began, the prevalent feeling in Germany and Europe was that America's financial problems, triggered by the U.S. subprime meltdown, were just that—America's problems. There was much talk of global decoupling—the capacity of Europe and the emerging markets to go their merry way despite a weakened United States. Such was the level of confidence in Europe that the *European Central Bank* opted to raise interest rates in early summer 2008, a signal that growth in the eurozone was adequate and that the real challenge was inflation, not growth.

This all changed in the early fall of 2008 when Europe, including Germany, found itself in the throes of a financial crisis and an economic recession courtesy of the financial tsunami whipped up by the United States. Such are the ties of globalization and the depth of transatlantic ties that a problem in the United States quickly translates into a problem for Europe and its largest economy, Germany.

Globalization cuts both ways—in good times, it bestows multiple benefits on those nations most open and receptive to unfettered, cross-border flows of capital, goods, ideas and people. In bad times, there is no place to hide – and Germany is a prime example. Notwithstanding the nation's conservative banking sector and the fact that its real estate market experienced neither boom nor bust, Germany was enveloped in one of the worse global crises since the Great Depression. The epicenter of the global financial crisis is the United States, but Germany has not been spared the pain triggered by the financial tsunami. The country's robust recovery has been ambushed by the global financial crisis and attendant credit squeeze, and now faces an economic downturn that may last for many months and perhaps for years.[9]

The global credit crisis was triggered by the bursting of the U.S. real estate bubble in general, and by the deteriorating quality of U.S. subprime mortgages in particular. Subprime loans are housing loans offered to homebuyers below prime rates. This device was invented and offered widely in the United States. When a series of defaults turned into a major subprime meltdown in the U.S. beginning in the summer of 2007, many believed the problem was strictly a U.S. phenomenon. However, these mortgages were packaged or securitized, then given top-rate credit ratings, and sold all over the world. Many European and German banks and investors snapped up these mortgage-related instruments, such as collateralized debt obligations and structured investment vehicles (SIVs).

As long as housing prices continued to rise in the United States, there was nothing amiss about subprime loans. Beginning in late 2006, however, home prices in the U.S. began to fall as the cost of capital rose. In 2007, delinquencies on U.S. subprime and other types of below-prime (Alt-A) mortgages soared, as did home foreclosures. The U.S. residential mortgage market experienced an unprecedented deterioration in credit, which rendered a great number of mortgage-related assets worthless. As a result, any bank that had bought large amounts of high-risk assets, backed by and built off mortgages, was confronted with large and unexpected losses.

Although few subprime loans originated in Europe, European banks were aggressive buyers of U.S. mortgage-related assets. In addition, many European banks were eager lenders to construction firms and households, given low global interest rates and abundant levels of global capital. Ireland, Spain and

the United Kingdom each experienced its own housing boom. In 2006, for example, more homes were built in Spain than in Germany, France and the United Kingdom combined. Each of these booms has now gone bust.

No such boom occurred in Germany, although many German banks and investors became ensnared in the global financial crisis. The poster child for German involvement was Hypo Real Estate, Germany's second largest real estate lender, whose loans exceeded its deposit base by eight times -- a risky level of overreach that forced the government to engineer a €50 billion bailout.[10]

Hypo was not alone -- other German banks found themselves in trouble because of shaky real estate investments. In summer 2007 IKB Deutsche Industriebank, which was heavily loaded with U.S. subprime securities, was bailed out by its parent company and a German banking association. The crisis has had a substantial impact on some of Germany's Landesbanken, or regionally-owned wholesale institutions rooted in some of Germany's key Länder, or federal states, that provide central banking functions for smaller savings banks. Sachsen LB, which was deep into the Irish real estate market, was taken over by LBBW, the Landesbank of Baden-Württemberg. And earlier in 2008, a rescue was organized for West LB, a bank that had heavy exposure in the U.S. subprime market.[11] Bayern LB was the first German bank to seek help from the government's €500 billion rescue fund, with a request of €5.4 billion to shore up its balance sheet roiled by bad investments in the U.S. subprime market. A shakeout of the Landesbank structure may be forthcoming.

During the last half of 2007 and the first half of 2008, Germany's five largest private-sector banks had €12.9 billion in losses on securities – many tied to U.S. investments.[12]

Germany's banks are not just facing trouble due to the U.S. subprime meltdown, however. Bayern LB, for instance, also had €1.5 billion in credit exposure to Iceland, itself facing a spectacular meltdown. By June of 2008 German financial institutions had lent $21.3 billion to Icelandic borrowers – well over a quarter of all foreign lending in Iceland, and roughly five times as much as Britain, the next-largest creditor country. Iceland owes more to Germany than to its next 10 largest creditors combined.[13]

Excess leverage, fallout from the collapse of Lehman Brothers, exposure to U.S. mortgage-backed securities—all of these factors and more have inflicted pain on the German financial system and placed Germany squarely in the middle of the global financial crisis. In the end, the German government was forced to fully guarantee all private German bank accounts, currently valued at €568 billion ($776 billion), and to unveil a rescue plan that included €80 billion in fresh capital and €400 billion in loan guarantees.[14]

In the end, many banks in Europe, including Germany, were all too willing to embrace the risky lending practices of their American counterparts, bulking up on risky debt instruments while relying on short-term loans, rather than deposits, to finance their activities.[15] This, along with lax regulations, a growing appetite for risk, the proliferation and securitization of new investment instrument, and cheap and copious amounts of credit have engulfed Europe in the global credit crisis. While monetary authorities in Germany and elsewhere have moved quickly to shore up their respective banking sectors, the damage to the real economy has been done. Germany and the eurozone now face recession.

The Financial Crisis and the Productive Economy

The financial crisis has not only roiled the world financial markets, it has battered and bruised the productive economies of many nations, including Germany. The main means by which the financial virus has infected the global economy has been through a contraction in net lending to businesses and households. Credit creation makes the economy go round; without it, investment and consumption come to a standstill, throttling growth. Investor confidence has been undermined by rising unemployment levels, falling home prices, and plunging retirement savings. Soaring food and energy costs have crimped consumer spending not only in the U.S. and Europe but also in such high flying emerging markets as China and India. Slowing demand in rapidly developing nations and in Germany's key developed country markets alike threatens to undermine German export growth. Years of cost-cutting and restructuring have boosted German competitiveness, but that cannot compensate for weakening demand at

home and from major commercial partners, and as export growth has slowed, corporate Germany has had to cut back on hiring and investment.

Germany has remained the world's largest exporter of goods in part by selling industrial equipment to China, its second-most important market for machinery. In the first seven months of 2008, for instance, German exports to China of machines and machine parts were up 20% from that period in 2007. But now those exports are likely expanding at an annual rate of about 10% and may slip to single-digit growth in 2009.[16]

German business confidence has been dented by slipping export orders and falling demand at home.[17] Higher capital costs and lower consumer demand have forced German and foreign car companies to cut back on production in Germany, as German consumers retrench and squirrel away their savings for another day. What's bad for General Motors is not only bad for workers in the U.S. state of Michigan, but also for workers in the German state of Thuringia, where GM has an Opel factory. Earnings estimates at SAP, one of Germany's leading technology companies, have been cut because the credit crisis has caused companies to defer spending on information technologies. After expanding rapidly in the first quarter of the year, German gross domestic product fell by 0.5% in the second quarter and contracted again in the third quarter, officially signaling the onset of recession in Europe's largest economy. In October 2008 Germany's leading economic institutes slashed their joint growth forecast to just 0.2% in 2009, and even this may turn out to be overly optimistic. Indeed, the IMF expects the economy to contract 0.8% in 2009, down from an expected rate of growth of 1.7%.

The country's fundamental strengths should help prevent the slowdown turning into a deep or protracted slump. Falling energy prices and an expected drop in inflation could foster a recovery. Germany's economy may be tipping downward, but this has not been due to any fundamental flaws in its drivers of economic growth. Germany's problems today are cyclical rather than structural – the result of poorer demand from major trading partners. As in the past, Germany's economic prospects will closely mirror those of the global economy. That is not surprising given that Germany is one of the largest economies in the world and highly integrated and intertwined with the global economy. As the global economy boomed over the past five years, Germany reaped major rewards. Globalization cuts both ways, however, and the slowdown in global growth will not spare Europe's largest economy.

Chapter 3

Germany and Globalization: Key Indicators

Economic globalization can be measured in different ways. In this section we examine globalization and its effect on Germany through five primary lenses: trade, investment, capital, the movement of people, and the flow of ideas as reflected in technology and innovation. We then discuss how these different factors interact to affect German inflation, interest rates, jobs, income, wages, and growth of German gross domestic product (GDP).

Trade flows

Germany is the world's #1 exporter of goods and the #3 exporter of services – remarkable achievements for a country of 82 million people in a world of continental-sized countries and billion-plus nations. Moreover, it has maintained and even increased its share of global markets in recent years, despite a host of seemingly countervailing trends -- the rise of China, India and other rapidly developing countries, the continuing costs of German unity, a record-shattering rise in value of the euro, often sluggish growth at home, soaring energy and food prices, and global financial crises. Germany has been the world's leading exporter of goods in dollar terms for five straight years, according to the WTO.

Being a top global trade power is essential to German growth and prosperity, because Germany's economic story has been that of export-led growth, in contrast to the consumer-driven growth that has characterized the U.S. and the UK economies. Exports of goods generated 41% of Germany's GDP in 2007 – more than twice the rate in the UK and five times as much as in the U.S., according to the OECD. German consumer demand is notoriously weak even in the best of times. When economic storm clouds appear, the accompanying thunderclap is usually the sound of German wallets snapping shut. Weak consumer demand is a relatively consistent feature of the German economy, and has little to do with the global financial crisis. Weak demand at home means that Germany depends for growth almost exclusively on foreign markets.[18]

Fortunately, Germany's trade prowess is undiminished. In 2007 German exports rose 8.5% to €969 billion, with €627.5 billion going to other EU member states. Imports amounted to €772.5 billion, with €459.9 billion coming from within the EU. Since 2000 Germany's trade surplus has contributed 1.1-1.9% real growth to Germany's gross domestic product. German goods exports have doubled in the past decade.[19]

Germany has managed to increase its share of world merchandise exports despite the rise of China and other rapidly developing countries. Germany's share of world merchandise exports was actually larger in 2007 (9.5%) than at the start of the decade, when German exports accounted for 8.5% of the global total. German exports were nearly 10% larger than those of China in 2007. The export gap between Germany and China is narrowing rapidly, however, as China's low-cost manufacturing base continues to attract more export-intensive foreign direct investment (FDI). China's merchandise exports grew at an annual pace of 25% between 2000 and 2007, almost double Germany's 13% growth in merchandise exports, which in turn was double the 6% growth rate in U.S. goods exports and greater than the 12% growth generated by the EU-27 as a whole.

Reliance on foreign buyers also renders Germany particularly vulnerable to the global economic downturn, as customers put off purchases of capital goods or high-end consumer products. In other periods of downturn, German companies could offset a slowdown in one global region with orders elsewhere. The prospect of a global recession, however, has caused Germany's export-dependent companies to ratchet down their forecasts for 2009.[20]

Table 3: Germany's Rank in World Trade

	Exports	Imports
Merchandise	#1	#2
Commercial Services	#3	#2

Share in world total exports	**9.5%**	**Share in world total imports**	**7.5%**
By main commodity group, 2006		By main commodity group, 2006	
Agriculture	5%	Agriculture	9%
Fuels and mining products	6%	Fuels and mining products	18%
Manufactures	86%	Manufactures	72%
By main destination, 2006		By main destination, 2006	
EU-27	63%	EU-27	58%
United States	9%	China	7%
Switzerland	4%	U.S.	7%
China	3%	Russia	4%
Russia	2%	Switzerland	4%

Source: WTO, 2007

The auto industry continues to play a major role in the German export economy. In 2006 automobile production accounted for 22.7% of total German exports, far more than other prominent sectors such as the chemical industry (6.4%) and machine engineering (7.1%).[21] With the manufacture of 6.2 million motor vehicles in 2007, Germany was the world's fourth largest producer of automobiles after the United States, Japan, and China. In 2007 Germany also enjoyed the second largest world market share in machine tools (18.1%).

Germany is not only a top global exporter of goods, it is also a leading exporter of services. German service exports totaled nearly $200 billion, or 6.1% of the global total, in 2007, trailing only the United States (14%) and the UK (8.1%) in terms of service exports. German services exports were 55% greater than those of China. German commercial service exports have seen a compound annual growth rate of nearly 14% between 2000 and 2007; this is above trend for growth in global and U.S. commercial services exports, which were 12% and 7% respectively during the same period. Key service exports include transportation services, travel, and "other commercial services," like engineering, legal activities, finance and other related functions.

Table 4: Germany's Trade in Goods and Services, 1999-2007 *(Billions of €)*

	Exports of Goods	Imports of Goods	Balance	Exports of Services	Imports of Services	Balance
1999	510.0	444.8	+65.2	80.8	126.8	-46.0
2000	597.4	538.3	+59.1	92.8	141.8	-49.0
2001	638.3	542.8	+95.5	101.4	151.3	-49.8
2002	651.3	518.5	+132.8	110.7	146,4	-35.7
2003	664.5	534.5	+130.0	111.3	145.8	-34.5
2004	731.5	575.4	+156.1	120.0	149.3	-29.3
2005	786.2	628.1	+158.1	134.1	159.0	-24.9
2006	893.0	734.0	+159.0	152.4	168.0	-15.6
2007	969.0	770.4	+198.6	161.3	177.7	-16.4

Sources: Deutsche Bundesbank 2007b: 6. Deutsche Bundesbank. Zahlungsbilanzstatistik November 2007. Statistisches Beiheft zum Monatsbericht 3. Deutsche Bundesbank. Zahlungsbilanzstatistik Stand 19.9.2008

Table 5: Merchandise Trade: Leading Exporters and Importers, 2007 *(US $ billions and %)*

Rank	Exporters	Value	Share (%)	Annual % change	Rank	Importers	Value	Share	Annual % change
1	**Germany**	1,327	9.5	20	1	United States	2,017	14.2	5
2	China	1,218	8.8	26	2	**Germany**	1,059	7.5	17
3	United States	1,163	8.4	12	3	China	956	6.7	21
4	Japan	713	5.1	10	4	Japan	621	4.4	7
5	France	552	4	11	5	United Kingdom [a]	617	4.3	3
6	Netherlands	551	4	19	6	France	613	4.3	13
7	Italy	492	3.5	18	7	Italy	505	3.6	14
8	United Kingdom [a]	436	3.1	-3	8	Netherlands	491	3.5	18
9	Belgium	432	3.1	18	9	Belgium	416	2.9	18
10	Canada	418	3	8	10	Canada	390	2.7	9

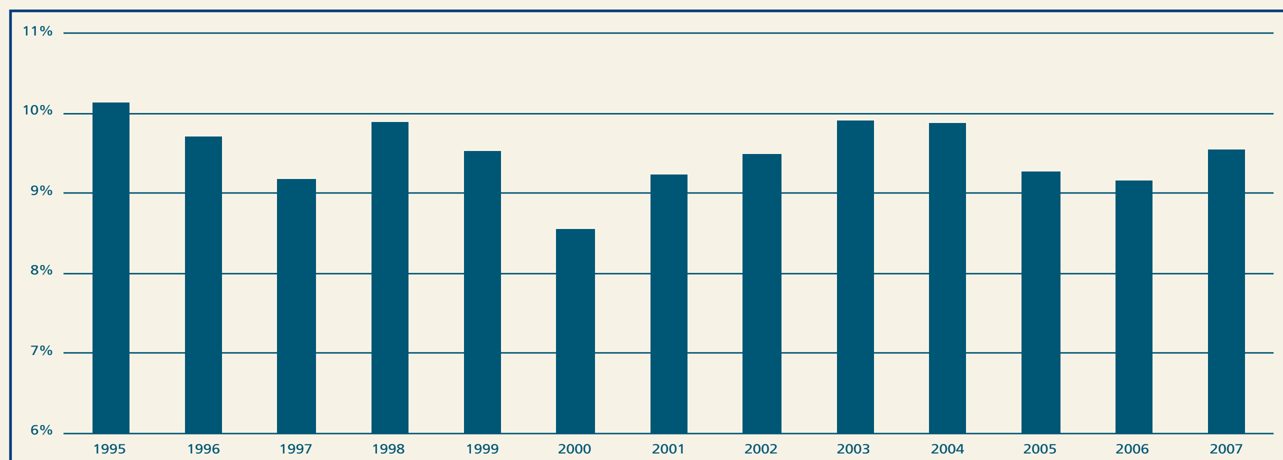
[a] *The 2007 annual change is affected by a reduction in trade associated with fradulent VAT declaration.*
Source: WTO Secretariate

Table 6: Commercial Services: Leading Exporters and Importers, 2007 *(US $ billions and %)*

Rank	Exporters	Value	Share (%)	Annual % change	Rank	Importers	Value	Share	Annual % change
1	United States	454	13.9	14	1	United States	336	11	9
2	United Kingdom	263	8.1	17	2	**Germany**	245	8	15
3	**Germany**	197	6.1	18	3	United Kingdom	193	6.3	13
4	Japan	136	4.2	11	4	Japan	157	5.1	9
5	France	130	4	11	5	China	129	4.2	28
6	Spain	127	3.9	21	6	France	120	3.9	12
7	China	127	3.9	39	7	Italy	117	3.8	19
8	Italy	109	3.3	12	8	Spain	97	3.2	24
9	Netherlands	91	2.8	13	9	Ireland	93	3	18
10	Ireland	87	2.7	27	10	Netherlands	89	2.9	13

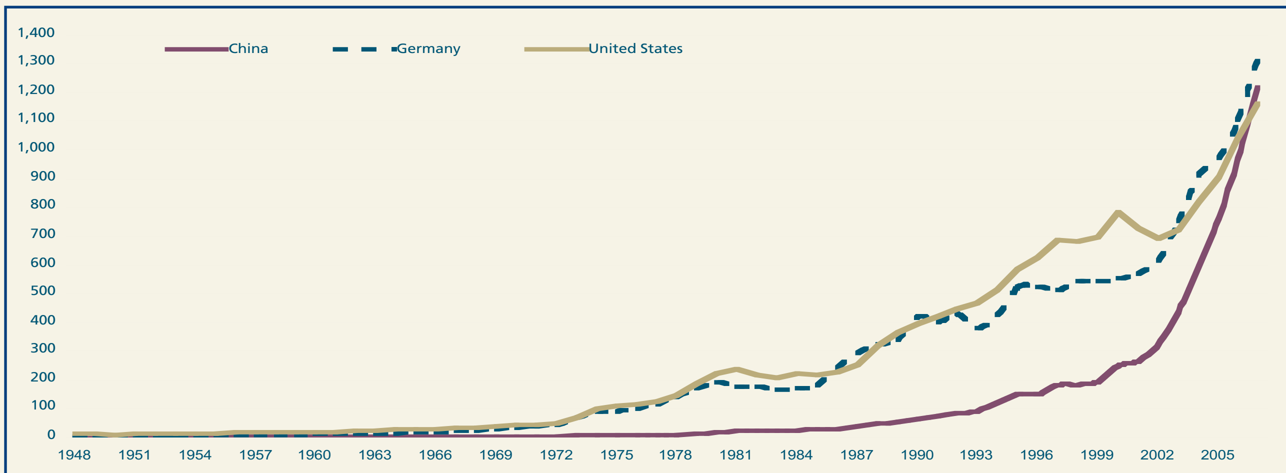
Source: WTO Secretariate

Table 7: Germany's Exports to the World: Percent of Total World Merchandise Exports



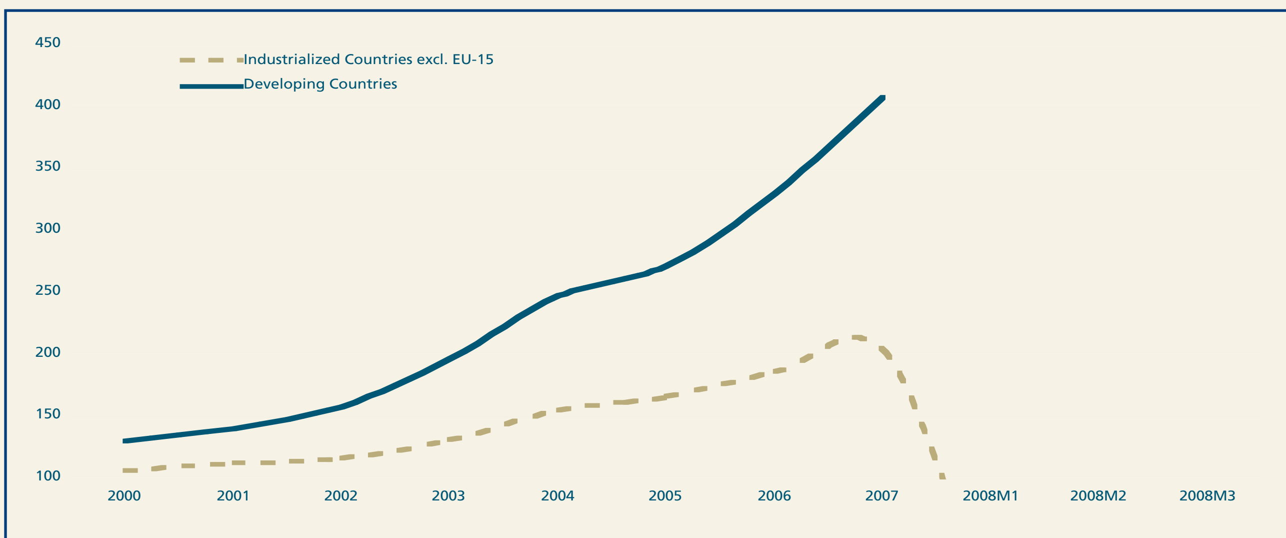
Source: WTO Secretariate

Table 8: Germany: World Leader in Merchandise Trade
Merchandise exports to the world, Annually, Billions of U.S. $



Source: WTO

Table 9: Germany Exports to the World
Annually, Billions of US $



Source: IMF

Although Germany is a major services exporter, it has a trade deficit in services. Germany narrowed its trade deficit in services in 2007 by €30 billion to about €16 billion – just a fraction of its large trade surplus in goods. Nonetheless, the services account remains in deficit.

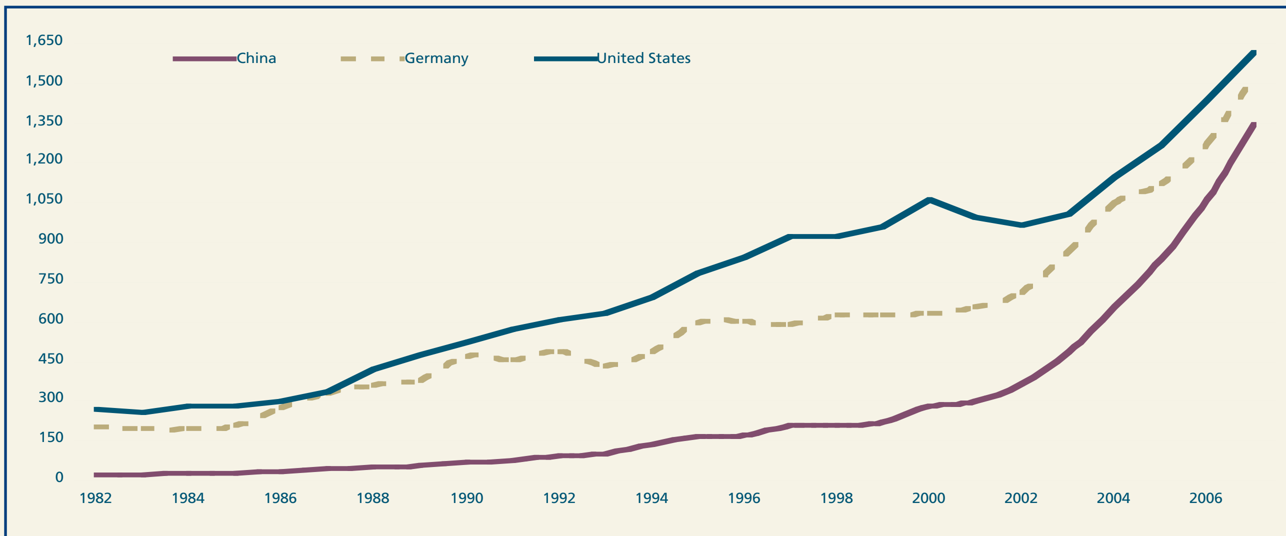
There are three major reasons for this. First, even though certain sectors of the Germany economy are well positioned to take advantage of the globalization of services, Germany as a whole has yet to seize the potential of services trade. Germany's exports are still heavily skewed to manufacturing.

Second, an important element of the services account is tourism, and Germans are world-class tourists. Domestic and international tourism currently accounts for about 3.2% of GDP and for 2.8 million jobs. Following commerce, tourism is the second largest component of the services sector. In 2006, the year Germany hosted soccer's World Cup, 52.9 million overnight stays were registered by international tourists, 9.8% higher than in the previous year and an all-time record. In 2006 Germany ranked seventh in the world in international arrivals, with 23.6 million international tourists (versus 79.1 million in top-ranked France). Yet even in that year Germany registered a net outflow in the balance of payments

related to tourism -- visitors to Germany spent $37.5 billion, but German tourists outside the country spent $85.7 billion, more than twice as much.

Table 10: U.S.: Top Exporters of Goods and Services

Goods and services exports to the world, Anually, Billions of US $*

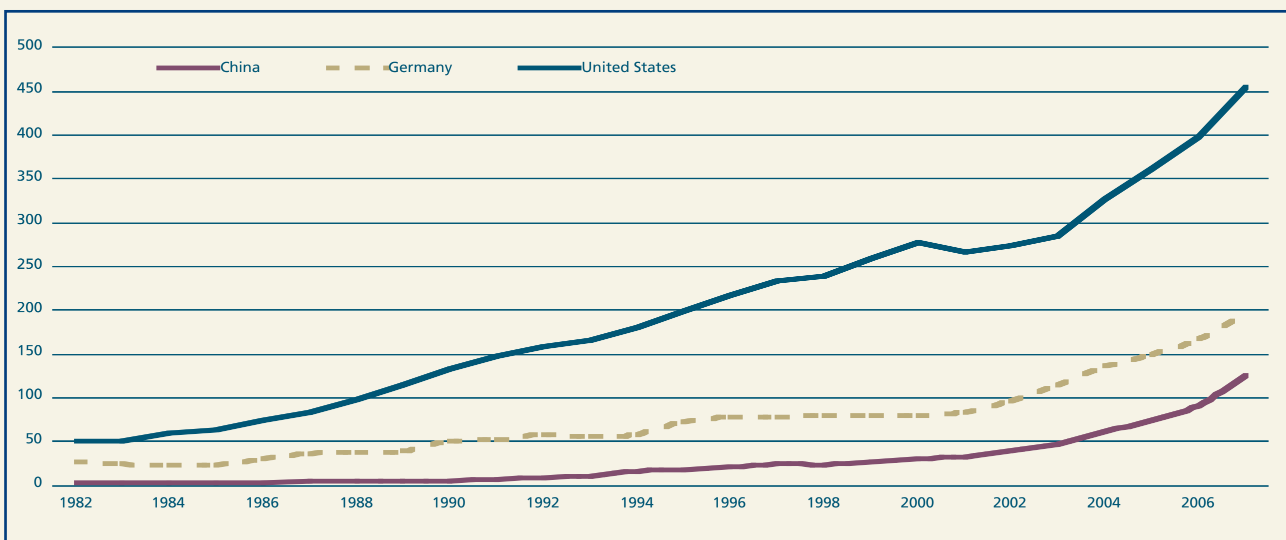


Source: WTO

** Commercial Services data does not include government services*

Table 11: U.S. Maintains Leadership in Services Trade

Goods and services exports to the world, Anually, Billions of US $*



Source: WTO

** Commercial Services data does not include government services*

Third, barriers continue to hamper services trade within Europe. Services now account for 70% of Europe's output but just 20% of its trade. In part this reflects the lower tradability of services, but it also highlights continuing hurdles. The European Central Bank estimates that service sector output could be increased by 12% if competition in the eurozone were raised to U.S. levels. The EU's recent Services Directive has the potential to deliver up to €30 billion of new wealth and create up to 600,000 new jobs. But progress is slow.

Germany's major trading partners

Germany's European partners remain its prime trade customers and suppliers. In 2007, 63% of German exports went to other EU member states. Germany exports as much to the Czech Republic (and more to Poland) as it does to China. Germany is far more exposed to sudden shifts in growth and demand in eastern Europe than it is to such shifts in China.

Table 12: Regional Structure of German Trade, 2007 *(%)*

	Exports	Imports
Eurozone	42.8	39.5
Other EU countries	21.9	20.0
TOTAL EU	**64.7**	**59.5**
USA	7.6	5.9
China	3.1	7.1
Russia	2.9	3.7
Japan	1.3	3.1

Source: Deutsche Bundesbank, 2008

Nonetheless, the Czech Republic and China are emblematic of an important trend. Between 1990 and 2007 Germany's trade underwent a structural change—both exports and imports shifted towards developing nations and away from developed nations located outside Germany's base in the EU15. Since 1990, Germany's top three export markets in growth have been China, Poland, and Romania. Nine of the ten fastest growing export markets for Germany since 1990 have been developing nations. German exports to the latter increased by nearly 10% annually since 1990, versus a comparable rate of 5.8% to non-EU15 developed nations.

A number of factors are responsible for this reconfiguration in trade, including the enlargement of the EU and its Single Market to rapidly developing nations in central and eastern Europe; greater cross-border specialization by German firms, which has boosted intra-firm trade between Germany and a host of developing nations; and rising final demand for German products in developing nations as consumption and investment become more important economic drivers.

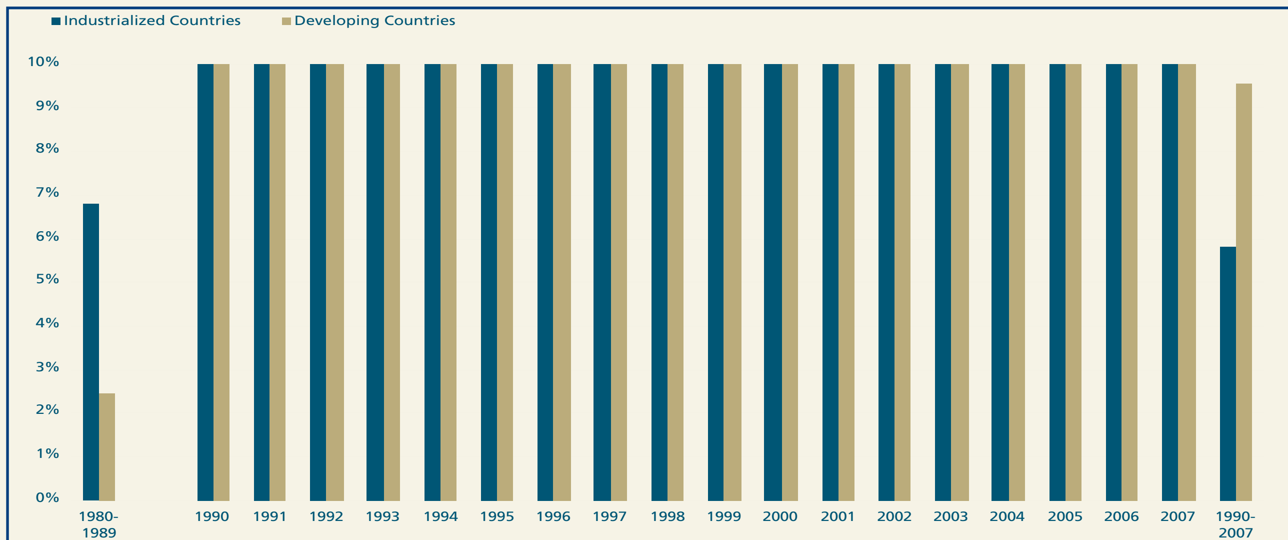
Reflecting the above trend, nearly 22% of Germany's imports from Eastern Europe are made up of goods from German subsidiaries. In some nations, the level of intra-firm trade is much larger—goods from German affiliates in Slovakia and Hungary, for instance, account, respectively, for 65% and 40% of German imports from these nations.

The rise of developing nations is portrayed mainly as representing a supply shock to the global economy as millions of new workers join the global labor force. However, these workers are also consumers. The developing nations are not only a source of supply but also a major source of demand. Together they accounted for over 40% of global imports in 2007, a record high. Personal consumption expenditures in the developing nations doubled between 2000 and 2006 to $9 billion. Rising household consumption has helped boost import demand for a variety of consumer goods, benefiting world-class exporters like Germany.

Demand for German exports in many parts of the developing world this decade has been nothing short of explosive. Africa's imports from Germany rose roughly 158% between 2000 and 2007; Russian imports from Germany soared 896% over the same period. In 2000 Germany was providing 12% of Russia's imports; by 2007 the figure was 16%. Central and eastern European imports from Germany jumped 246%. Middle East imports from Germany rose 190%, while developing Asia's imports from Germany soared nearly 170%. Latin American imports from Germany rose 93% between 2000 and 2007. In 2007 alone German exports to Brazil, Russia, China and India grew by 31%, from €43 billion to €63 billion. In short, German firms have reaped a bonanza from surging demand in the developing nations, a fact often overlooked or ignored when the pros and cons of globalization are debated.

Table 13: Germany: The Shift in Trade (Exports)

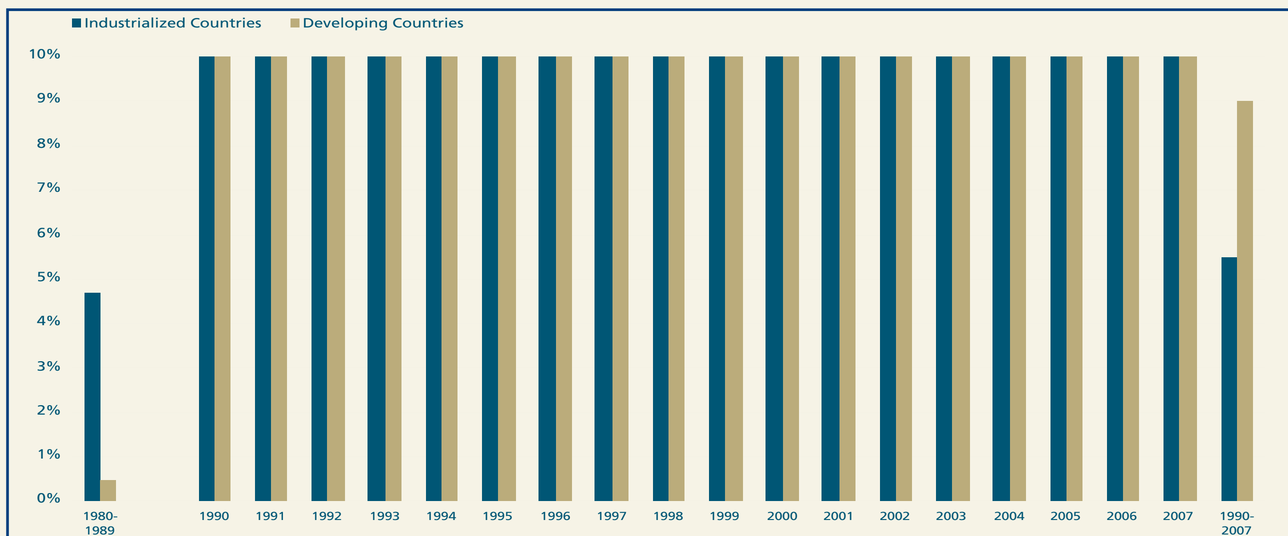
Compound annual growth, percent



Source: IMF

Table 14: Germany: The Shift in Trade (Imports)

Compound annual growth, percent



Source: IMF

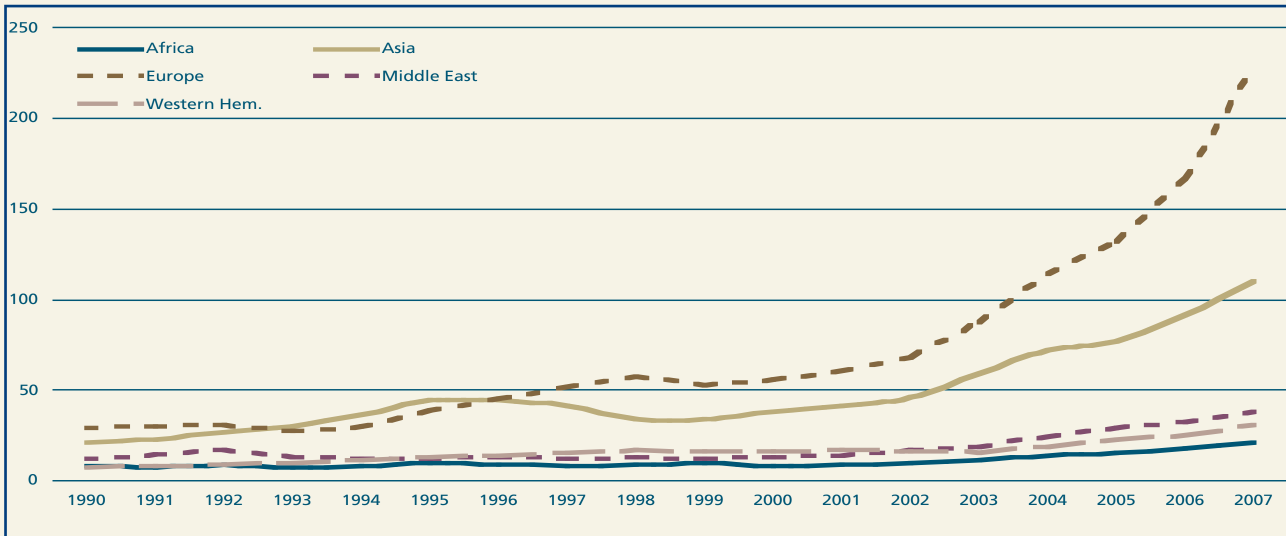
German imports have exhibited a similar pattern. In the 1990s and early 2000s, the geography of Germany's imports shifted, with stronger growth from developing nations (9%) versus developed nations (5.5%). Thus far this decade, German imports from the developed nations (outside the EU15) have increased 5% (CAGR), or 43% between 2000 and 2007, versus a 14% rate of growth from developing nations or a rise of 148% between 2000 and 2007.

Developing nations provide Germany with low-cost sources of imports, which translate into more products at lower prices, lower inflation, lower interest rates, higher real wage gains for German workers, greater competition and efficiencies in production, and greater export opportunities to more customers in the developing world with higher incomes and greater consumption.

The emergence of developing nations as a significant source of global supply and demand has been a net benefit to Germany, the world's largest exporter of goods. In fact, Germany, unlike many other developed nations, enjoys a sizable trade surplus with developing nations. While Germany is certainly

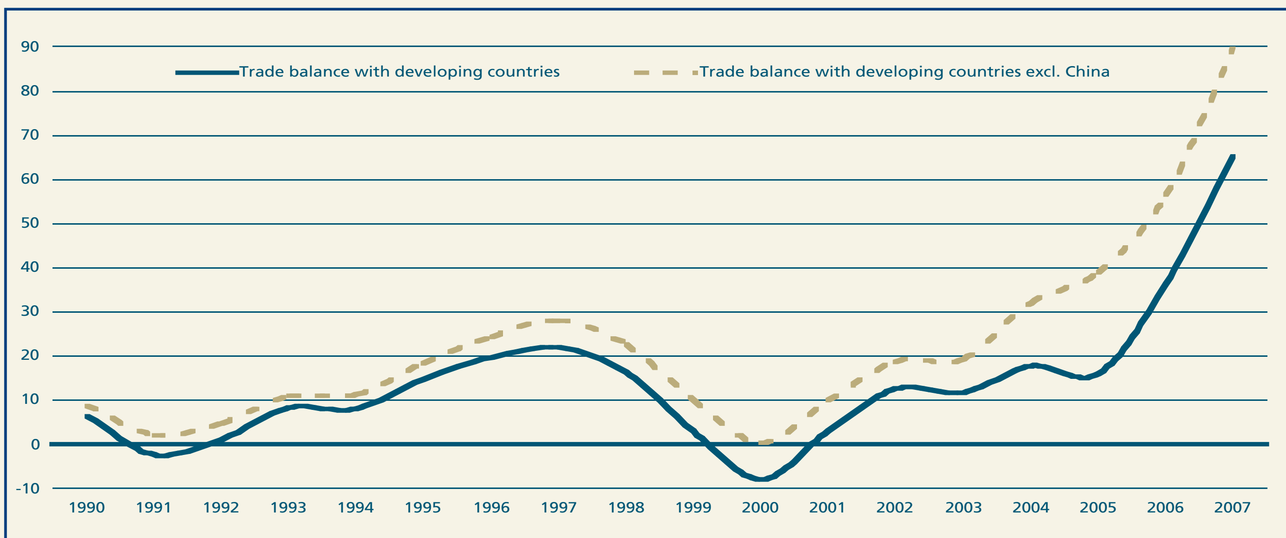
a major importer of goods, in every year since 2001 it has exported more than it has imported from developing nations. In 2007 Germany posted a $65 billion trade surplus with developing nations, an enviable achievement given the penchant of developed nations to run perennial trade deficits with developing nations.

Table 15: Developing Regions Imports from Germany *(Billions of US $)*



Source: IMF

Table 16: Germany's Trade Balance with the Developing Nations *(Annually, Billions of US $)*



Source: IMF

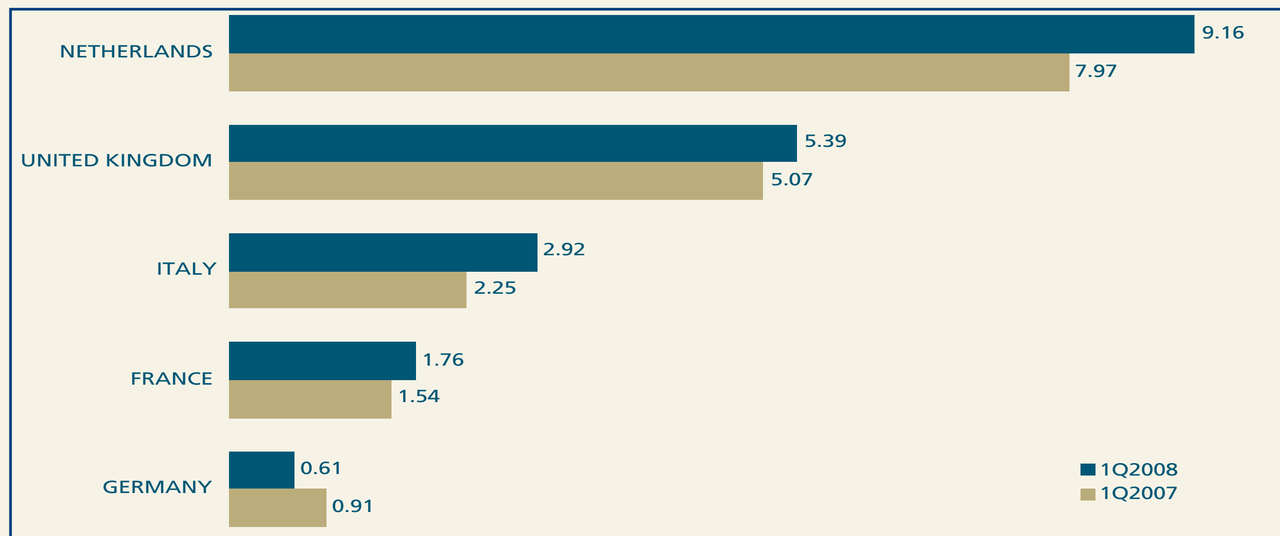
On the downside, Germany has a trade deficit with Asia that is roughly as large as its trade surplus with the United States. Germany's trade with China in particular has deteriorated over the past few years. Germany's trade deficit with the mainland widened to nearly €25 billion in 2007, triple the level at the start of the decade.

Major goods imported by Germany from China in 2007 included office machinery and computers (19% of imports), and radio, television and communication equipment and electronic components (17%). Between 2000 and 2007 German imports of these two groups rose 27% and 21% on an annual average. The third most important imports category included furniture, jewelry, musical instruments, sports

goods, games and toys, and similar products (10% of imports), with games and toys accounting for more than half of this category of imports.[22]

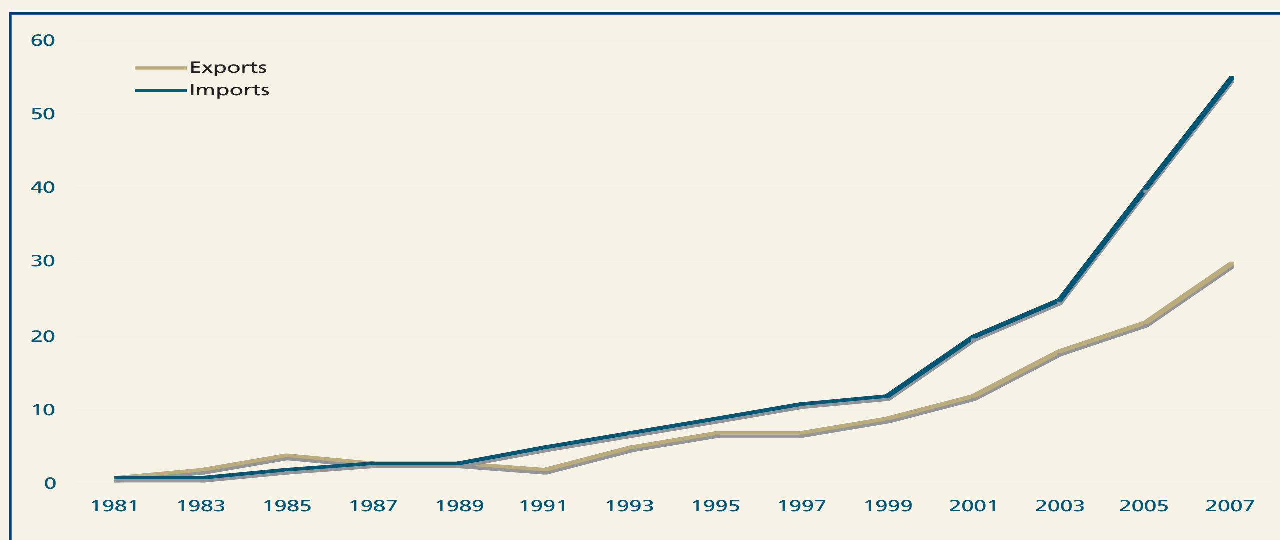
Prospects for German exports to China remain bright, however, due to China's huge population and rapid economic growth. German machinery is still in great demand in China (29% of exports). Germany also registers sizable motor vehicle exports to China (16% of exports) and equipment for electricity production and distribution (10%). Between 2000 and 2007 German exports to China of motor vehicles and parts increased 34% on an annual average.[23]

Table 17: China's Trade Surplus with Europe *(Billions of US $)*



Source: IMF

Table 18: German Foreign Trade with China *(Billions of €)*



Source: Statistisches Bundesamt, Wiesbaden 2008

China as *Exportweltmeister*: A Cause for German Angst?

At some point in the near future, China is expected to emerge as the world's largest exporter of goods, dethroning Germany as #1. The transition will cause some angst in Germany, but four points are worth considering.

First, inordinate attention to shares and rankings ignores the far more significant fact that, in absolute terms, both global exports as a whole and German exports in particular have grown considerably over the past decade. 82 million Germans may not be exporting as much in the future as 1.2 billion Chinese, but they are still exporting quite a lot, and overall the pot itself is much bigger, because of the explosive demand generated by billions of new consumers who have entered the global economy over the past two decades. A growing global economy is not zero-sum; more exports from China does not mean less exports from Germany.

Second, even in light of China's export rise, Germany is expected to remain a premier global exporter well into the future, thanks in large part to the country's high-end, sophisticated export mix that is beyond China's current export capabilities. There are still no indigenous Chinese firms to compete with the likes of Siemens or SAP.

Third, German and other foreign funded companies make up 85% of China's processing trade, which accounts for nearly 50% of China's exports. Products "Made in China" are not necessarily products "Made by China" -- many German exports to China are comprised of intermediate goods shipped by German parent companies to their own affiliates in China.

Fourth, China's rising export capabilities have come more at the expense of other developing nations—South Korea, Taiwan, Thailand, Mexico, for instance—than at the expense of developed nations like Germany.

Trade and the German Länder

What role do Germany's 16 federal states, or Länder, play in global trade? Germany's leading trading state, not surprisingly, is its most populous state of North Rhine-Westphalia, the country's industrial heartland in the Ruhr valley. The two rich large southern states of Baden-Württemberg and Bavaria are also major global exporters.

What is clear from Table 20 is that Germany's eastern states play little role in Germany's export success. The 16.7 million inhabitants of this region produce an export volume of €72.7 billion, whereas the southwestern state of Baden-Württemberg alone, with 10.7 million people, exports more than twice that amount. That translates into per capita exports of €4,353 in the six eastern states and €13,935 in Baden-Württemberg. In short, Germany's regions are unevenly integrated into world markets. Essentially, Germany's eastern states are both poorer and less integrated into global markets than its western states. The legacy of German division still lingers.

Table 19: Foreign Trade by the German Länder, 2007 *(Billions of €)*

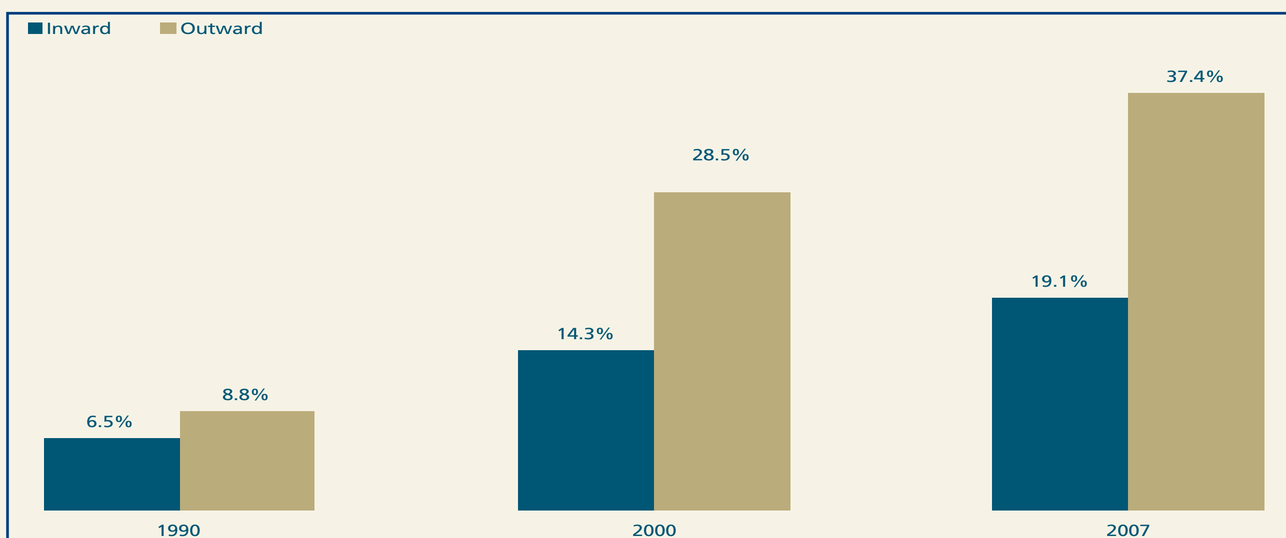
Federal State (Land)	Exports	Imports	Population (thousands)
North Rhine-Westphalia	174.1	180.8	18.029
Bavaria	153.6	124.0	12.488
Baden-Württemberg	150.5	123.9	10.739
Lower Saxony	73.7	67.7	7.997
Hesse	49.3	68.4	6.075
Rhineland-Palatinate	40.7	25.9	4.053
Hamburg	28.8	54.0	1.774
Saxony	**23.4**	**14.8**	**4.250**
Schleswig-Holstein	17.1	20.2	2.833
Saarland	13.7	11.1	1.050
Bremen	12.0	13.5	0.663
Berlin	**12.3**	**8.3**	**3.395**
Saxony-Anhalt	**11.3**	**10.8**	**2.470**
Thuringia	**10.7**	**7.2**	**2.335**
Brandenburg	**10.4**	**11.6**	**2.559**
Mecklenburg-Vorpommern	**4.6**	**3.7**	**1.707**

Bold indicates six states in eastern Germany.
Sources: Federal Statistics Office, Destatis; population figures from www.wikipedia.org.

Investment

Globalization has unleashed robust foreign direct investment (FDI) flows around the world. In 1990, worldwide FDI stocks accounted for less than 9% of world GDP. By 2006 the figure had jumped to 26%. In Germany the share increased from 8.9% to nearly 35%.[24]

Table 20: Germany: Foreign Direct Investment as % of GDP



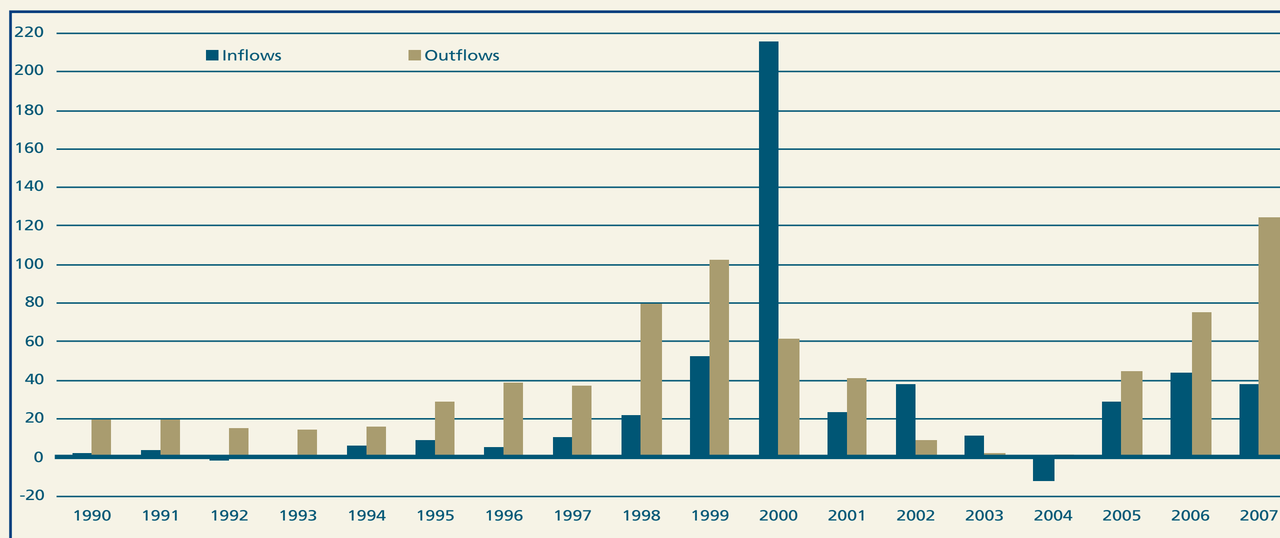
Source: UNCTAD

Germany is a main beneficiary of this trend. Increased FDI outflows have helped boost the competitiveness of corporate Germany by allowing greater participation in local markets and greater access to foreign labor, raw materials, and other resources. Meanwhile, FDI inflows have helped to create jobs, transfer technology, raise Germany's innovative capacities, boost the availability of goods and services for

German consumers, and lift the incomes of many workers. While outward and inward FDI flows can cause some economic dislocations, the net benefit to Germany has been positive.

Although Germany considers itself a classic trading nation, German companies have balanced their export orientation with a strong FDI presence in key markets. German FDI outflows exceeded €120 billion in 2007, a record high. Since the global economy emerged from recession in late 2002, FDI outflows steadily recovered as more German firms took advantage of new opportunities and new markets beyond their own home market.

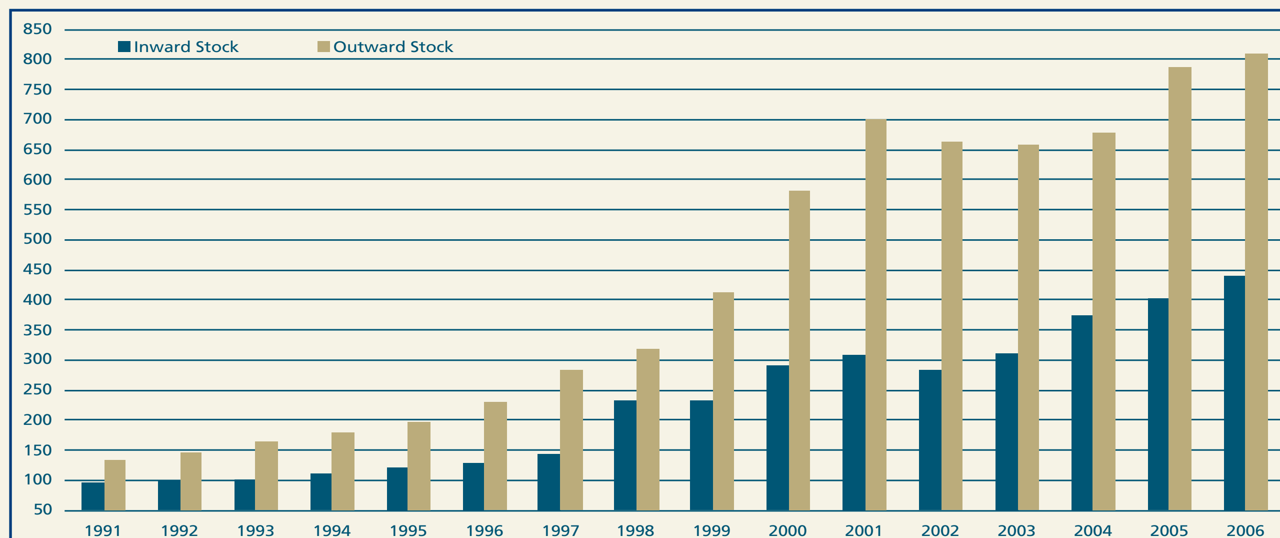
Table 21: German Foreign Direct Investment lows *(Annual, Billions of €)*



Source: Deutsche Bundesbank

The value of German's outward FDI stock in 2007—in excess of $1 trillion—was nearly double the level of 2000 and nearly seven times greater than 1990. Through greater cross border trade and investment linkages, Germany has never been as exposed to the global economy, with investment inflows and outflows a larger part and driver of the economy. The current global turndown is likely to dampen German FDI outflows in 2008, but Germany has built a dense network of investment linkages throughout the world.

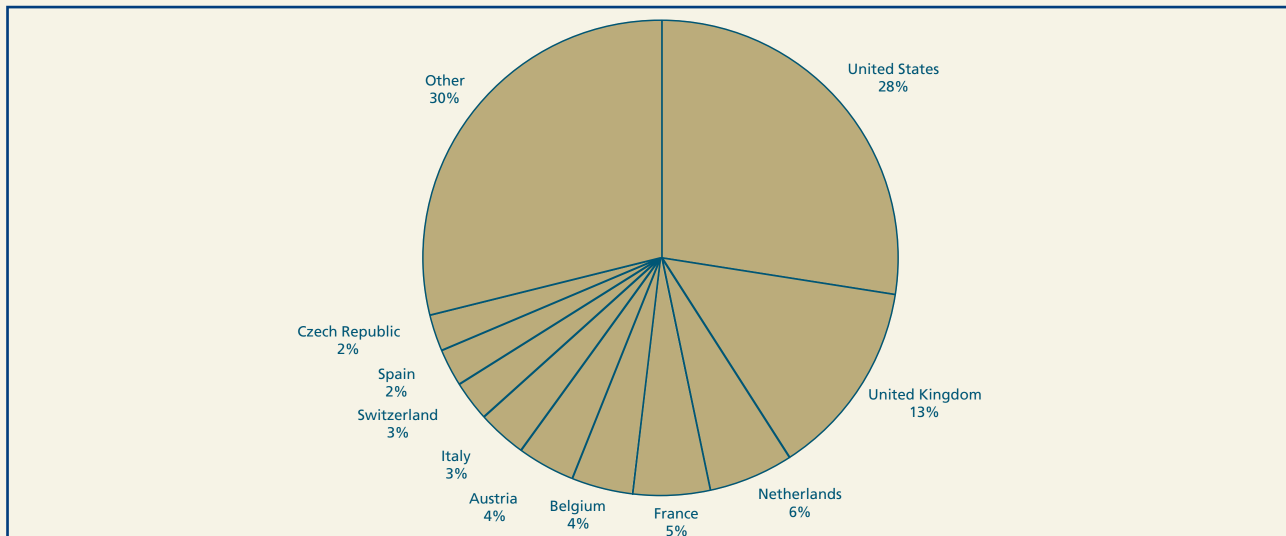
Table 22: German Foreign Direct Investment Stock *(Annual, Billions of €)*



Source: Deutsche Bundesbank

More than two-thirds of Germany's outward investment stock was in the developed nations as of 2006. The United States ranked first, accounting for 28% of the total. The value of German FDI in the United States is significant -- four times that of German exports. German companies are the #1 foreign investors in 10 U.S. states. German investment in the American Southeast alone is greater than total European investment in China.

Table 23: Germany: Outward FDI Stock, by country *(end-2006)*



Source: Deutsche Bundesbank

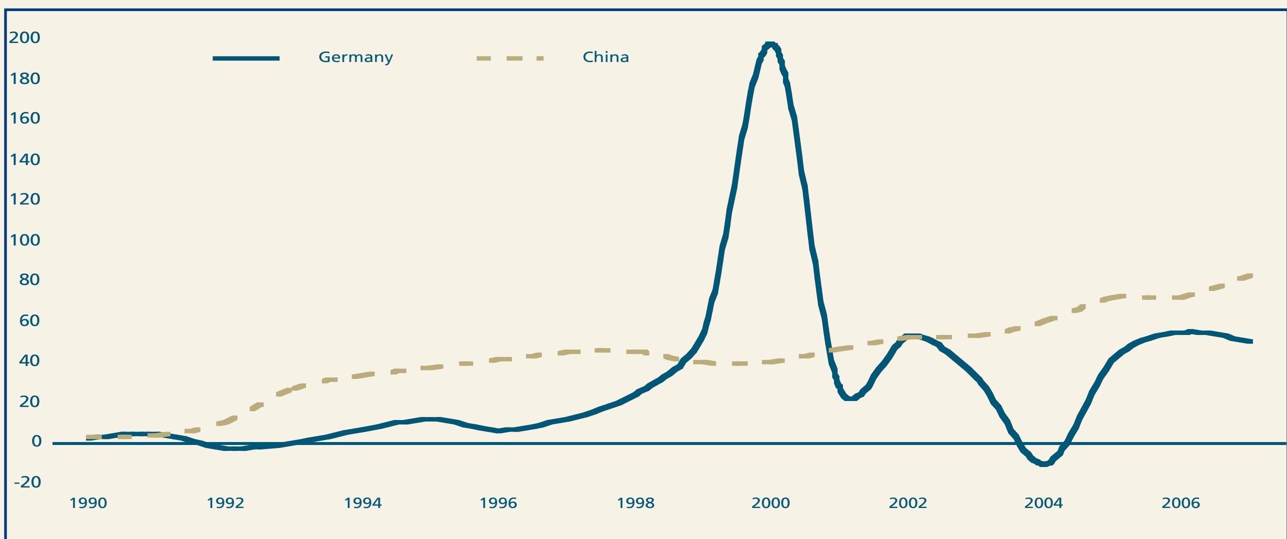
The United Kingdom ranked second (13.4%) as a destination for German FDI. The Netherlands ranked third (5.7%). In recent years German firms have increased and expanded their production networks into the new EU member states in eastern Europe, resulting in a surge in intra-firm trade between German parent companies and their eastern European affiliates. Nearly 22% of Germany's imports from eastern Europe are made up of goods from German subsidiaries. In some nations, the level of intra-firm trade is much larger—goods from German affiliates in Slovakia and Hungary, for instance, account, respectively, for 65% and 40% of German imports from these nations.

Over the past decade, central and eastern Europe has grown at an average rate of 4%, compared with 2% growth for western Europe. Volkswagen is the top foreign investor in the region, with revenues of €23.8 billion in 2007, and three VW subsidiaries – Skoda Auto of the Czech Republic, Audi Hungaria and Volkswagen Slovakia – are among the top 10 companies in the region. German retailer Metro is the third largest company in the region, with €9.9 billion in revenue in 2007.[25]

German FDI in Latin America is not large compared to FDI in the U.S. or Europe. Nonetheless, German companies account for 15% of Brazil's economic output.[26]

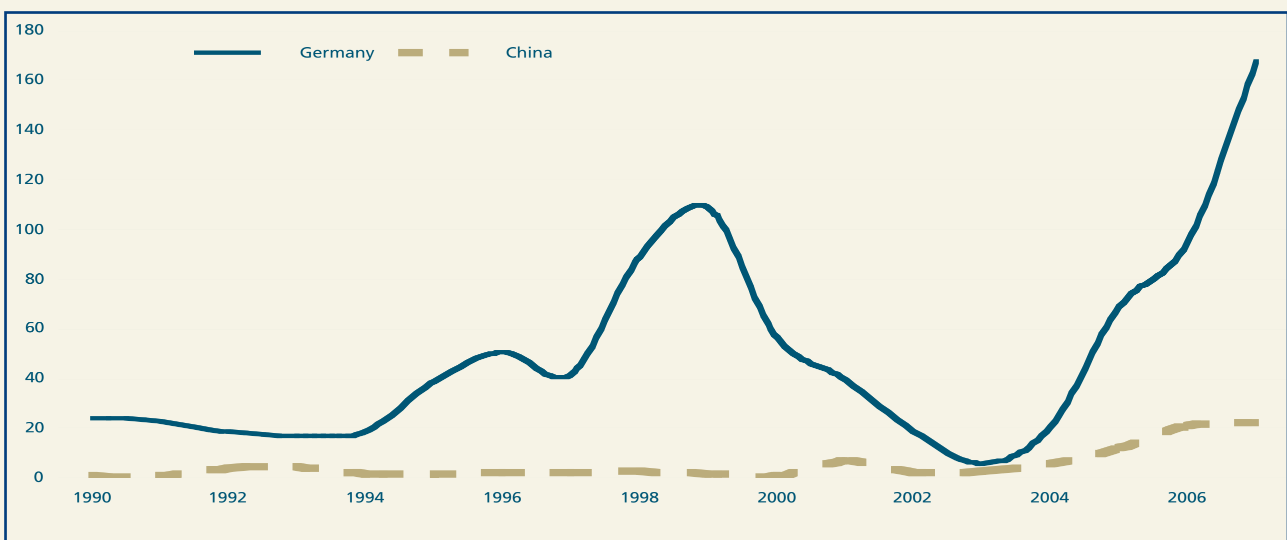
German investment in Asian countries lags far behind German investment in the U.S. or Europe. At the end of 2005 German investments in China accounted for only 4.8%, and German investments in India only 1.1%, of German investments in the United States.[27] Nonetheless, Germany is the largest European investor in China. German foreign direct investment in China totaled $9.3 billion between 2000 and 2007. That was 30% larger than comparable FDI flows from the UK to China, and nearly $5 billion larger than French investment flows to China over the same period.

Table 24: FDI Inflows: Germany vs China *(Billions of US $)*



Source: UNCTAD

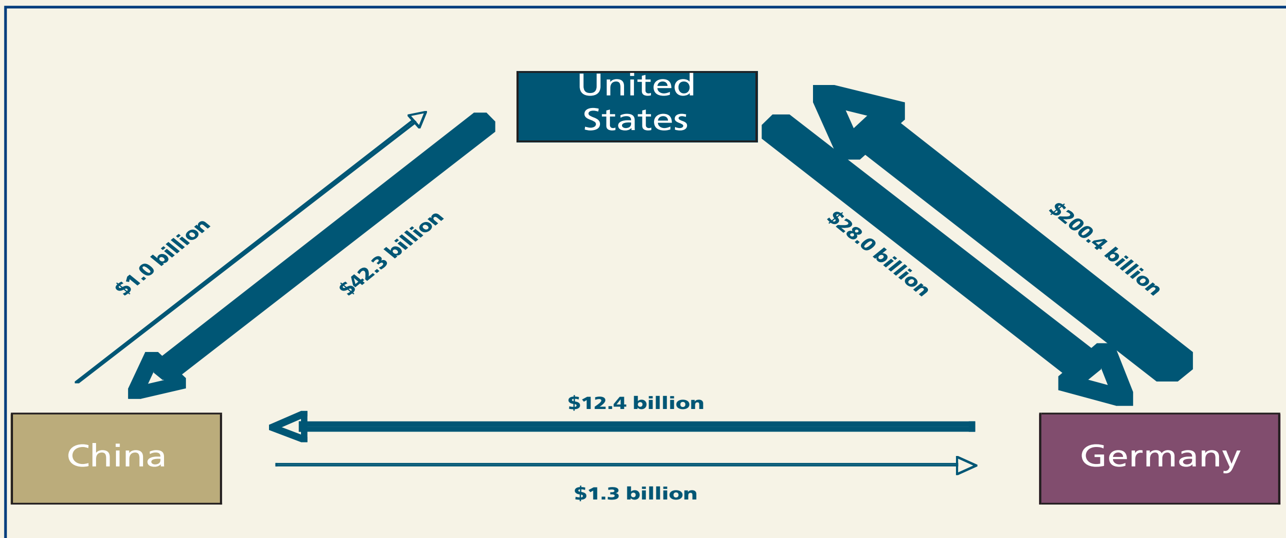
Table 25: FDI Outflows: Germany vs China *(Billions of US $)*



Source: UNCTAD

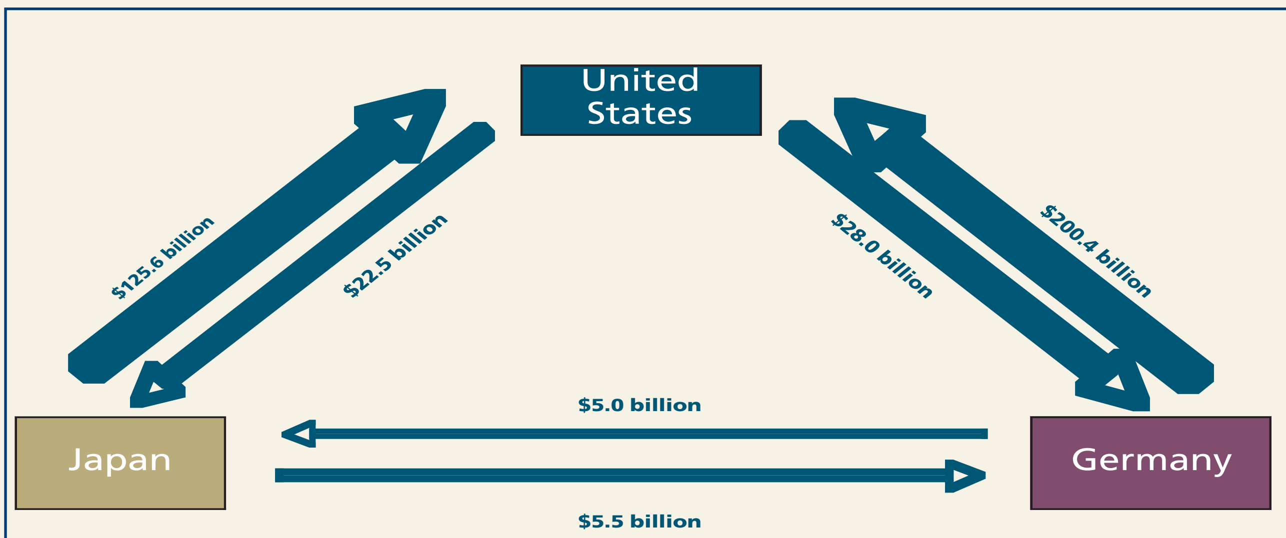
However, Germany's overall share of total cumulative FDI inflows to China over the 2000-07 period (1.9%) lagged that of the United States (6.4%), Japan (7.6%), and many other Asian states. In other words, many U.S. and Japanese firms currently enjoy a strategic advantage over their German counterparts in terms of being "insiders" in the massive Chinese market. This places many German firms at a strategic disadvantage in one of the most robust markets in the world, although somewhat ahead of companies from other European countries.

Table 26: Trilateral Foreign Direct Investment Flows: US-Germany-China *(1997-2007)*



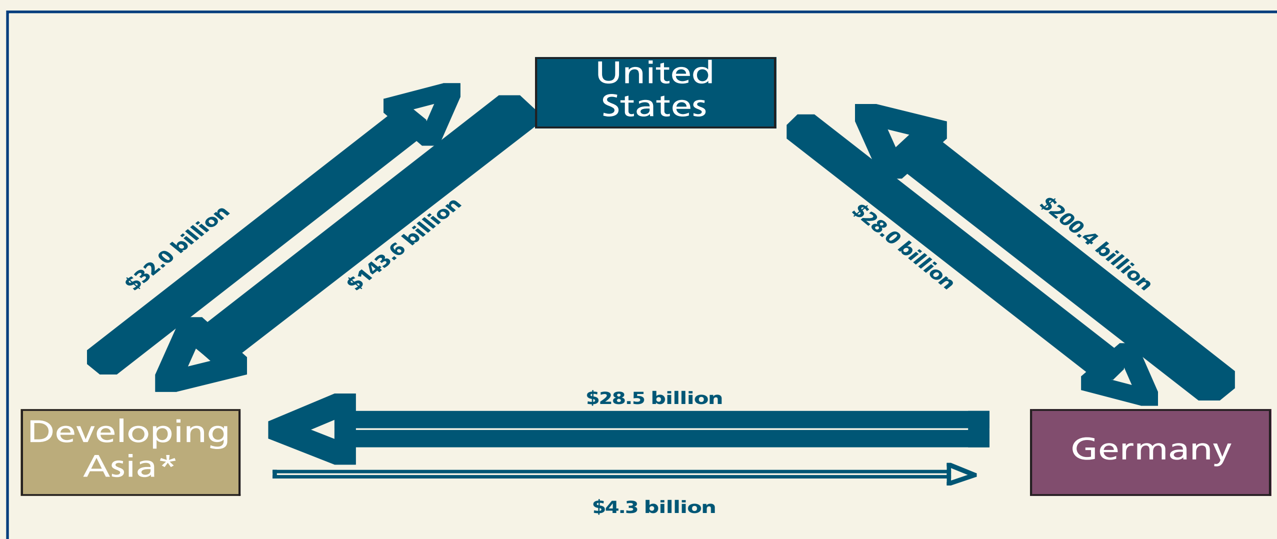
Source: Bureau of Economic Analysis; Eurostat; ISI Emerging Markets
Data through 31 December 2007

Table 27: Trilateral Foreign Direct Investment Flows: US-Germany-Japan *(1997-2007)*



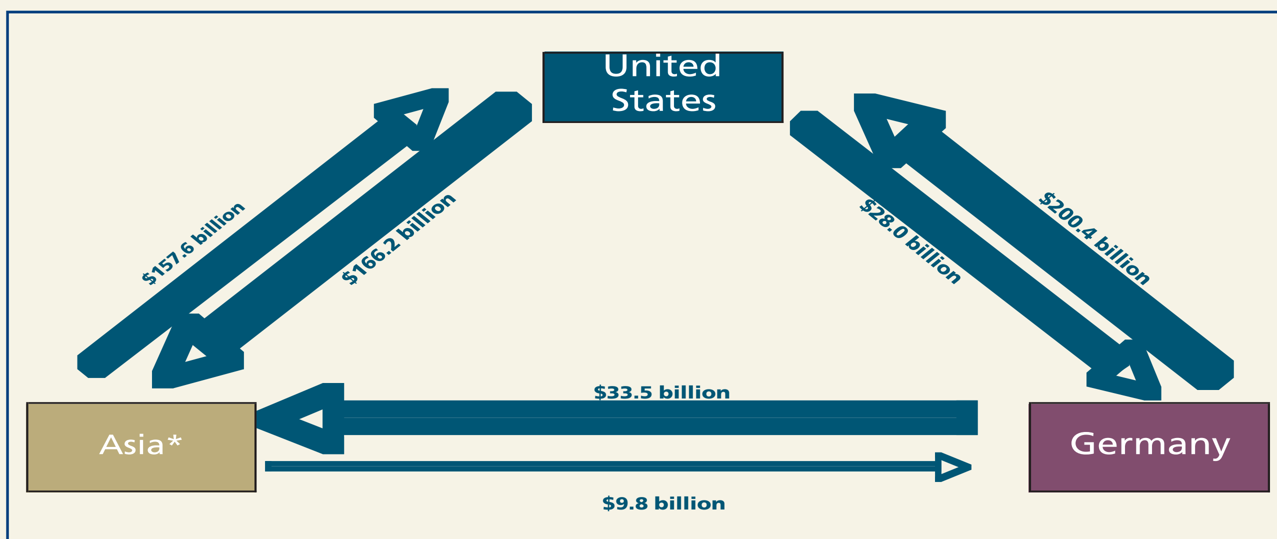
Source: Bureau of Economic Analysis; Eurostat; Japan Ministry of Finance
Data through 31 December 2007

Table 28: Trilateral Foreign Direct Investment Flows: US-Germany-Developing Asia *(1997-2007)*



Source: ASEAN; Bureau of Economic Analysis; CEIC; Eurostat; Hong Kong Census & Statistics Dept.; Korean MOICE; Taiwan Ministry of Economic Affairs
Data through 31 December 2007
**Includes China, India, Hong Kong, South Korea, Taiwan and ASEAN members (Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand, Vietnam)*
Developing Asia inflows do not include data for ASEAN beyond 2004 and no data for Hong Kong in 2007.

Table 29: Trilateral Foreign Direct Investment Flows: US-Germany-Asia *(1997-2007)*



Source: ASEAN; Bureau of Economic Analysis; CEIC; Eurostat; Hong Kong Census & Statistics Dept.; Japan Ministry of Finance; Taiwan Ministry of Economic Affairs
Data through 31 December 2007
**Includes China, India, Hong Kong, Japan, South Korea, Taiwan and ASEAN members (Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand, Vietnam)*
Asia inflows do not include data for ASEAN countries beyond 2004 and no data for Hong Kong in 2007.

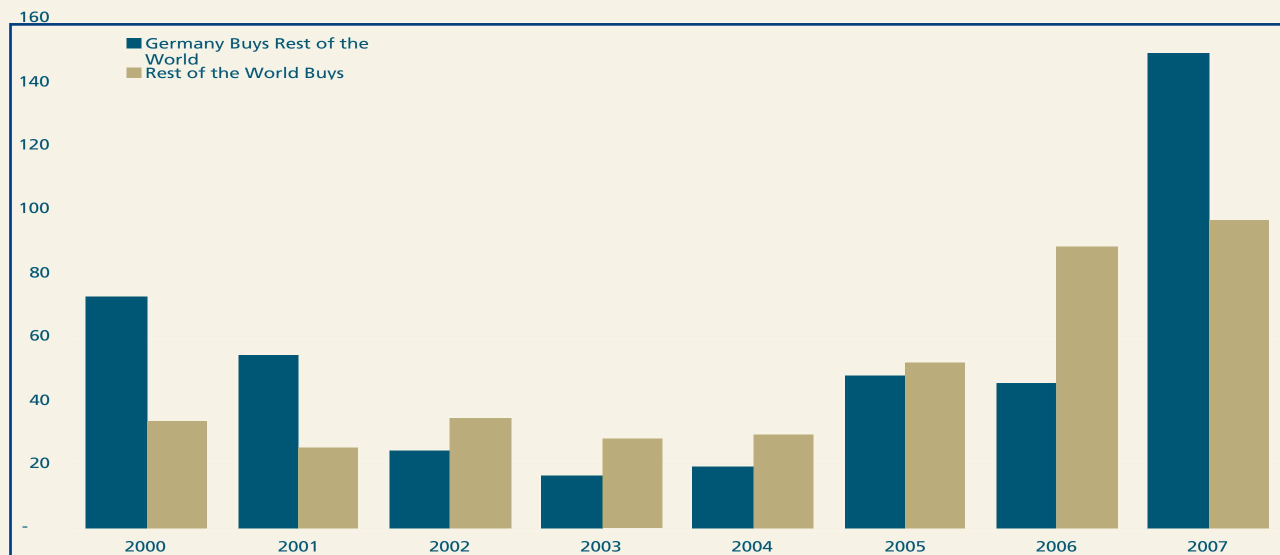
For more on this dynamic, Table 26 depicts triangulated foreign direct investment flows between the U.S., China and Germany. Note that Germany's FDI in China of $12.4 billion over the past decade is less than 30% of comparable U.S. investment in China ($42 billion). Note also that German investment in China between 1997 and 2007 was just 6% of German investment in the U.S., a figure underscoring the fact that most foreign investment by developed nations stays within developed nations. Note, however, the growing preference of U.S. firms for China versus Germany: U.S. investment in China totaled $42 billion over the 1997-2007 period, versus U.S. investment of just $28 billion in Germany. Finally, it is interesting to note that China's small investment flows to Germany ($1.3 billion) were slightly higher than flows to the United States.

Table 27 compares foreign direct investment flows between the U.S., Japan and Germany. Over the past ten years Germany has invested far more in the U.S. than has Japan. The U.S. has also invested more in Germany than in Japan. FDI flows between Germany and Japan are balanced, but at relatively low levels.

A more detailed look at mergers and acquisitions (M&A-- the principal form of FDI) of German firms confirms that Germany's outward investment thrust remains focused primarily on other developed nations. Developed nations accounted for 81% of total German M&A activity between 2000 and 2007. The U.S. and the UK combined accounted for roughly 50% of total German M&A purchases overseas. German investment in both nations totaled $218 billion. France ($35 billion), Italy ($20.6 billion) and Austria ($12.5 billion) were further down the list. Of the top ten destinations for German M&A this decade, the only developing nation on the list, ranked 10th, was Russia, where German firms have steadily increased their manufacturing capacity and entered into various service deals.

Table 30: Corporate Germany: M&A Flows Continue to Grow

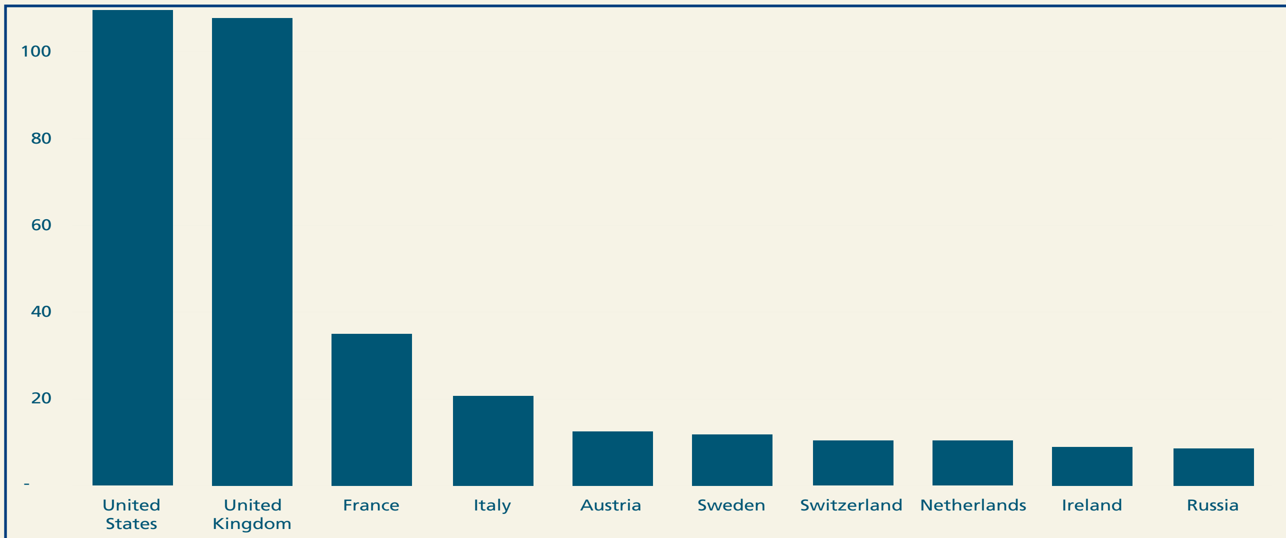
Mergers & acquistions deal value for Germany vs the rest of the world, Billions of US $



Source: Bloomberg; Investment Strategies Group at Bank of America

Table 31: Corporate Germany: Top Destinations for M&A Purchases Abroad

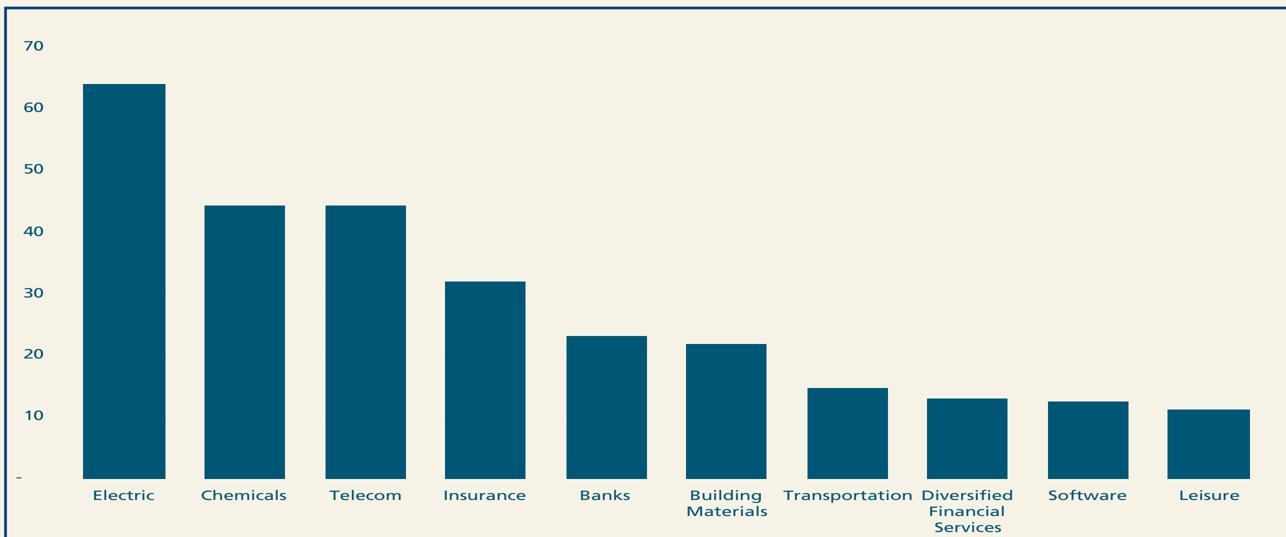
Ranked by total outward M&A value recorded over 2000-2007, Billions of US $



Source: Bloomberg; Investment Strategies Group at Bank of America

Table 32: Corporate Germany: Most Popular Foreign Industries for M&A Purchases Abroad

Ranked by total outward M&A value recorded over 2000-2007, Billions of US $



Source: Bloomberg; Investment Strategies Group at Bank of America

Germany's manufacturing sector accounts for about a quarter of all direct investment by German companies abroad. German wholesale and retail traders like Metro or Aldi are also major foreign investors.

Table 33: German Corporate Assets Abroad, by Sector, 2003 - 2006 *(Billion €)*

	2003	2004	2005	2006
Total of primary and secondary German direct investment abroad	657.7	679.2	786.2	811.4
Of which:				
Manufacturing	163.9	166.8	200.3	204.4
Wholesale and retail trade	74.6	79.4	93.7	101.7
Credit institutions	68.7	58.7	66.0	75.3
Other financial institutions	142.7	143.1	159.2	155.4
Insurance	29.6	31.0	33.1	31.5
Holding companies	65.4	73.5	82.7	85.5

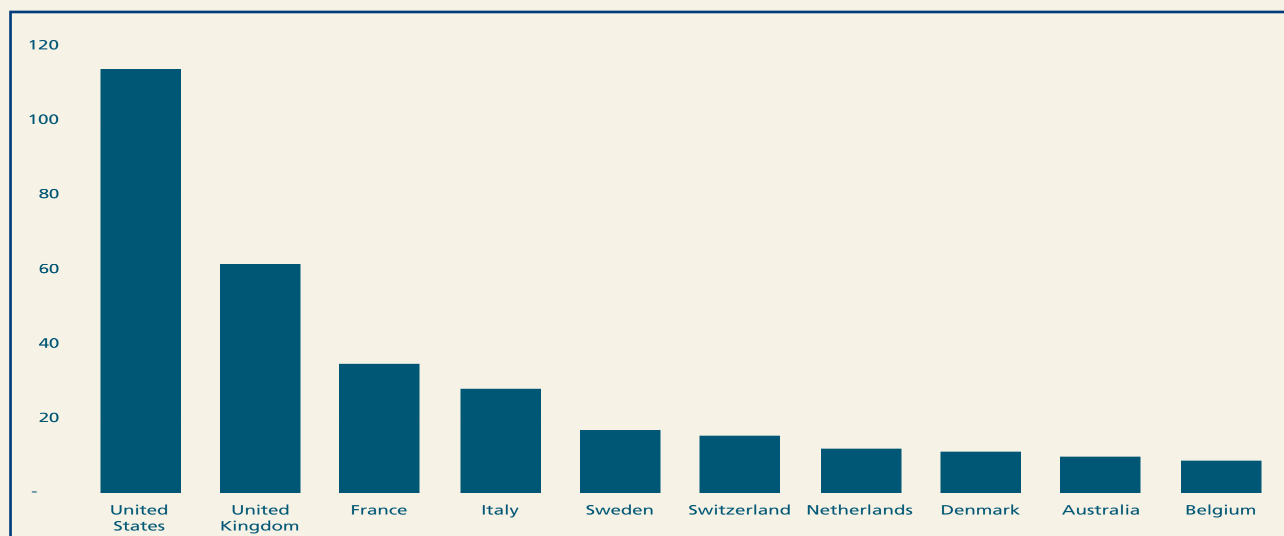
Sources: Deutsche Bundesbank 2007a. Bestanderhebung über Direktinvestitionen, Statistische Sonderveroeffentlichung, 10. April 2007, p. 6; Bestanderhebung über Direktinvestitionen, Statistische Sonderveröffentlichung, April 2008, p. 6.

German investments abroad have not been matched by equivalent foreign investments in Germany. Neither FDI inflows nor M&A deals in Germany have been as robust as outward FDI and M&A in recent years. FDI inflows totaled an estimated €148 billion over the 2002-2007 period, versus outflows of €257 billion. Many foreign companies hoping to establish an in-country position in Germany still find it rather difficult to buy local firms or establish an organic operation due to various regulations. Germany ranked 20th in the World Bank's "Ease of Doing Business" report for 2007, lagging behind such European states as Denmark, the United Kingdom, Ireland, Sweden and Belgium.

M&A inflows into Germany in 2007 did reach a record $97 billion, however, more than three times the level of activity from the M&A lows earlier this decade. Multinationals from the developed nations—notably the U.S. and the UK—have led the charge. American and British firms together accounted for roughly 45% of M&A inflows into Germany over the 2000-2007 period. Key sectors of attraction included real estate, pharmaceuticals, telecom, and banks. Overall, however, M&A outflows were 54% larger than M&A inflows, underscoring the gap between German foreign direct investment inflows and outflows.

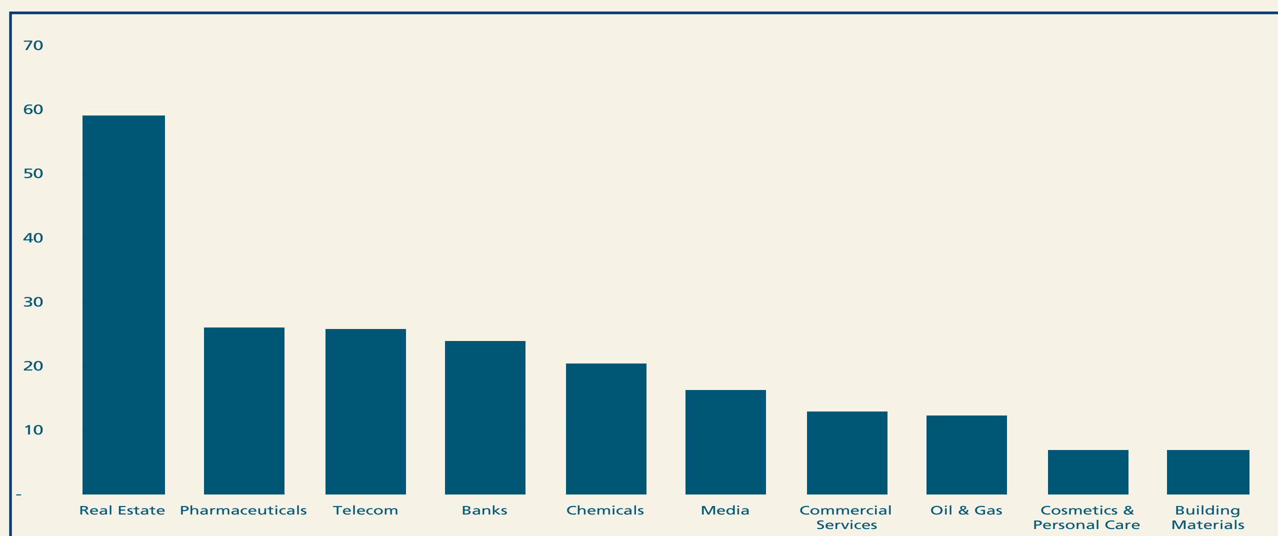
As further proof of this dynamic, Germany's FDI outward stock of nearly €1 trillion in 2006 was roughly double the nation's inward stock (roughly €500 billion).

Table 34: Corporate Germany: Nations Demonstrating Clear Interest in German Assets
Ranked by total inward M&A value recorded over 200-2007, Billions of US $



Source: Bloomberg; Investment Strategies Group at Bank of America

Table 35: Corporate Germany: Most Popular Domestic Industries for Inward M&A Flows
Ranked by total inward M&A value recorded over 200-2007, Billions of US $



Source: Bloomberg; Investment Strategies Group at Bank of America

Germany ranks as the third largest foreign investor in the EU in terms of FDI outward stock, trailing the United Kingdom and France. However, Germany is a pauper when it comes to FDI inward stock, accounting for just 7.8% of the EU's total inward stock in 2005. France's level of inward FDI stock was 56% larger than that of Germany in 2006. Germany's inward FDI stock accounted for only 8.3% of gross fixed capital formation in Germany in 2007. That is well below the EU average (nearly 23%), and underscores the potential for more inward foreign direct investment in Germany, with attendant benefits for all stakeholders.

Table 36. Consolidated Primary and Secondary Foreign Direct Investment in Germany According to Home Country of Original Investor, 2006 *(Billions €)*

All countries			**439.472**
Europe			**304.948**
Of which: EU countries			270.279
	Of which:	Belgium	6.088
		Denmark	3.801
		Germany*	**8.661**
		Finland	6.660
		France	39.249
		Italy	22.913
		Luxembourg	18.212
		Netherlands	62.313
		Austria	10.763
		Sweden	11.922
		UK	54.150
	Switzerland		28.764
Americas			**107.187**
	Of which:	Canada	4.734
		United States	100.747
Asia			**24.409**
	Of which:	Japan	16.699
Africa			**2.007**
Oceania and Polar Regions			**0.930**

Source: Deutsche Bundesbank. In order to ensure a better analysis of the geographical and sectoral breakdown of the results of the international capital links survey and to avoid double counting, the Bundesbank includes secondary direct investment via dependent holding companies in its analysis, whereas primary direct investment in the dependent holding companies is disregarded.
**Germany is listed here since the original investor in some cases is actually German even though the investment comes via a country such as the Netherlands or Belgium.*

The U.S. is the most important source of FDI in Germany. Of the €439.5 billion in FDI in Germany in 2006, U.S. investors accounted for €100.75 billion, followed by the Netherlands (€62.31 billion), the UK (€54.15 billion),[28] France (€39.25 billion) and Switzerland (€24.41 billion). The U.S. has invested 5 times more in Germany than all of Asia has invested in Germany. It has invested 88 times more in Germany than has Russia.[29] U.S. investments in Germany are 300 times U.S. investments in China. Nonetheless, U.S. investment in Germany in 2006 was only about half of German investment in the United States that same year. Germany's asset base in the U.S. exceeded America's total asset base in Germany by more than one and a half times in 2005, although the value added by American affiliates operating in Germany ($75.7 billion) exceeded that of German affiliates in the United States.

Table 37: Top Investors in Germany

(Consolidated primary and secondary foreign direct investment in Germany according to home country of original investor (Billions €) top 10 countries, end of 2006)

Country	Billions €
All countries	439.472
1. U.S.	100.747
2. Netherlands	62.313
3. UK	54.150
4. France	39.249
5. Switzerland	28.764
6. Italy	22.913
7. Luxembourg	18.212
8. Japan	16.699
9. Sweden	11.922
10. Austria	10.763

Source: Deutsche Bundesbank.

Foreign investment and the German Länder

Companies from the German state of North Rhine-Westphalia are the leading investors outside of Germany, accounting for almost €235 billion in FDI in 2006, followed by companies from Hesse, Bavaria, Baden-Württemberg and Lower Saxony – all western states. There is relatively little FDI from Germany's eastern states.

Table 38. Foreign Direct Investment from the German Länder Abroad

(primary and secondary), 2006, billion €

Land	Billion €
1. North Rhine-Westphalia	234.802
2. Hesse	158.837
3. Bavaria	156.996
4. Baden-Württemberg	139.747
5. Lower Saxony	45.736

North Rhine-Westphalia was also the leading destination for FDI from abroad, registering €125.5 billion in 2006, an increase of €57 billion since 1996. The other leading destinations were Bavaria, Hesse, Baden-Württemberg and Hamburg – all western states. FDI in Germany's eastern states has remained relatively limited.

Table 39. Foreign Direct Investment in the German Länder

(primary and secondary), 2006, Billion €

Land	2006
1. North Rhine Westphalia	125.524
2. Bavaria	84.677
3. Hesse	76.022
4. Baden-Württemberg	46.958
5. Hamburg	36.505

The effect on German stakeholders of their country's global investment picture is mixed. On the plus side, rising investment outflows have enabled German firms to increase their overall profitability and productivity at home by relocating various activities and functions to other nations where operating costs are lower. The result is greater cross-border specialization among German firms, more competitive business enterprises, and more profitable firms. On the downside, some German jobs have been lost to low-cost locales like central Europe or high-wage destinations like the United States, raising fears about the effects of offshoring on Germany's labor base. Investment inflows, however, have created millions of jobs in Germany, and as we describe in greater detail below, offshoring can have positive ripple effects for German consumers, workers, and companies.

Movement of Capital

In addition to foreign direct investment, there are other important channels through which capital flows across borders, including cross-border bank lending, portfolio debt, and equity flows.[30]

Financial globalization can be defined as the extent to which countries are linked through cross-border financial holdings. One way to understand the degree to which a particular country is tied to financial globalization is to look at the sum of that country's gross external assets and liabilities relative to GDP. For almost all countries around the world, this figure has increased dramatically over the past two decades.[31] Total cross-border financial assets have more than doubled, from 58% of global GDP in 1990 to 131% in 2004. Germany and other advanced economies continue to be the most financially integrated, but other regions of the world have progressively increased their cross-border asset and liability positions.[32]

What are the pros and cons of financial globalization for a country like Germany? Economic theory suggests that financial globalization confers a number of potential benefits. Increases in international asset trade may foster economic growth, particularly if assets are used to finance worthwhile projects, or if they facilitate technology transfer (for example, through foreign direct investment), thereby facilitating increases in economic efficiency. In addition, such trade may lead to enhanced international risk sharing— the IMF has highlighted the sizable gross external stock positions of advanced countries as indicative of large potential risk-sharing gains.[33]

These sizable potential gains need to be examined in relation to possible costs of greater financial globalization, particularly greater macroeconomic volatility and vulnerability to crisis. The current global financial crisis is the most dramatic example of this. The emerging market crises of the 1990s also highlighted the potential for sudden reversals of capital inflows in financially open economies, and attendant recessions, often with serious social consequences.

In Germany's case, it was the desire among German financial institutions to gain a foothold in the large and lucrative U.S. market that ultimately exposed them to the U.S. financial crisis (although the woes of German banks are not limited to their U.S. investments, as we explain in Chapter 2). As the accompanying table makes clear, the industrial lender IKB has suffered the greatest losses thus far, a result of the firm's aggressive expansion into the U.S. market. By taking on more risk in the form of structured investment vehicles (SIVs) and debt pools called collaterized debt obligations, the financial institution was hammered when the global credit lines froze, leaving the bank with a severely impaired balance sheet.

Table 40: German Banks and the Global Financial Crisis

Writedowns & Credit Losses vs Capital Raised, Billions of US $

	Losses	Capital raised
IKB Deutsche Industrial	(12.8)	10.5
Deutsche Bank	(9.0)	5.7
Bayerische Bank	(6.0)	8.0
Landesbank Baden-Wurttemburg	(4.1)	0.0
WestLBAG	(4.0)	6.2
Dresdner	(3.4)	0.0
HSH Nordbank AG	(3.0)	1.6
DZ Bank	(2.3)	0.0
Landesbank Sachsen	(2.2)	0.0
Commerzbank	(2.0)	0.0
Hypo Real Estate Holding	(1.0)	0.0
Total*	**(49.8)**	**32.0**

*Source: Bloomberg; * as of 28 October 2008*

At first, the problems of IKB were described as an exception. Yet as the global financial crisis has deepened, other German banks have been exposed to the global credit squeeze. Problems emerged, for example, with the near-collapse of SachsenLB, the small Dresden-based regional bank owned by the state of Saxony and local savings banks. It was rescued with a €17.3bn credit line and, facing losses of up to €500 million on its U.S. subprime business, was sold to the biggest regional bank LBBW. The Bavarian Landesbank, the second-largest, quantified its exposure through three SIVs at €1.9 billion. Deutsche Bank, meanwhile, posted a pretax loss of €254 million (now $395 million) for the first quarter, its first loss in five years, after writing down $4.2 billion in tainted loans and mortgage-backed securities.

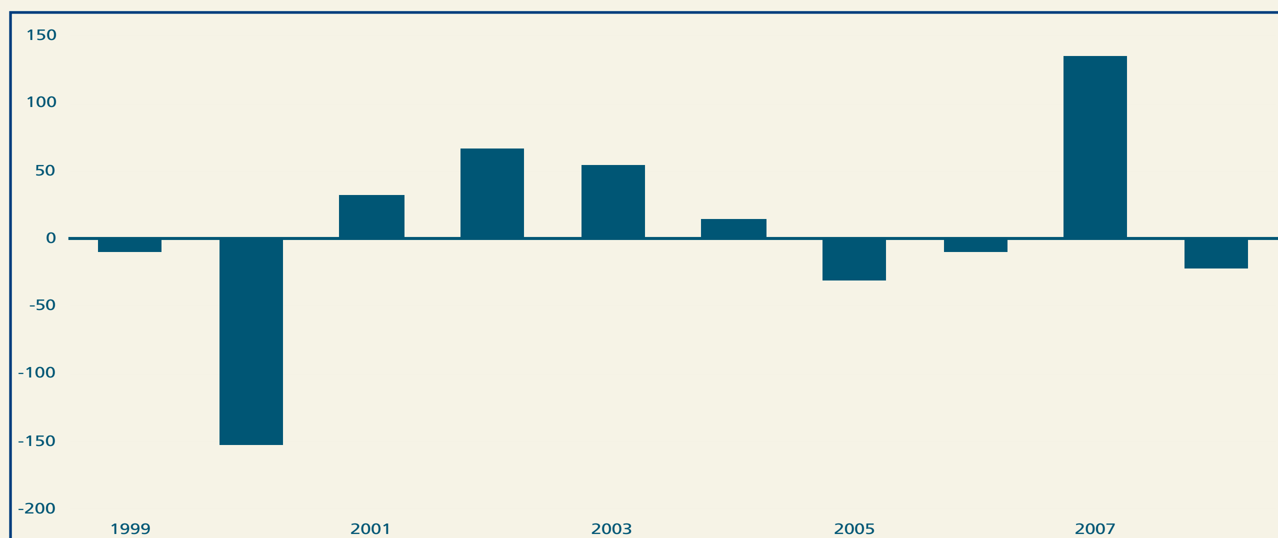
In the end, Germany's large and open economy was not spared the global financial crisis, and many of Germany's largest financial institutions were directly affected by the U.S. financial meltdown. Since the subprime debacle emerged over a year ago, a cascading series of events—bankruptcies, forced mergers, public interventions, the freezing up of interbank markets—have had a disruptive effect on the German financial system and real economy.

This underscores the importance of looking at the resilience of a particular country's overall financial system. Countries with sufficiently developed domestic financial systems, relatively open trade systems, good governance, and sound macroeconomic policies (that is, for countries that meet a number of "thresholds" to use the jargon from the globalization literature), greater integration has not been associated with increased macroeconomic volatility or more frequent crises. Countries that fail to meet such thresholds are more likely to be subjected to volatile capital movements.

Although Germany has been buffeted by the global financial crisis, the country's resilient financial structure is a core German strength. Germany ranked #3 in the world on the World Economic Forum's 2008 Financial Development Index by exhibiting consistent strengths in terms of financial stability; factors, policies, and institutions that lead to effective financial intermediation with respect to both nonbank financial institutions and financial markets; size and depth of the financial sector; and deep and broad access to capital and financial services. Key strengths include a top ranking in auditing and accounting standards (#1 worldwide), excellent protection of property rights, a highly effective judicial system, and high quality infrastructure within the context of a liberalized yet stable financial system.[34]

The financial openness of an economy may be measured by the ratio of the sum of external assets and liabilities to domestic GDP. For Germany, this figure currently amounts to roughly 375% -- more than three times as high as in 1990. Compared with other developed countries, Germany is among those larger economies that have the highest degree of financial openness.

Table 41: Net Portfolio Inflows into Germany *(Annual, Billions €)*



Source: Deutsche Bundesbank; data through July 2008

The increasing financial openness of many economies is also reflected in strongly rising international capital flows, for example, in terms of cross-border securities transactions.[35] In general, Germany has been at the receiving end of more capital coming in than capital going out of Germany. Between 1999 and mid-2008, for instance, net foreign purchases of German securities (inflows) totaled €1.3 trillion versus net German purchases of foreign securities (outflows) of €1.2 trillion.

The current crisis has also underscored the extent to which financial markets on the two sides of the Atlantic are effectively interwoven and how easily capital can flow between them. The growth of the volume of financial transactions between the U.S. and the EU suggests that securities business at the transatlantic level has increased substantially in past years. The share of EU securities in foreign holdings by U.S. individuals amounts to 42% for equities and 53% for debt securities. The underlying volumes of investments have grown constantly over the past years, amounting to $1.81 trillion of equity holdings and $0.87 trillion in debt holdings at the end of 2006. In the past five years, the average rate of growth of EU securities holdings was as high as 17% for short-term debt, 20% for long-term debt and 16% for equities. Likewise, the share of EU investments in U.S. equity stands at 39% of total foreign investments, while that in U.S. debt securities was at 32%. EU holdings of U.S. debt and equity amounted to $2.1 trillion and $1.2 trillion, respectively, at end-2007, following accelerated annual average growth rates of 22% in long-term securities, 18% in short-term securities, and 14% in equity over the past five years.[36]

By tradition, Germany's financial system is bank-oriented rather than stock market–oriented. The process of disintermediation, whereby businesses and individuals arrange financing by directly accessing the financial markets versus seeking loans from banks acting as intermediaries, has not fully taken hold in Germany. One of the reasons that banks are so important in German finance is that they have never been subject to a legal separation of commercial and investment banking. Instead, under a system known as universal banking, banks have offered a wide range of services from lending to securities trading to insurance. Another reason for the strong influence of banks is that there is no prohibition of interlocking ownership between banks and their client companies. However, in January 2002 the government moved to discourage this practice and promote more rational capital allocation by eliminating the capital gains tax on the sale of corporate holdings from one company to another.[37] For these reasons, Germany has not embraced the equity culture that characterizes other major economies such as the U.S., the UK or France.

Nonetheless, Germany's main stock index, the DAX, is now more globalized than ever. Foreign investors now own just over 50% of the equity capital of blue-chip DAX 30 firms, up from around 20% two decades ago. That figure is well above the U.S. foreign ownership level (roughly 18%). Moreover, the DAX 30 companies generate three quarters of their sales revenue outside of Germany.

High levels of foreign ownership and participation in European and German capital and equity markets have paid dividends for key German stakeholders by enhancing the capital efficiency of Germany's financial infrastructure and making more low-cost capital available for capital investment and consumer spending.

Behind this dynamic are a number of trends:

- the shifting ownership structure of German firms, with concentrated cross-share hold ings among friendly German firms giving way to more open and diversified corporate ownership, with the latter including foreign investors.
- the profitability of German firms, with many companies listed on the DAX posting healthy profits over the past five years. Interestingly, a large share of these profits has come from abroad—namely the United States and the emerging markets.
- the fact that many German companies are world leaders, top competitors in their respec tive sectors—a competitive advantage that has attracted foreign investors to allocate more capital to large cap German companies.
- finally, corporate governance in Germany has gradually become more aligned with the U.S., UK and other major developed nations, giving foreign investors more confidence in investing in German equities. While private equity investors still find the German investment climate challenging, more and more deals are being done, helping to attract even more foreign capital to the country.

The bottom line is that in a world of near-unfettered flows of capital, corporate Germany has attracted more than its fair share of global capital. On a cumulative basis, inflows have exceeded outflows since 1998. In turn, robust capital flows have helped drive capital investment and create job growth across a number of German industries. The downside, of course, is that a financial problem in one nation—a.k.a., the United States—can quickly morph into a problem for other nations. While the U.S. subprime melt-down was initially thought to be a U.S. issue, nothing was further from the truth, with the U.S. finan-cial collapse sending ripples far and wide. Given how connected U.S. and European financial institutions have become over the past decade, with both parties taking large stakes in each other's financial mar-kets, bank-related losses in Europe totaled some $223 billion thru mid-October. German banks reported losses in excess of $50 billion, or roughly a quarter of total European bank losses.

Beyond trade and investment in goods and services, nothing better captures the velocity of globaliza-tion than the daily movement of global capital. Daily turnover in the foreign exchange markets has nearly quadrupled since the early 1990s, and totaled $3.2 trillion in early 2007. The euro has been at the cutting edge of this trend; Europe's single currency accounts for 37% of daily global turnover, second only to the U.S. dollar. The euro has allowed Germany and its eurozone partners to attract more of the world's excess savings, which has strengthened German and European capital markets relative to the United States, provided more liquidity for capital investment, and encouraged lower interest rates. The strong euro—up until recently—has also mitigated recent inflationary pressures stemming from higher dollar-denominated prices for food, fuel and other resources. McKinsey calculates that in 2006 America's capital markets had some $56 trillion in assets. Europe, including the UK, had roughly $53 trillion, a sharp increase over recent years. On latest trajectories, this implies that Europe overtook the U.S. in 2007.[38]

The euro's global position clearly exceeds that of the former *Deutsche Mark (DM)* before Germany entered European Monetary Union (EMU), not least because of the deeper and more liquid financial market backing the euro. At the end of 1998, the DM made up for 13% of foreign exchange reserves, 10.5% of outstanding international bonds and 13% of credit institutions' cross-border foreign exchange transactions. In comparison, at the end of 2006 the euro's share in international debt portfolios amounted to more than 30%, and the share of the euro in international foreign exchange reserve holdings rose to over 25%. Both are expected to have increased further since then. The euro's attractive role as a reserve currency clearly has to do with its role as an anchor currency for over 40 countries. Many countries in geographical proximity to the euro area use the euro in one way or another as an anchor in their specific exchange rate regimes.[39]

The global financial crisis has highlighted a key challenge for the eurozone, however. While the European Central Bank controls monetary policy for the entire eurozone, member countries regulate their own banks. Although most Europeans use the euro, the euros sitting in banks are insured by more

than two dozen different deposit-insurance regimes. When the financial crisis hit, the member countries acted separately rather than together – prompting Slate columnist Daniel Gross to comment that "The Continent's banks have behaved like Ferraris—souped-up hot rods zipping from the autobahn to the autostrada – while the Continent's regulatory system is like a Yugo."[40]

As a major export economy, Germany is affected significantly by currency swings. While the basic problem has not changed, Germany is less susceptible to a weak dollar than before due to two reasons. The first is the euro. Six of the top ten destinations for German exports are members of the eurozone (France, Italy, the Netherlands, Belgium Austria and Spain). The euro also does not fluctuate much in relation to three other important customers for German exports (UK, Switzerland and Poland). The euro does fluctuate in regard to the U.S. dollar, which can be troubling for German exporters, but here the effect is mitigated by the importance of related party trade – trade within the firm. That's when Daimler exports parts from facilities in Oregon, North Carolina or Alabama to its facilities in Baden-Württemberg, when BASF exports intermediate products to its plants in New Jersey, or SAP ships components to its affiliates in California. The tight linkages between German parent companies and their U.S. affiliates is reflected in the fact that in 2007 65% of U.S. imports from Germany consisted of related party trade – trade between German parent companies and their own affiliates in America.[41]

Against this backdrop, it is hardly surprising that the U.S. dollar's decline against the euro between 2002 and 2008 did not have a more immediate effect on German exports to the U.S. Germany's dense and interlocking web of trade and investment across the Atlantic allows German companies to hedge their currency bets. Parent-affiliate trade is less responsive to shifts in prices of exchange rates and more attuned to domestic demand. Accordingly, while in theory a stronger euro would be associated with a decline in German competitiveness and a weaker euro would be associated with a boost in German competitiveness in the U.S., the fact that many German multinationals produce, market and distribute goods on both sides of the ocean gives them a high degree of immunity to dramatic shifts in exchange rates.

This does not mean that the euro-dollar rate is of no consequence for the German economy. In addition to the effect on trade with the U.S., many Asian countries also link their currencies to a basket tied to the dollar, which means in recent years their currencies have also fallen in relation to the euro, making German exports relatively more expensive and their exports to Germany relatively cheaper. On the other hand, a cheaper dollar means blunting price rises for oil and other imported commodities and goods priced in dollars. Now that the dollar is rising again, the euro value of these commodities is going up even though the overall price is falling.

As the financial crisis has made clear, however, the euro itself does not shield Germany from financial volatility. The financial turbulence currently affecting U.S. and British markets has been transmitted to Germany and other eurozone countries. Headline-grabbers such as the crisis at the *Kreditanstalt für Wiederaufbau* and the government bailout of Hypo Real Estate have caused concerns. Even though German banks remain relatively well-capitalized and had limited exposure to the U.S. subprime market, and despite German households being far less indebted than their U.K. or U.S. counterparts, Germany has not been spared the global financial tsunami. In total, Germany financial institutions have had to write off over $50 billion thru mid-October, a much larger number than expected. The write downs reflect German holdings of U.S. mortgage-related assets and overall deteriorating credit conditions globally. The credit turmoil is likely to dampen growth in 2008 and 2009 due to generally tighter credit conditions and reduced global demand for German exports.[42]

Movement of People

Germany is losing ground in the battle for global talent

Germany is shrinking and aging. Every year 300,000 fewer children are being born than are needed to keep Germany's population stable.[43] There are not enough workers entering the workforce to support a bubble of retirees or those retirees enjoying generous retirement benefits. These trends are also apparent in Europe as a whole. All told, Europe will lose 60 million workers over the next decade. This will have a profound impact on consumer trends, housing and care needs, social attitudes, defense capabilities and political priorities across the continent. The impact of aging populations alone could reduce average potential output growth in Europe by nearly half by 2040, absent structural reforms.

Germany is also still dealing with the legacy of Germany's Cold War division and the struggle over the past two decades to restore the economic viability of the eastern part of the country. Since unification, 1.7 million people have left eastern Germany, mainly for Germany's western states. Although the trend has eased a bit in recent years, Germany's five new states suffered a net loss of more than 50,000 inhabitants in 2006 and 55,000 in 2007. Many eastern areas are industry-free zones, and in some pockets per capita GDP is less than €14,500, less than half that in Germany's southwest. The German government estimates that the population in the eastern states will shrink from 2005 levels by 11.4% in 2025, whereas the overall population in Germany over this period is projected to decline by 2%. Some eastern areas are confronting population declines of over 20%.

Globalization is not responsible for these pressures; in fact it may offer some solutions. But globalization does expose the demographic challenges facing Germany and Europe rather starkly.

An older German work force, within a smaller and older European labor pool, is exacerbating skill shortages and regional disparities while exposing mismatches between available jobs and relevant skills. In 2006 165,000 high-skilled jobs went unfilled. The Institute for the German economy estimates the annual loss to the German economy of this skills-jobs gap to be €28 billion. And absent any significant change, that figure is likely to grow.[44]

One possible contribution could come from immigration. Each year Europe receives a net inflow of 1 million immigrants a year. But it is receiving many poorly educated and low-skilled immigrants without receiving the number of well-educated, high-skilled immigrants that it needs. Of the foreign-born adults living in the EU25, 74% are low- or medium-skilled and only 26% are highly skilled.[45]

This trend stands in stark contrast to other regions of the world. 85% of unskilled labor from developing countries goes to the EU and only 5% to the United States, whereas 55% of skilled labor goes to the U.S. and only 5% to the EU. Highly skilled foreign workers account for only 1.7% of all workers in the EU, compared with 9.9% in Australia, 7.3% in Canada and 3.5% in the United States.[46]

Europe, including Germany, needs a large influx of skilled immigrants to help fill holes in the job market, maintain living standards, and support its aging population. Highly skilled migrants can help spark innovation, improve productivity, and help create new jobs. Yet Germany and Europe as a whole has become a magnet for the unskilled at a time when its reliance on high-skilled foreign talent has become more critical.

Table 42: Share of Persons with Less than Upper Secondary Education Among the Adult (25-64) Population, Selected OECD Countries, 2002-2003 Average

	native-born	foreign-born
Germany	**14%**	**47%**
Netherlands	32%	44%
Denmark	28%	31%
Sweden	18%	24%
France	34%	64%
Austria	19%	42%
United Kingdom	15%	17%

Source: OECD

Immigration is essential to Germany's future prosperity, and Germany remains a top destination for migrants. According to the OECD, about 4 million people emigrated to live permanently in rich countries in 2006. The top destinations were the U.S. (1.26m), UK (343,000), Canada (251,000) Germany (216,000) and Italy (204,300).

Of those coming to Germany in 2006, 13,200 migrants, or 6.2%, came for work-related reasons. Work-related migration has increased in recent years (in contrast to family-related or humanitarian reasons, which registered declines), but it has failed to match Germany's needs.

In recent years the German government has taken steps to facilitate high-skilled inward migration. Yet the Green Card system introduced in 2000 and the revisions in German law in 2004 intended to attract high-skilled migrants from abroad have had little effect. In addition, starting in 2005 – and for the first time since the end of the 1960s -- Germany has been suffering from a net outflow of native talent. In 2007 the net outflow amounted to 50,000 people.[47]

Other steps are needed to reverse these trends. It is particularly necessary to change the requirement that the annual income of migrants coming for work-related reasons be at least €86,000. In addition, less complicated and more effective models to facilitate skilled inward migration can be found in Canada and Australia – tailored to such personal qualifications as education, work experience and language abilities.

In addition to welcoming inward migration, it is imperative that Germany accelerate the pace of labor reform given the effects of globalization, namely the global battle for brains and a surge in low-cost labor. A more flexible labor market, greater female participation in the job market, greater chances for first- and second-generation immigrants – these and other factors should be considered and promoted to ensure Germany maintains its world-class labor force.

Yet Germany has opted to keep its labor market closed to the new EU member states in eastern Europe until 2011.[48] Even neighboring France, where fears of the "Polish plumber" had been robust, has lifted the remaining barriers.

The demographic challenges facing Germany and Europe underscore the urgency of EU-wide efforts to attract high-skilled talent and national efforts to improve educational opportunities, better match skills to jobs, create more resilient labor markets, and address issues of social exclusion. At the European level, the proposed EU "Blue Card," supported by the French government and inspired by the U.S. "Green Card," is intended to be the EU's major tool in the global competition for highly mobile high-skilled workers. The Blue Card seeks to create easier, EU-wide application procedures and more attractive entry and residence conditions. Some EU member states remain skeptical, however, and it will be difficult to win EU-wide support for this approach.

The fear that migration leads to greater unemployment is deeply rooted in European and German public opinion. Yet empirical evidence suggests that overall the migration effect on wages and employment of native workers is rather marginal. Migrant workers may displace a few native workers over the medium term, but the effect tends to be small and short-lived. In most cases, migration's impact on local jobs and wages is sector-specific; the overall effects are nominal. In sum, the empirical evidence is that migration can have negative short-term consequences, expressed in unemployment, wage pressure on markets with flexible pay, and more welfare costs. Over the medium to long term, however, the impact is positive in terms of overall economic growth. Since migrants are more mobile than native workers, they "lubricate the wheels" of German economic change. Migrants are also consumers and thus provide work for others. They often take dangerous, dirty or low-paying jobs that native German workers avoid.[49]

Germany: Land of ideas?

Germany and the Globalization of Technology and Innovation

Information technology (IT) is one of the most important and transformational sectors of the global economy. Increasingly, a nation's rank along the information technology curve determines its rank in the global economic pecking order. Technology is a key economic differentiator—a variable that separates superior economies from the rest of the world. Since technological innovation lies at the core of any economy's long-term growth potential, Germany's current and future technological capabilities, in a world of rapidly globalizing information technologies, will be instrumental in determining the country's economic prosperity.

Within Europe, technology and innovation capabilities are disparate. In general, Ireland, the UK and the Nordic nations are further up the technology curve than the rest of Europe. Greece, Italy and Spain lie at the other end of the technology spectrum. Germany and the rest of Europe, in general, fall in the middle. By product, IT intensity is quite high in such sectors as aerospace, mobile phones, pharmaceuticals, and various engineering products, yet lagging in many service sectors/activities in Europe.

The general consensus is that Europe's information technology infrastructure not only lags behind the U.S. and Japan, but that the technology gap is rapidly closing between Europe and Asia's new tech powerhouses (like China, India and South Korea). Europe risks being squeezed between the high end challenge posed by the U.S. and Japan and the catch-up challenge posed by the rapidly developing countries.

As outlined earlier, Germany's high-tech export strength lies in medium-high tech exports -- an area that is likely to confront more competition from rapidly developing nations in the future. When it comes to high-tech exports, Germany's share (20.5%) lags behind the EU15 average (25.7%), and is well under the share of the U.S. (36.1%) and China (36%). Against this backdrop, as Germany edges closer to being a knowledge-based service economy, it must keep and embellish its competitive strengths in high-tech goods and services, or suffer a loss in average economic welfare. In a world economy where the application of technology and innovation increasingly dictates both the pace of change and the level of economic prosperity, Germany is challenged to raise its innovation-intensity production and capabilities, while continuing to attract the investment capital and IT core competencies of foreign technology leaders.

Germany does show some strengths. For example, Germany ranked third in global patents in 2006. In addition, German regions account for 9 of the top 20 innovation regions in Europe, according to the European Innovation Scoreboard.[50] Microregions within a country are often the innovation drivers of a nation and gateways to the global marketplace. Germany is more advanced in IT usage and applications than most of Europe and is a favored destination for IT leaders looking to tap indigenous R&D talent. Underpinning this dynamic, Germany is ahead of the EU in general in the use of the internet and computers at home and at work. In terms of technology innovation and leadership, Germany ranks high in aviation, aerospace, electronics engineering, logistics, nanotechnology and environmental technologies like wind energy, photovoltaic power, and biomass generation. Germany has become a world leader in alternative energy technology. In 2006 Germany produced an estimated one-third of all solar cells and half of all wind turbines worldwide.

Table 43: Top 20 Innovation Regions in Europe

1. Stockholm, Sweden	11. Berlin, Germany
2. Västsverige, Sweden	12. South East, UK
3. Oberbayern, Germany	13. Tübingen, Germany
4. Etelä-Suomi, Finland	14. Manner-Suomi, Finland
5. Karlsruhe, Germany	15. Prague, Czech Republic
6. Stuttgart, Germany	16. Darmstadt, Germany
7. Braunschweig, Germany	17. Eastern, UK
8. Sydsverige, Sweden	18. Dresden, Germany
9. Île de France, France	19. Cologne, Germany
10. Östra Mellansverige, Sweden	20. Noord-Brabant, Netherlands

Source: Regional Innovation Scoreboard 2006,
available at http://www.proinno-europe.eu/inno-metrics.html

Overall, however, Germany's innovative capacity appears somewhat uneven. The 2007 Innovation Indicators study conducted by the German Institute for Economic Research (DIW) ranked Germany's innovative capabilities 8th among a group of 16 advanced economies, trailing Sweden, the U.S., Finland, Switzerland, Denmark, Japan and Great Britain.[51]

The Global Information Technology Report uses a Networked Readiness Index (NRI) to measure the degree to which a nation is prepared to participate in and benefit from ICT developments. The NRI is composed of three component indexes that assess the ICT environment offered by a country; readiness of the country's stakeholders (individuals, companies, governments); and usage of ICT among these stakeholders. Germany does relatively well in these rankings, but did not make the top ten in the latest survey (2007-08).

The global telecommunications market grew 6.3% in 2007 to over €2.2 trillion. Germany ranks third worldwide in expenditures in this area, accounting for 5.9% of the market, behind the U.S. (29.6%) and Japan (9.6%). More than 800,000 people work directly in the German information and telecommunications branch. In the past ten years 150,000 new jobs have been created in this sector, which contributed €73.9 billion to the German economy in 2005. Over the past decade it has grown twice as fast as the overall economy and has boosted German productivity – yet growth is slower than in other leading countries. The branch's share of GDP of 2% in 2007 put Germany in second-to-last place compared to 19 other OECD countries.[52]

In terms of Germany's ability to export high-tech goods, Table 45 underscores two critical factors: one is the fact that China and Southeast Asian countries are already significant competitors when it comes to exporting high-tech exports. Juxtaposed to this is the fact that Germany's high-tech export strength lies in medium-high tech exports -- an area likely to confront more competition from rapidly developing nations in the future. Note that when it comes to high-tech exports, Germany's share (20.5%) lags behind the EU15 average of 25.7% and is well under that of America (36.1%) and China (36%).

Against this backdrop, as Germany moves ever closer to a knowledge-based service economy, it must keep and embellish its competitive strengths in high-tech goods and services, or suffer a loss in average economic welfare. In a world economy where the application of technology and innovation increasingly dictates the pace of change, and the level of economic prosperity, a key challenge before Germany lies with its ability to raise its innovation-intensity production and capabilities, while continuing to attract the investment capital and IT core competencies of foreign technology leaders.

One way to foster innovation is to invest more in research and development (R&D). Since R&D is closely tied to the creation of new products and production techniques, it can be an important driver of economic growth. Germany spent some 2.5% of GDP on R&D in 2006, well above the EU average (1.8%) but 9th globally, behind Israel, Sweden, Finland, Japan, South Korea, Switzerland, the United States and Taiwan.[53]

Foreign investment has become a critical source of support for Germany's research and development activities. According to the German Insitute of Economic Research, Germany ranks #2 worldwide as a destination for R&D investments by foreign companies, following the United States. Since 2001, every fourth euro invested in R&D in Germany has been spent by foreign firms. In the pharmaceutical industry that figure rises to 40%. One-quarter of people employed in research and development in Germany work for foreign companies. Foreign affiliates spend about €1 billion more on R&D in Germany than German multinationals do abroad. In 2005 foreign companies invested €12.6 billion in R&D activities in Germany, twice the level of a decade earlier.[54] In 2005, the last year of available data, U.S. companies employed 32,600 people in Germany in R&D activities – a 7.3% increase from 1999 and slightly more than the 32,000 people they employed in R&D work throughout Asia and the Pacific.[55]

Despite popular impressions, "internationalization" of German R&D still really means "Europeanization" and "Americanization." European companies — mainly from the Netherlands, France and Switzerland—account for about half of the R&D expenditures by foreign multinationals in Germany. Much German R&D investment abroad, in turn, flows to Germany's closest neighbors. North America (mainly the U.S.) accounts for the other half — both in terms of R&D investment in Germany and German corporate R&D investment abroad. Multinationals from other countries hardly play any role. Over the medium term, many German companies indicate that they plan to step up their R&D investments in Asian markets, but on the whole such investments remain limited.

Corporate Germany's R&D activities outside of Germany, particularly in the United States, have become

critical to German economic vitality. German-owned affiliates were the leading foreign R&D investors in the U.S. with a 20% share in 2005. R&D of German affiliates totaled over $6 billion, and was concentrated in transportation equipment, pharmaceuticals and machinery. Corporate Germany's R&D activity in the U.S. accounts for 15% of total German R&D expenditures and about 50% of German corporate R&D outside Germany. Other top locations include France, the UK, Austria and Switzerland. Asian nations are not significant destinations for German R&D investments.[56]

German corporate R&D outside Germany is centered in the automobile industry, computer, electronics, precision mechanics and engineering and pharmaceuticals. The pharmaceutical industry conducts half of its R&D outside of Germany.[57]

The tendency of German companies to internationalize their R&D has unleashed a debate in Germany (similar to those in other European countries) whether some relocation of R&D resources abroad represents a challenge to Germany's technological prowess. There is some angst that Germany's technological advantages could be eroded either by German companies transferring technology to their overseas investment partners or by foreign companies buying German high-tech companies to gain access to German technology and know-how. R&D statistics do not support the notion that R&D internationalization is a one-way street of German industrial research leaving the country. R&D internationalization generally represents an expansion into new markets, and often reflects the necessity for world-class firms to learn from best practice and tap excellent research infrastructures abroad. Multinationals with headquarters in Germany extend their R&D activities in ways that makes them stronger both at home and abroad, and investments by foreign multinationals in Germany boost German economic growth and add vibrancy to the economy. R&D internationalization opens the door not only for the transfer of technology created elsewhere, but also for the technology creation process itself, which in turn can help Germany strengthen its own technological and innovation capabilities. An innovation system that attracts FDI in R&D is not the only means to benefit from the globalization of R&D.

Despite areas of strength, Germany's education system is failing its innovation needs. Overall, Germany invests less in education as a percentage of gross domestic product than the OECD average, and even this level is only due to the significant investments made by private industry in the "dual system" of vocational training – admittedly a German strength.[58] The German Institute for Economic Research has gone so far as to call Germany's education system its "Achilles Heel" when it comes to innovation. German students rank in the middle in the PISA education studies of 30 nations and Germany has not produced the types of qualifications needed for the labor market. Despite millions of unemployed, German companies consistently register a deficit in engineers and qualified personnel trained in mathematics and the natural sciences. For a country like Germany these weaknesses have a ripple effect throughout the economy.

Finally, Germany's entrepreneurial culture is weakening. The number of new business start-ups sank from 509,000 in 2003 to 471,000 in 2006, even as German GDP growth picked up. The share of entrepreneurs starting their own business in Germany is less than 4% -- extremely small when compared to the U.S. figure of about 11%. Germany's demographic challenges are likely to further squeeze German entrepreneurial activity. Germany's 30-39 year-old age cohort, which is responsible for most new business start-ups, is slated to shrink by 40% by 2050. The second most entrepreneurial age cohort of 20-29 year-olds is slated to shrink by 30% by 2050.[59]

Inflation

Globalization, in general, has been more disinflationary than inflationary for Germany. Over the past 15 years inflation in Germany has been markedly lower than it is likely to have been without globalization, due to more competition and lower-cost imports. This has benefited consumers, workers, companies and governments. After averaging 2.4% per annum over the 1990s, the annual rate of inflation in Germany remained below 2% up until 2007. In the euro area the share of low-cost countries in euro area imports has increased from one third to over one half since 2000.[60] This is assumed to have dampened euro area import price inflation by 2.1% on average per annum.[61] According to the Deutsche Bundesbank, relative producer prices in manufacturing sectors are negatively correlated to the import share of these sectors.[62] According to the OECD, since 2000 eurozone imports from China alone have reduced inflation on average by 0.2% a year.

Of course, these effects are not sufficient in and of themselves to guarantee low inflation. Monetary policy plays an essential role in controlling inflation, and price stability is the basic mandate of both the Bundesbank and the European Central Bank.

Consumer price inflation in Germany has averaged roughly 1.7% this decade, slightly below the Eurozone average. This long-term deflationary pressure is likely to continue.

Last year, however, inflationary pressures increased. Consumer prices in Germany rose by 2.3%, due in large part to burgeoning demand in developing countries for food, energy and other commodities. The upshot: higher commodity prices around the globe, affecting developed and developing countries alike. Although the price of oil has fallen significantly from its record in July 2008, it still remains high and erodes spending power.

In sum, globalization has introduced both deflationary and inflationary impulses. In comparative terms, however, inflation in Germany and other eurozone countries is lower than in the developing countries, many of which are facing a combination of both wage and price inflation. Chinese wage inflation, for instance, is rising at a 22% annual rate. China's overall inflation rate is running at an annual rate of 5%. In Russia, inflation is well into double digits and rising. In India and Brazil inflation is above 5% and rising.

Interest rates

Global interest rates have remained relatively low this decade and are expected to decline in the near term thanks to the current downturn in global growth. Up until the recent global credit squeeze, German firms and consumers have enjoyed access to low-cost capital due in part to the effects of globalization. The latter has helped restrain inflation and lowered the cost of capital, i.e., interest rates. The net effect has been more disinflation than inflation.

The high savings rates of many developing nations has added to the global savings pool—the so-called "global savings glut"— that has helped lower long-term interest rates in developed nations. However, strong GDP growth and final demand in developing nations has been an important variable putting upward pressure on world energy prices and other commodities. Today, the pricing pressures emanating from developing nations have had mixed results on developed countries such as Germany. On the one hand, soaring demand in China, India and other emerging markets has placed upward pressure on world commodity prices, forcing German consumers to pay more for energy and food. On the other hand, excess labor in the developing nations has helped moderate wage gains in the U.S., Germany and the EU in general, applying downward pressure on consumer prices. These cross currents are likely to linger over the near term.

Over the past year, the inflationary element has been dominant. The combined effects of higher prices for food and for oil – which increased by nearly 50% in dollar terms in the second quarter of 2008 alone – raised inflation to 4% in the EU27. This is a level considerably above the 2% rate that the European Central Bank (ECB) defines as consistent with its primary objective of ensuring price stability, and thus led it to set its key interest rate at a seven-year high of 4.25%. As the financial storm emanating from the U.S. threatened a global recession, however, the ECB, the Bank of England, the Federal Reserve and other central banks combined to cut borrowing costs. As recessionary pressures gather additional steam in Europe, interest rates in the eurozone could be further reduced.

If one looks beyond the inflation spike of the past fifteen months to the past fifteen years, it is clear that globalization has been deflationary in general – a trend reinforced by the ECB's mandate to safe-guard price stability. This has helped to lower interest rates, which in turn has lowered borrowing costs for German consumers and the government, boosted capital spending by German companies, and helped to fuel real growth in Germany.

Jobs

Employment growth in Germany is still sluggish. After remaining flat between 2002 and 2006 employment growth rose 1.7% in 2007, a dynamic reflecting the cyclical upswing of the German economy. This helped lower Germany's rate of unemployment to 7.2% by September 2008, a rate still high by U.S. standards and above the OECD average, but nevertheless down from a 10.5% jobless rate in 2005.[63] In eastern Germany the jobless rate was the lowest since 1991.[64] Employment rates throughout the country are likely to worsen due to the 2008-2009 recession.

The relevant question for our study is the relationship between globalization and jobs. Popular concerns tend to focus on two issues.

The first issue is the relationship between the jobless rate in Germany and German imports from low-wage countries. There is no evidence supporting a correlation between the jobless rate in Germany and German imports from low-wage countries, as Table 44 makes clear. Countries like Japan have low unemployment even though a relatively large share of their imports comes from low-wage countries. Conversely, countries with high unemployment rates—such as Germany—import relatively less from low-wage countries. France's unemployment rate in 2005 was even higher than that of Germany yet France imported even less from low-wage countries.

Table 44. Unemployment Rates and Imports from Low-Wage Countries

Country	2005 unemployment rate (percentage of workforce)	Penetration rate of imports from low-wage countries (percentage of imports)
Japan	4.4	39
U.S.	6.8	35
Germany	**9.5**	**24**
UK	4.7	15
France	9.7	11

Sources: OECD 2006 and McKinsey (2006);
http://www.lamondialisation.fr/pdf/mondialisation_rapport_ang.pdf

These conclusions make little difference, of course, to an individual worker who lost his job because his company moved across town or over the border. But as far as we can tell, relatively few German or European workers face such wrenching change. The European Monitoring Center on Change reports that between 2003 and 2006 only 1.5% of job losses due to corporate restructuring involved relocation within an EU country, and only 0.5% of total jobs lost involved relocation to another EU country.

The second issue has to do with jobs created by German companies outside of Germany. In 2006, 24,188 companies with primary and secondary German capital participation employed 5,191 million workers around the world outside of Germany, 60% of them (3,032 million) in Europe.[65]

The single leading country attracting German-sourced employment is far and away the United States (789,000), more than twice as many as the runner-up UK (345,000) and more than in all of Asia (747,000). China ranks fourth in terms of German-sourced employment worldwide, (276,000), just behind neighboring France (303,000) and ahead of neighboring Austria (252,000).

The sixth ranked country in terms of German-sourced employment worldwide, perhaps surprisingly, is the Czech Republic (249,000), followed by Poland (238,000), reflecting both countries' deepening integration with the German economy.[66] German companies employ almost as many Czechs as Chinese.

Companies from North Rhine-Westphalia employed 1,615 million people outside their home state, led by the U.S. (287,000), UK (126,000), France (98,000), Poland (91,000), and China (73,000).[67]

Companies from Bavaria employed 1,199 million workers worldwide, with U.S. workers leading the way (142,000), followed by China (88,000), neighboring Austria (82,000), the UK (72,000) and the Czech Republic (65,000).

Companies from Baden-Württemberg employed 1,078 million people worldwide, again with U.S. workers leading the way (207,000) – almost four times the next country France (83,000). Number three is Brazil (62,000), then the UK (60,000) and Austria (50,000), and a roughly equal number of Czechs (49,000) and Chinese (48,000).

Companies from Hesse employed 477,000 people worldwide, also led by U.S. workers (80,000), then workers from the UK (42,000), France (24,000), Luxembourg (22,000), and Poland (21,000). Hesse companies also employ as many Chinese as Czechs – 20,000 in each country.

Companies from Lower Saxony employed 362,000 people outside of Germany, also led by U.S. workers (42,000) and then workers from Spain (40,000), the Czech Republic (35,000), Brazil (30,000) and China (26,000).

German states employing the most workers in the U.S. are North Rhine-Westphalia (287,000), Baden-Württemberg (207,000), Bavaria (142,000), and Hesse (80,000). German states employing the most workers in China are Bavaria (88,000), North Rhine-Westphalia (73,000), Baden-Württemberg (48,000), Lower Saxony (26,000), and Hesse (20,000).[68]

In recent years popular attention has focused on the "offshoring" of jobs by German companies -- the transfer of an organizational function by a company to another country, regardless of whether the work is performed inside the same company or outsourced to another company. Based on data from the European Monitoring Center for Change (EMCC), less than 7% of jobs lost in Germany between 2003-2006 were due to offshoring. The OECD estimates that in 2005 offshoring accounted for 7.2% of total job losses in Germany (compared with 4.6% in the UK and 3.4% in France). These losses are dwarfed in importance by job creation and destruction due to the normal churn of the German economy.

Offshoring, in fact, is only a small part of a far bigger story: the generational shift in Germany's employment structure away from agriculture and manufacturing to services. Service sector employment in Germany today accounts for 72% of the workforce, whereas manufacturing employment accounts for less than 26%. As Germany continues to transition toward an economy driven by knowledge-intensive services, the vast majority of German workers are affected more by the internal changes their companies make as they adapt their organization and production to changing competitive conditions, rather than by such external factors as foreign corporate takeovers, offshoring or relocation.

While offshoring has become a hot political topic in Germany, it should be seen in a broader context. 87% of jobs offshored from Germany have actually been "nearshored" to new EU member states as German companies take advantage of the possibilities offered by the larger Single Market and integrate these countries into their manufacturing production networks. Many of these intermediate products return to Germany for final production for export, boosting German exports, improving competitiveness and creating higher domestic value-added.

Europe as a whole and Germany in particular largely offshore services jobs to Asia and manufacturing jobs to the new EU member states. Between 2003 and 2006 about 70% of the jobs offshored from Germany to Asia were in services; only about 5% of the jobs offshored from Germany to the new member states were in services.

The extent of offshoring is also often overestimated. In the all-important motor vehicle sector, for instance, relocation of activities abroad has accounted for almost half the German jobs lost from such relocation, but represents only slightly more than 1% of employment.

Single-minded focus on how many jobs are sent abroad by a particular offshoring decision fails to take account of the number — and nature — of jobs potentially created or improved by that same decision. According to the German Bundesbank, there is no evidence that direct investments of German companies abroad destroy jobs at home. On the contrary, evidence seems to suggest that moving some

production abroad can have indirect positive effects on employment at home, via higher productivity and competitiveness of domestic companies; lower prices for final customers; and higher returns from invested capital and, as a result, higher real incomes.[69]

Cost savings and gains in foreign market access can spur growth in company-wide activities at home and abroad. Higher sales in foreign affiliates appear to raise, not lower, domestic employment in the parent company,[70] and a similar dynamic may be at work through offshoring. It is important to balance these figures of jobs being offshored abroad with the impact such activities have on the competitive position of European countries.

Germany offers a case in point. Even though the finished products Germany exports around the world today contain a growing share of intermediate imports, value-added from German exports is rising as a share of total German value-added. That indicates that these intermediate imports are boosting German export performance. In short, from its increased use of imported intermediate goods, Germany is already reaping some of the benefits from offshoring, offshore outsourcing, and globalization in general, through improved competitiveness, rising exports, and creation of higher domestic value-added.[71]

The phenomenon of offshoring—when a company shifts services and/or manufacturing activities outside the nation to either an affiliated or unaffiliated firm—is easily the most emotionally charged and misunderstood aspect of globalization. While offshoring is not new, it has generated a great deal of anxiety across Europe, including in Germany.

Critics charge that firms seek to offshore activities primarily to take advantage of cheap labor costs, destroying jobs at home. However, offshoring is more than just about chasing cheap labor. Other motivations include cost savings; cost restructuring; improving the quality of products and services; accessing intellectual property, wider experience and knowledge and best practices; and in general, making more efficient use of labor, capital, technology and resources. In other words, there are a myriad of reasons to offshore.

Although the threat of job losses steals the headlines, offshoring decisions can generate diverse economic effects. The UN posits that offshoring entails three substantial benefits to developed nations such as Germany:

Offshoring, undertaken by companies to reduce costs and/or improve quality and delivery, enhances competitiveness, and by extension, benefits the home country. Conversely, companies that refuse to offshore, risk losing competitiveness to those that undertake it.

It enables the home (or importing) country to shift to more productive and higher value activities. Economic dynamism depends on adaptation to changing comparative advantages, and offshoring is no exception. As long as resources are mobile and workers move to new jobs, such changes are not just beneficial but also necessary for long-term prosperity. The impact is no different from that of technical change that makes some jobs redundant and creates others, generally at higher wage levels.

Exporting host countries use some of their export revenues on imports of advanced products exported by the industrialized countries.

Winners from offshoring include German companies that are able to take advantage of potentially very large cost savings, new pools of highly skilled labor, more flexible management of workforce levels, and higher productivity. Offshoring some jobs abroad could keep particular businesses profitable, thereby preserving others jobs at home. By increasing productivity, offshoring enables companies to reinvest more in new technologies that will create new jobs and boost profits. Meanwhile, German firms that onshore production and services benefit from the jobs they generate and the investment they attract, and over the longer term through transfers of technology and skills to local populations. Consumers of offshored goods and services benefit from lower prices of the items they consume and by expanded business hours in many service industries. Price declines dampen inflation and thereby lead to real wage gains.

There are losers from offshoring as well—notably lower-skilled workers who lose their jobs due to offshoring decisions. German unions have also suffered ill effects—due in part to the threat of offshoring, union membership has declined over the past few years, while the number of employees covered by sectoral wage agreements have declined as well. However, this group is small relative to the overall German economy, since the scale of offshoring in Germany is quite limited.

The offshoring debate also ignores the fact that millions of German workers are dependent on foreign direct investment for their jobs. At the end of 2006 7,420 companies with foreign capital participation in Germany directly employed 2,223 million workers in Germany. Companies with Dutch capital participation employed 509,000 workers in Germany, followed by those with U.S. participation (345,000); French (285,000); Swiss (259,000); and Luxembourg (203,000).[72]

Companies with Chinese participation employed only 1,000 workers in Germany – as did companies with Russian participation. In fact, besides the U.S. the only other non-European countries employing more than 3,000 workers were Japan (44,000) and Canada (17,000).[73]

Companies with foreign capital participation directly employed 549,000 workers in North Rhine-Westphalia at the end of 2006, led by the Dutch (104,000), U.S. (95,000); French (90,000); Luxembourg (78,000); and British (55,000). The only other non-European foreign-sourced employment came from Japan (18,000) and Canada (3,000).

In Bavaria 408,000 workers are employed by companies with foreign capital participation, led by the Dutch (85,000 workers), U.S. (57,000 workers); Swiss and Austrian (44,000 each) and French (41,000).[74]

In Hesse the overall number was 365,000 workers, led by the Dutch (95,000); U.S. (78,000); Swiss (49,000); UK (43,000) and French (33,000). Japanese companies employed only 6,000 workers, with negligible employment by companies with other non-European participation.

In Baden-Württemberg the overall number was 341,000 workers, led by the Dutch (95,000); Swiss (76,000); U.S. (56,000); French (31,000); and Austrian (28,000). The only other noticeable non-European foreign-based employment came from Canada (6,000) and Japan (3,000).

In the federal states of eastern Germany companies with foreign participation employed 87,000 workers, led by the Dutch (16,000); Swiss (10,000) and U.S. (9,000).[75]

Furthermore, offshoring adventures have proven to be problematic for many *Mittelstand* companies. After shifting production sites in the 1990s to eastern Europe or east Asia, especially China, many companies are returning home. From the beginning of this decade through the fall of 2007 3,500 German companies in the metal and chemical industry brought their production facilities back to Germany.[76] They discovered that lower labor costs and low taxes alone did not make a foreign production site competitive; they were socked with higher than anticipated energy and transportation costs; and they came to realize that management expertise was often lacking. In addition, real wage costs in eastern Europe and in China have risen much faster than many originally anticipated. In Poland, for instance, average income has jumped more than 40% since the country joined the European Union in 2004. Higher wages, together with typically lower productivity, rendered illusory the apparent advantages of foreign production. In Germany, on the other hand, the combination of continuously rising productivity and lower wage increases over a period of years has led to lower unit labor costs and thus to a rise in German competitiveness.[77]

Incomes

The European Commission estimates that at least a fifth of Europe's income gains since World War II can be attributed to globalization, and that every EU household would gain over €5,000 annually if Europe seized the opportunities offered by globalization.

The sustainability of globalization depends on maintaining broad support across the population, however, and German public opinion does not believe that globalization's gains are being shared fairly within German society.

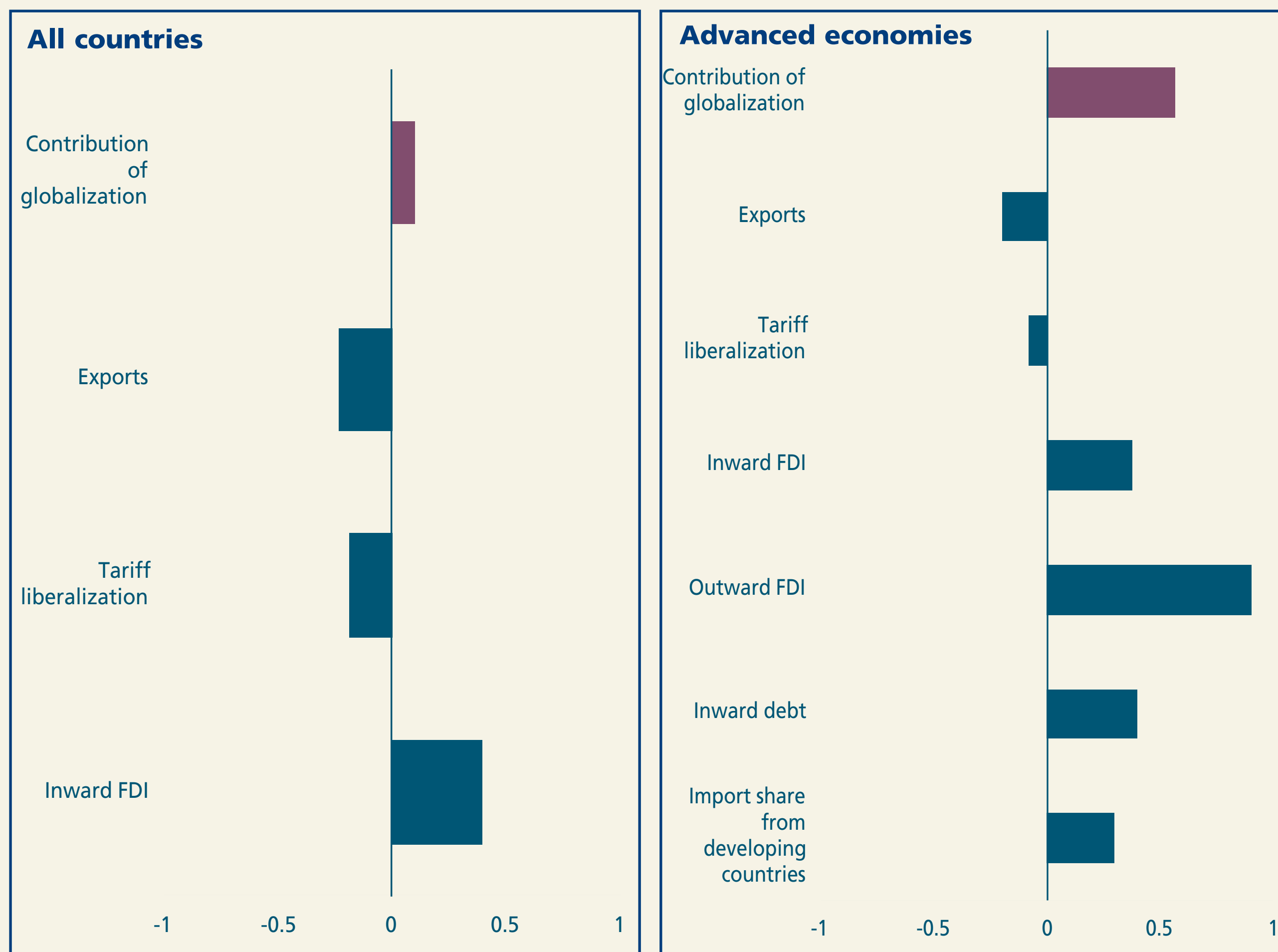
Inequality is widening in Germany. The incomes of the poorest 10% of society have fallen since 1992 by 13%, whereas that of the richest 10% of the population has risen by 31%. For the German population as a whole the average is a 10% increase in net income per capita. 25% of all Germans are close to or below the poverty line. And the middle class is being squeezed. Only 54% of the population belongs to the middle income group. In 2000, it was still 62%. The expression *"Zwei-Drittel-Gesellschaft"* (two-thirds society) has become a popular way of capturing concerns about these growing inequalities. Germany is not the only country experiencing this phenomenon.

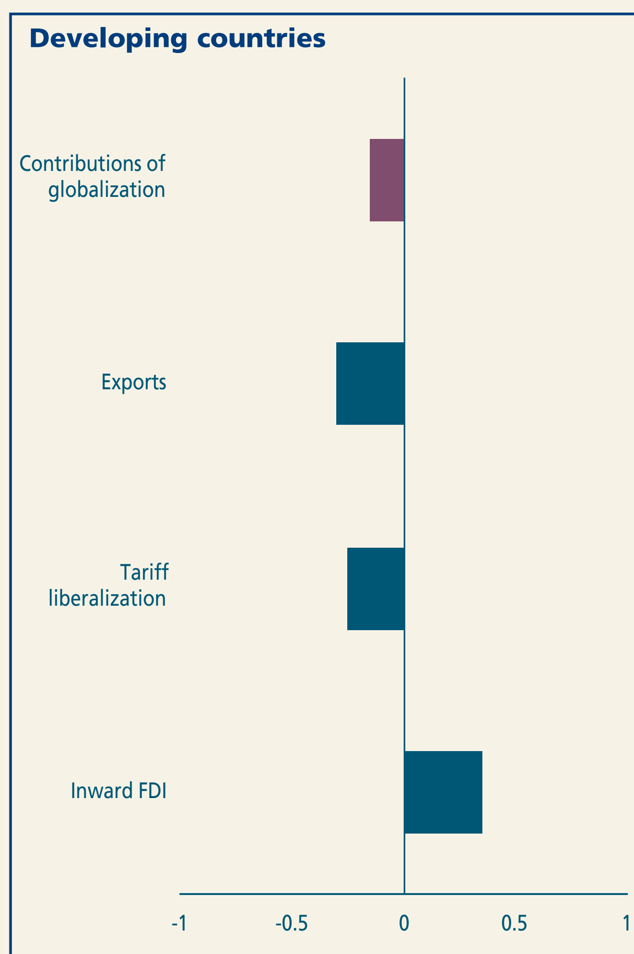
Is globalization to blame for this? What other factors might be responsible?

The International Monetary Fund conducted a major empirical investigation of the relationship between globalization and inequality and concluded that overall, "that the main factor driving the recent increase in inequality across countries has been technological progress." To the extent that technological change favors those with higher skills and exacerbates the "skills gap," it could adversely affect the distribution of income in an economy by reducing the demand for lower skill activities and increasing the premium for higher-skill activities and returns on capital.[78]

The IMF concludes that this is particularly true for developing countries, and that globalization has provided a small counterweight, whereas among advanced economies globalization has contributed slightly more than technology to domestic income inequalities. The IMF explains these differences by changes in the channels of globalization across these two groups, with financial globalization having expanded much more rapidly in advanced economies, and trade globalization having expanded more rapidly in developing economies.

Table 45: Globalization's Effects on Inequality *(average annual percent change)*





1981–2003 or longest subperiod for which all variables used in the regression are available.
Source: IMF,http://www.imf.org/external/pubs/ft/weo/2007/02/pdf/c4.pdf

Trade globalization and financial globalization can be said to have potentially offsetting influences on incomes. In general, trade globalization has exerted an equalizing impact, whereas financial globalization (and FDI in particular) has been associated with widening income disparities. In a country such as Germany, rising lower-cost imports from developing countries can help to alleviate domestic income inequalities, and higher growth derived from exports can also potentially boost incomes across the board. Direct investment by foreign companies in Germany, however, tends to boost demand for skilled vs. unskilled labor in Germany and thus has the potential to widen income disparities. German FDI in other countries can potentially exacerbate the situation by further reducing the demand for relatively lower-skilled workers at home. On the other hand, both inflows and outflows of FDI contribute to higher overall growth, which could mitigate these negative effects. In addition, the specific impact of FDI can be expected to vary by sector and dissipate over time as workers acquire skills and education.

The IMF concludes that financial deepening can have a moderately negative impact on income distribution to the extent that there is unequal access to finance between rich and poor segments of a country's population. Policy reforms aimed at broadening access to finance, such as by improving institutions that promote pro-poor lending, can help improve the overall distribution of income, even as finance broadly continues to support overall growth.

Another major source of income inequality is unemployment. In many countries there is a strong correlation between the increase in unemployment, which mainly affects the low-skilled, and income inequality. This is particularly relevant to Germany. While unemployment often follows business cycles, in Germany unemployment has remained at stubbornly high levels even during economic upturns. In addition, a relatively high percentage of the unemployed in Germany are long-term unemployed. Yet a flexible, mobile labor force is necessary if a country is to seize globalization's gains and respond

effectively to its potential pains. The shift in employment from agriculture to industry and services has helped to improve the distribution of income. As Germany undergoes continuing shifts in its employment structure, the mobility and employability of the less-skilled is crucial.

This underscores the importance of education and training.[79] Studies by the IMF and many other sources confirm that access to education helps to improve the distribution of income. The correlation between individual qualifications and personal income is high. Making increased access to education and training a priority would allow less-skilled and low-income groups to capitalize on the opportunities from both technological progress and the ongoing process of globalization, and shortening the length of time over which FDI has a disequalizing impact.

A recent study documenting inequality trends in wages, hours worked, earnings, consumption and wealth for Germany from the last twenty years concludes that inequality declined slightly in West Germany until German unification, and then trended upwards for wages and market incomes, especially after about 1998. Disposable income and consumption, on the other hand, displayed only a modest increase in inequality over the same period. Whereas disposable income remained steady in western Germany after unification, it has risen significantly in eastern Germany.[80]

Wages

Increased globalization has been viewed with concern in many advanced economies. There is a common belief that globalization harms the interests of workers, especially unskilled workers, either directly through immigration or indirectly through trade and capital mobility.

A close look at wage data reveals that the countries most integrated into the global economy tend to have the highest manufacturing wages. Many different factors determine the price of labor, for instance general macroeconomic conditions, business fluctuations, the capital-labor ratio, technology, management-labor relations, or unionization. Globalization also plays a role, but untangling its particular impact, compared with these other factors, can be difficult. Nearly all research, however, finds only a modest effect of international trade on wages. The average estimate of the effect of trade on wages and employment is not zero - most research finds some role for trade - but it is certainly lower than what might be expected from purely anecdotal evidence, and certainly far from the claim that import competition makes a "giant sucking sound."

Relative wage restraint has been a key factor contributing to Germany’s economic rebound in recent years. Real wages in Germany between 2000 and 2006 rose by 1.3%, compared with 7.5% in France, 8.3% in the U.S., 11.1% in Denmark and 15.1% in the UK.[81] This trend has been supported by lower core inflation rates, continued openness to cross border trade and investment, and greater competition. Overall, German workers have benefited from net wage gains, but the “great doubling” of workers in the global economy has put a huge new pool of skilled and unskilled labor within reach of German firms, which has put downward pressure on wages, squeezed lower-skilled laborers, and weakened the bargaining power of unions.[82] Increases in German wage equality have been modest compared to trends in the United States.[83]

An important trend in labor markets in the advanced economies has been a steady shift in demand away from the less skilled toward the more skilled. As discussed earlier, this development can be attributed in part both to technology and to elements of globalization. In some countries, particularly those with relatively flexible labor markets such as the United States or the United Kingdom, this trend has produced dramatic rises in wage and income inequality between the more and the less skilled. In countries with less flexible labor markets, such as Germany, this demand shift has tended to affect employment more than wages.[84]

Above all, this shifting demand underscores the need for economies to be resilient in the face of continuous change. Globalization offers great benefits for Germany as a whole, but it can be disruptive and generate dislocations. Particular industries or groups of companies or workers can face significant challenges as they adjust to global competition. Policymakers must keep in mind potential dislocations, ensure that those who are displaced do not become marginalized, and provide opportunities and incentives for workers and firms to adjust to changing circumstances. The adjustment costs can be

minimized by encouraging flexible labor markets, improving information about changing markets, and enhancing training and educational opportunities so that workers can upgrade their skills to match the demands of the changing global economy.[85]

GDP Growth

In 2007 Germany's GDP was about $2.8 trillion on a purchasing power parity (PPP) basis and nearly $3.3 trillion at current exchange rates. Per capita GDP was $34,400 using PPP. Globalization has been a significant boon to German exports, which in turn have been a motor of Germany's economic revitalization and helped raised Germany's growth rate by 3.2% in 2006 and 2.6% in 2007. This performance was even more impressive when looked at in per-capita terms, since the German population is not growing by any relevant rate. These positive figures compare with very weak growth over the first half of this decade and a 2.3% annual average rate of growth over the 1990s.

Germany is tied to other global economic flows, however, that can dampen growth – and the current global financial crisis is dramatic evidence of this fact. The U.S. subprime meltdown and the attendant global credit squeeze have generated recessionary-like conditions in Germany. GDP growth slowed to 1.3% in the first quarter of 2008 and even declined by 0.5% in the second quarter of 2008. Because of weaker export growth due to dampened global demand, Germany's economy is expected to expand by around 1.5% in 2008, well below the trend of the past few years, and the government is expected to cut its growth forecast for 2009 from 1.2% to 0.5%.

Private consumer demand has been weak for many years -something that doesn't have anything to do with the global financial crisis. GDP growth expanded by 2.5% in 2007, but consumer spending was held in check by a big 3% increase in value-added-tax at the beginning of 2007. Germany's economic stroy has been the reverse of consumer-driven economies almost exclusively on foreign markets.

Chapter 4

Globalization and Germany's Key Stakeholders

"The main losers in today's very unequal world are not those that are too exposed to globalization, but those who have been left out."

Kofi Annan, while UN Secretary General

Having looked at globalization's impact on Germany via a number of key indicators, we now look at its effect on key German stakeholders – consumers, workers, companies and government. While Germany has gained significantly from globalization, these gains have not been evenly shared, and do not directly benefit every worker, firm, and community. There have been winners and losers.

Globalization and German Consumers

German consumers have reaped substantial gains from globalization over the past few decades. Because globalization, in general, has resulted in lower cost imports, greater availability of products, a structural reduction in inflation, lower interest rates and real income gains, German consumers have been rewarded handsomely. Lower cost imports mean better prices for consumers. Rising trade offers consumers greater product availability and variety, and rising profits for many German firms, large and small. Real wage and income gains put more money in consumer pockets. Lower structural inflation—at least until recently—meant that consumers got more for their money. Lower interest rates mean lower borrowing costs.

Table 46: Globalization's Impact on German Consumers

Metric	Outcome (Direct/Indirect)	Effect on German Consumers
Trade	Robust gains in both exports and imports	Lower cost and greater choice of goods and services; downward pressure on inflation; rise in net real incomes; higher prices for energy and other commodities.
Investment	Strong outflows/ inflows	Outward and inward flows of FDI help keep German companies competitive, thus restraining costs for consumers.
Portfolio Flows	Strong Outflows/ Inflows	Higher growth and gains in real wages and incomes have boosted the ability of German consumers to spend. Financial contagion due to overzealous banks has hurt consumers.
Labor Mobility	Greater mobility/net inflows	Lower-cost labor helps keep prices down for consumers, but lower-skilled workers face competition from immigrant labor. The EU's Single Market for labor, however, should facilitate greater labor mobility within the EU, blunting some of the competition from low-wage labor from non-EU workers.
Technological Diffusion	Net gains	Greater dispersion of technology has helped consumers access lower priced imports oftechnology and services and tap innovation from abroad.
Inflation	Offsetting effects	Lower inflation means more for your money; higher fuel/food prices raises inflation.
Interest Rates	Structurally lower	Consumers have benefited from lower borrowing costs.
Employment	Net gains	Higher employment in Germany means that more consumers have greater purchasing ability.
Income	Net gains	Notably beneficial to consumers, with lower import costs, a greater variety of goods to choose from.
Wages	Modest increases	Increased real wages put more money in consumer pockets
Real GDP Growth	Upward bias	Real growth has offered consumers more choices and given them greater ability to spend.

The European Commission estimates that the opportunities offered by globalization could result in additional income gains of over €5,000 annually for every household in Germany and throughout the EU. While this is hardly a prefect metric, there is little doubt that a world more open to trade and investment, and more integrated than ever before, has resulted in net gains for Germany.

Table 47. More Bang for Your Euro?

(Amount of working time needed to buy selected products in Germany, 1991-2006)

Item	Amount of working hours needed to buy, 2006	Change 1991-2006 (%)
Television	30	-62
Washing Machine	37	-30
Woman's Dress	7	-25
IRefrigerator	24	-21
Woman's Shoes	6	-19
Business Suit	17	-18
Men's Slippers	5	-9
Resole a Man's Shoes	1	+ 6
Beauty Salon – Woman	1	+22
Daily Newspaper (1 month)	2	+34
1 Liter Unleaded Gasoline	0.1	+49

Source: German Institute for Economic Research (DIW)

There are some caveats, however. Not all of these gains have been evenly distributed. Low skilled workers in Germany increasingly face the threat of lower cost labor from eastern Europe and developing Asia, a transmission effect via lower cost imports or offshoring. In addition, even though long term inflation trends have been generally lower over the past decade, greater food, energy and other resource demand from the developing countries has created some countervailing inflationary pressures. Indeed, even with the recent pullback in energy and food prices, the underlying price structure of global commodities has been raised by soaring cyclical and secular demand for resources in the developing nations. Rapid urbanization, soaring per capita incomes, the emergence of middle class consumers, greater levels of industrialization—all of these factors have converged to place upward pressure on commodities, a dynamic that has resulted in higher food and energy costs in developed nations like Germany. German consumers have not escaped the negative effects of rising global commodity prices.

Moreover, despite these positive developments, consumers in Germany have not tended to drive economic growth, as they have in the United States or the United Kingdom. Private consumer demand has been weak for many years – something that doesn't have anything to do with the global financial crisis. GDP growth expanded by 2.5% in 2007, but consumer spending was held in check by a big 3% increase in value-added-tax at the beginning of 2007. Germany's economic story has been the reverse of consumer-driven economies such as the US and the UK. Weak demand at home means Germany depends for growth almost exclusively on foreign markets.

Globalization and German Workers

Most consumers are also workers, and the effects of globalization on the German work force have been more uneven. The internationalization of labor markets is a key trend of globalization, and one that has produced mixed results and reactions in Germany.

Greater flows of trade, investment, capital, people and ideas have, on balance, benefited German workers. Germany's export economy accounts for 9 million jobs – a quarter of overall German employment. Germans have profited greatly from the willingness of other countries to buy products made in Germany. Germany's traditional export surpluses – sending out more products made by workers in Germany than buying products made by workers elsewhere – has meant that workers in the

rest of the world have suffered more than German workers. New jobs are being created in companies engaged in the global marketplace -- between 1995 and 2005 Germany's export economy created 2.4 million jobs, compensating in part for loss of jobs resulting from increases in productivity, offshoring or outsourcing of jobs abroad, and other factors related to the churn of the German economy. Only about 7% of jobs lost in Germany between 2003-2006 were due to offshoring, and German workers benefit from "onshored" jobs from abroad. Foreign companies employ 2.2 million workers in Germany. Moreover, as outlined earlier, there is no correlation between the jobless rate in Germany and German imports from low-wage countries. Moreover, German workers enjoy a larger share of their countries' wealth than do U.S. workers, and Germany and most other European countries have safety nets for workers that would be the envy of anxious U.S. employees.

High skilled labor in Germany has benefited from rather robust demand for their services this decade, with strong export demand largely driving this process. Such is the demand for skilled labor that Germany has reported labor shortages in many skilled occupations of the past few years.

Table 48: Globalization's Impact on German Workers

Metric	Outcome (Direct/Indirect)	Effect on German Workers
Trade	Robust gains in both exports and imports	Expanding trade has been a source of income and employment for workers in Germany, as well as a source of low cost imports for workers and consumers.
Investment	Strong outflows/inflows	Germany actually runs a trade surplus with the developing nations. Investment is a key ingredient to growth. Workers in Germany have benefited from rising employment and trade, as well as the availability of lower cost goods.
Portfolio Flows	Strong outflows/ inflows	Rising inflows have created a deeper, more liquid pool of capital that German workers can indirectly tap. It has supported the euro, enhancing competitiveness to the benefit of workers.
Labor Mobility	Greater mobility/net inflows	Immigrant workers are both a source of supply (filling unskilled positions unwanted by local labor, and needed skilled positions) and demand (providing a boost to consumer expenditures).
Technological Diffusion	Net gain	Greater dispersion of technology has allowed for greater trade in services, benefiting workers in the services economy (70% of German workers), and allowed workers to access technological innovations and develop higher technological skills.
Inflation	Offsetting effects	Lower inflation has helped boost real wage gains of German workers; food/fuel prices higher, hitting at workers' wallets.
Interest rates	Structurally lower	Because the lower cost of capital is a key ingredient of economic growth, lower interest rates have been a catalyst to growth and job creation, with direct benefits to German workers.
Employment	Net gains	Net employment gains have directly benefited workers in Germany, although some workers (skilled labor) have benefited more than other unskilled labor.
Income	Net gains	Notably beneficial to workers, with more income translating into more purchasing power.
Wages	Modest increases	The trade off of modest wage gains have been rising employment levels and the greater willingness of German firms to hire more workers. The offset—high non-wage compensation costs.
Real GDP Growth	Upward bias	Without growth, employment lags, unemployment rises. Until financial crisis Germany's level of real growth was strong enough that unemployment was declining and employment levels rising.

Like the United States, Germany has been at the receiving end of one of the large net inflows of immigrants in the OECD. However, many of these immigrants possess the wrong skill set. Germany is in a fight to attract the world's best and brightest—but these efforts are failing. According to the EU Parliament, high skilled workers made up less than 3% of total immigration to Germany in 2000-03. 85% of unskilled labor migration goes to the EU and 5% to the United States, while 55% of skilled labor goes to the United States and only 5% to the EU.

In comparative terms, however, German workers face some challenges. German incomes and wages are higher today than they were fifteen years ago. But German income in 2007 was $12,100 less per person than in the United States. German workers enjoy more leisure time than their U.S. counterparts, but also produce less per hour worked than their American counterparts ($48.60 vs. $52.80).[86] In addition, unemployment has remained stubbornly high for decades. The German system suffers from a high percentage of both long-term and low-skilled unemployed. In 2007 the percentage of long-term unemployed in Germany was practically double the OECD average and six times that of the United States. Some regions within Germany are particularly hard hit.[87] This situation is not due to globalization, but the competitive pressures and comparisons evoked by globalization do cast a brighter glare on German domestic challenges.

In addition, there is considerable churn in the economy as German workers shift from agriculture and manufacturing to services, and the technological skills and training of Germany's work force needs continuous and rapid improvement. These changes can be unsettling, and the challenge of lifelong learning in a knowledge economy can seem threatening to those with low skills and low educational aspirations.

Germany's rigid labor markets, in turn, make it harder for workers to move into new jobs in other industries. Although labor market reforms implemented over the last three years have led to improvements in real wage flexibility, a two-tier labor system remains fairly entrenched, and the supply of skilled labor looms as a bottleneck. In the state of Baden-Württemberg, for instance, every sixth company in 2006 reported problems recruiting engineers. The German Federation of Industry (BDI) estimates that the shortage of skilled labor represents an annual loss to the German economy of €18.5 billion; the German Institute for the Economy estimates the annual loss to be more than €28 billion.[88]

Overall, greater cross border trade and investment has boosted growth, created jobs, and improved the incomes of European workers. Over the past ten years, the EU economy has created 18 million more jobs than it has lost, despite increased global competition and with steady increases in productivity. Jobs lost to trade may have accounted for up to 20 percent and offshored jobs for about 8% of all permanent layoffs, but for every job lost to economic or technological change Europe has created more than one new job in more competitive parts of the economy — the hundreds of millions of new jobs in the developing world have not cost Europe a single job on aggregate.

In general, in light of the effects of globalization, namely the global battle for brains and a surge in low-cost labor, it is imperative that Germany accelerate the pace of labor reform to ensure that it maintains its world class labor force.

Globalization and German Companies

By extending their global reach and penetrating deeper into the United States and the developing nations, many German firms have successfully leveraged globalization to their benefit. Large and small German firms have benefited from a global economy more open to trade, investment, capital flows and the unfettered movement of people and ideas. Open borders help German companies reduce production costs by servicing larger markets; become more efficient; invest more in innovation; and pay greater attention to customers' needs.

Corporate Germany is well represented among the world's largest companies. *Of the Forbes 2000*, 59 German companies were on the list of publicly listed companies. *Of the Forbes 100*, nine firms were domiciled in Germany. According to data from the United Nations, of the top 100 non-financial transnational corporations in the world in 2006, six were headquartered in Germany.

Table 49: Germany's Top Non-Financial Transnational Corporations, Ranked by Foreign Assets

2006, Millions of US $ and number of employees

Rank in world's			Assets		Sales		Employment	
top 100	Corporation	Industry	Foreign	% of total	Foreign	% of total	Foreign	% of total
12	E.ON	Electricity, gas and water	94,304	56	32,154	38	46,598	58
13	Deutsche-Telekom AG	Telecommunications	93,488	55	36,240	47	88,808	36
14	Volkswagen	Motor vehicles	91,823	51	95,761	73	155,935	48
20	Siemens-AG	Electrical-& electronic equipment	74,585	62	74,858	68	314,000	66
22	RWE-Group	Electricity, gas and water	68,202	55	22,142	40	30,752	45
24	BMW-AG	Motor Vehicles	66,053	63	48,172	78	26,575	25
28	Deutsche-Post AG	Transport and storage	60,938	21	44,807	59	137,251[a]	30
31	DaimlerChryslerAG	Motor vehicles	55,214	22	82,130	43	98,976	27
42	BASF AG	Chemicals	38,705	65	37,194	56	47,951	50
48	Linde AG	Industrial trucks, tractors, trailers	35,125	95	13,322	85	51,670	88
65	BayerAG	Pharmaceuticals/chemicals	26,100	35	30,650	84	48,200[a]	45
75	MetroAG	Retail	23,540	56	41,971	56	133,152	55
88	Bertelsmann	Retail	19,779	67	16,795	69	62,796	65
89	ThyssenkruppAG	Metal and metal products	19,677	42	39,252	66	103,534	55

Source: UN Conference on trade and development
**Data for activities outside of Europe*

The strength of the German economy, however, does not only depend on household names like Daimler, Siemens, Bayer, BMW and Volkswagen. It also depends on thousands of small- and medium-sized firms that constitute what the Germans call the *Mittelstand*. Each firm employs less than 500 workers but together they constitute 98% of all German companies, hire 80% of all employees, are responsible for a significant share of exports, and provide a strong foundation for the middle class. Many *Mittelstand* companies are "hidden champions" -- usually privately held and hardly known to most Germans themselves, yet world-beaters in a range of sectors, from machinery production, the optical industry and medical technology to environmental technology and nanotechnologies.[89] According to a study of companies with sales of up to €50 million conducted by Bernd Venohr, a professor of strategic management at the Berlin School of Economics' Institute of Management, there are 1,300 German firms leading their respective sectors. "On top of that," he notes," there are surely another 1,000 micro-world market leaders in even smaller niches."[90] The 3,200 companies in the high end *Mittelstand* are responsible for some 30% of Germany's total export volume. The companies dominate niche markets worldwide by developing high-quality products and services, investing at more than twice international levels in R&D, and providing meticulous customer service.

Reflecting Germany's deep global linkages, not only is the nation the world's largest exporter of goods, but also one of the world's largest sources of foreign direct investment. German exports have benefited from soaring import demand from the developing nations, while also benefiting from investment liberalization in such nations as Poland, Hungary and China, allowing German firms direct access to these key markets. The upshot: robust foreign demand for German goods and services over much of this decade has shielded many German firms from weaker growth at home.

Table 50: Globalization's Impact on German Companies

Metric	Outcome (Direct/Indirect)	Effect on German Companies
Trade	Robust gains in both Exports and imports	Strong trade flows have helped boost the sales and profits of many German companies; greater cross border trade has resulted in lower import costs, helping to raise productivity and overall earnings.
Investment	Strong outflows/inflows	Another ingredient of growth for firms, with strong outflows allowing greater access to foreign markets, while rising inflows have helped boost the competitiveness of firms and allowed many to expand operations.
Portfolio Flows	Net Inflows	A key source of c apital, allowing for lower interest rates and a more attractive cost of capital.
Labor Mobility	Greater mobility/net inflows	A potentially key boost of companies, particularly given Germany's low level of labor participation and aging workforce.
Technological Diffusion	Net gains	Greater dispersion of technology has allowed for greater trade in services and allowed corporate German companies to access more global technology skills and developed/developing nations.
Inflation	Offsetting effects	Lower inflation due to cheaper imports important in keeping input costs down and corporate profits up; higher food/fuel prices hitting companies.
Interest Rates	Structurally lower	Another key source of growth in that lower interest rates entails a lower cost of capital and more capital for expansion and growth.
Employment	Net gains	Important in d riving consumption in Germany, resulting in rising sales/earnings for most companies.
Income	Net gains	Another driver of growth and ultimately corporate earnings.
Wages	Modest increases	Only modest wage gains have helped boost corporate productivity and profits.
Real GDP Growth	Upward bias	Higher overall growth has meant greater sales and revenues and more opportunities to invest, expand, and hire additional workers fro many companies in Germany.

Of notable importance to corporate Germany have been the collapse of communism and the opening of new markets right in Germany's backyard—central and eastern Europe. The latter's embrace of free market principles has been a boon to many firms in Germany who have not only successfully leveraged lower cost inputs from the east but also experienced rising sales and revenue from its neighbors next door. Rising levels of cross-border trade and investment have helped boost sales and profits for many German companies, particularly in those sectors where German firms hold a distinct global competitive advantage—automobiles, capital goods, textiles, chemicals, and electrical engineering.

Against this backdrop, many companies listed on the DAX have enjoyed something of a profits boom over most of this decade, even if the recent downturn in global activity does not bode well for corporate Germany in the near term.

The bottom line: in a world of near-unfettered flows of global capital, corporate Germany has attracted more than its fair share of global capital. In turn, robust capital flows have helped drive capital investment and create job growth across a number of German industries.

Germany in a Globalizing World

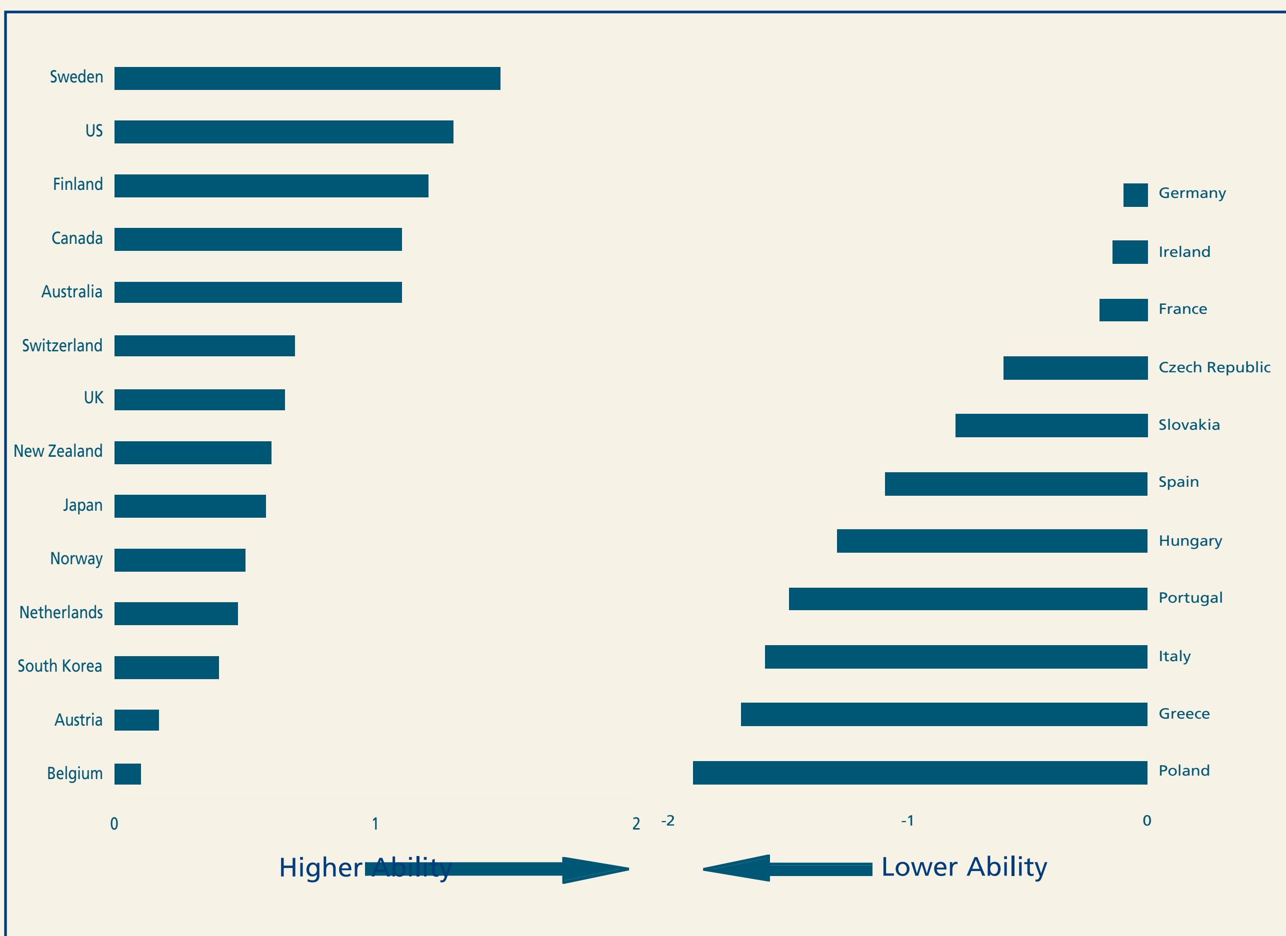
Globalization has not only accentuated competition among industries, but also between industrial locations seeking to attract increasingly mobile companies and human talent. Germany's success in a globalizing world, therefore, also has to do with its attractiveness as a place to do business.

Germany is one of the largest economies in the world and has benefited handsomely from globalization. However, Germany's embrace of globalization is not complete; there is plenty more room for Germany to become more integrated into the global economy based on some of the metrics discussed below. How well positioned is Germany to deal with globalization? Compared with other developed countries, Germany, surprisingly, ranks in the middle of the pack.

According to the Swiss Economic Institute's 2008 Index of Economic Globalization, Germany ranks as the 35th most "economically globalized" nation in the world, behind many other European countries and the UK, as well as behind relatively smaller nations elsewhere around the world, such as Panama, Israel, Chile, Canada, New Zealand and Bahrain. While such metrics must be used with care, it's surprising to note that in terms of being "economically globalized," Germany lags behind such nations as Italy and Malaysia.

The OECD investigated a range of factors in terms of "coping ability," and summarized these factors in a composite indicator for all OECD countries. The results are shown in Table 51. Germany ranked among those with a "lower ability" to cope, although based on this scale Germany was in a better position to cope than Ireland, France, Italy and a host of smaller nations in the European Union. At the other end of the spectrum are such nations as Sweden, the United States and Finland, nations that rank rather high when it comes to coping with globalization.

Table 51: Indicator of Ability to Cope with G lobalization



Source: OECD

The World Economic Forum's Global Competitiveness Index (GCI) ranks Germany 7th in 2008-2009. Only Switzerland (2nd), Denmark (3rd), Sweden (4th), and Finland (6th) outranked Germany among other European nations while the U.S. took the top spot.

According to the World Economic Forum's Lisbon Scorecard, Germany ranks as the 5th most competitive economy in the EU—out ranked, again, by smaller nations like Denmark, Finland, Sweden, and the Netherlands. In such key subcategories related to liberalization, and network industries, Germany ranked #1. The nation ranked #2 in sustainable development and financial services. However, reflecting the more risk adverse nature of Germany, the nation ranked 12th in terms of enterprise.

Chapter 5

Making Globalization Work for Germany

It's better than it sounds.

-- Mark Twain, commenting on Wagner's music

Overall, Germany has been one of globalization's greatest beneficiaries, and stands primed to benefit even more.[91] The German public and German opinion leaders understand that German prosperity is tied to open European and global markets, yet most Germans believe that the benefits of globalization are not shared fairly within German society. Germany's greatest globalization challenge seems to be to maintain and enhance the core strengths that have made it such a formidable global competitor while taking steps to ensure that globalization's benefits are more widely shared and helping those most affected by globalization's burdens.

German consumers, workers and companies have all prospered from globalization. Germany has been the world's #1 exporter of goods for five straight years. It is the world's third largest exporter of services. Germany's goods exports have doubled and its commercial services exports have chalked up about 14% annual growth during this decade -- ahead of global trends. Since 2000 Germany's trade surpluses have contributed 1.1-1.9% in real GDP growth. Germany's export economy accounts for 9 million jobs, and over 2 million German workers owe their livelihoods to foreign investors who have created jobs in Germany. High levels of foreign ownership and participation in European and German capital and equity markets have paid dividends for key German stakeholders by enhancing the capital efficiency of Germany's financial infrastructure and making more low-cost capital available for capital investment and consumer spending. R&D activities by German companies outside the country and foreign companies inside Germany have been critical to continued German economic vitality and profitability. Germany ranks relatively high as a global innovation leader, notably in such sectors as chemicals, capital machinery, automobiles, optics, electronics and precision engineering.

Germany is also better positioned than others to break the link between the generation of wealth and the consumption of resources. Despite the ups and downs of global growth, the BRICs are continuing to develop in a world economy premised on extensive use of oil and gas and intensive use of resources. That is untenable for a global economy of 6 billion people. Breaking this link could open the way for entirely different patterns of consumption and competitiveness. Germany and Europe could lead the way.

Europeanization has been an important factor equipping Germany for success in the face of broader globalization pressures. German firms are taking advantage of the larger European Single Market, expanding their production networks into new EU member states and boosting intra-firm trade between German parent companies and their eastern European affiliates. The euro has allowed Germany and its eurozone partners to attract more of the world's excess savings, which has strengthened German and European capital markets, provided more liquidity for capital investment, and encouraged lower interest rates. In recent years a strong euro has also mitigated inflationary pressures stemming from higher dollar-denominated prices for food, fuel and other resources, even as it has pressured German exporters. The recent fall of the euro in relation to the dollar is welcome relief to German exporters facing a global turndown, and the relative drop in dollar-denominated fuel prices has counterbalanced the dollar's rise in value.

Despite widespread recognition of the global economy's importance to Germany's welfare, many Germans are anxious about their ability to keep up with the pace of global economic change. Such concerns are not entirely unfounded. Redeploying labor, capital, goods and services production across firms, industries and communities can be disruptive. The same interlinked financial system that exerts downward pressure on inflation and interest rates can transmit financial insecurity at the click of a mouse. The same global demand that fuels German exports can also boost prices for many daily staples.

The knowledge economy can seem threatening to those with low skills and low educational aspirations. The challenges of energy security and climate change may require major changes in the way people live and work.

Although Germany was not at the center of the financial storm that has battered the world's major economies, its economic rebound has been blown off course. Its export-driven economy now faces a global credit squeeze and a major slowdown in growth among its major customers. The crisis has also underscored Europe's failure to create a single capital market. Despite the euro, the EU's financial sector is still more fragmented than united. This is inefficient and makes it hard for Europe to craft a coordinated response in times of crisis.

The financial crisis has heightened popular concerns and is likely to affect globalization in a number of ways. First, governments will be reluctant to liberalize financial markets further and instead will focus on higher transparency, better regulation and greater coordination. Emerging economies are unlikely to liberalize faster than developed economies. Second, this trend toward greater government oversight is likely to extend beyond finance to trade, direct investment, and flows of people and ideas. The British government, for example, signaled sharper controls on immigration just days after it announced its financial rescue plan for British banks. The more governments in developed countries intervene in their domestic markets, the less inclined developing countries will be to bend to pressures to open their own markets. Third, the world economy has slowed down, with attendant consequences for countries such as Germany, which is dependent on external growth.[92]

These challenges are difficult, and they are exacerbated by homegrown problems "made in Germany." An aging and shrinking population is already having a real impact on labor force developments and public finances, and efforts to attract high-skilled migrants have yet to show success. In key areas of the economy German innovation remains world-class, but the country's overall performance is uneven. The full potential of the services economy has yet to be exploited fully, the German education system is not meeting the nation's needs, and the country's notoriously weak consumer demand does not provide an alternate motor for growth in times of weak external demand. Germany is failing to convince potential investors to invest in Germany. Inward foreign direct investment is relatively weak in relation to Germany's economic size, with inward FDI stock accounting for only 8.3% of gross fixed capital formation in 2007. That is well below the EU average of nearly 23%.

Globalization did not create these problems, but it has exposed them. Successive German governments have introduced incremental reforms that have started to turn the economy around. Yet in the face of public concerns, too many opinion leaders have preferred to cast globalization as the culprit for some of Germany's domestic ills. Too many have shied away from explaining the specific benefits globalization offers Germany in general and key stakeholders in particular, either because they believe it requires too much courage or effort or that it is politically expedient not to do so. Globalization certainly brings costs as well as benefits. Yet if those who want globalization to work for Germany don't make the case to explain its benefits, they are unlikely to convince their fellow citizens that it is worth confronting the costs.

Against this backdrop, maintaining long-term prosperity and lasting economic strength means crafting policies that make globalization work for all stakeholders in Germany.

At home, that means tackling Germany's educational challenges. It means supporting people rather than jobs. It means helping workers improve their employability and prepare for change rather than trying to shield them from it. It means supporting Germany's dynamic *Mittelstand*. It also means tackling the twin issues of immigration and integration – particularly by offering skilled immigrants opportunities to contribute and be integrated within German society. Germany's future may well depend on success in these areas.

Reforms at home offer Germany the opportunity to demonstrate that economic strength can go hand in hand with high standards of welfare. After 20th century globalization collapsed in depression and war, Germany and its European neighbors reopened their economies, but they also constructed social safety nets at home that helped those hurt by the churn of Europe's international integration. No model was as successful at the time as Germany's social market economy. That model is under pressure today, but by reinvesting in its basic bargain – openness in exchange for greater welfare -- Germany has an oppor-

tunity to show that it is possible to reap globalization's benefits while making its costs bearable to those who are directly affected by rapid economic change.

Making globalization work for Germany also means taking advantage of the opportunities offered by Europe's Single Market as a vibrant, continent-wide home base. A fresh impetus to complete the Single Market, particularly in services, would help. The European Central Bank estimates that service sector output could be increased by 12% if competition in the eurozone were raised to U.S. levels. The EU's new Services Directive has the potential to deliver up to €30 billion of new wealth and create up to 600,000 new jobs. EU policies need to favor creation of new companies and new jobs; promote greater competition; facilitate innovation and its diffusion; support further integration of the value chains across Europe; forge a unified and secure European energy market; and attract global talent.

Adjustments at home and within the EU need to be accompanied by global initiatives. Globalization's ups and downs require Germany to work more closely with its EU partners, the United States and the developing nations to ensure an open and liberal global trade and investment environment guided by basic principles of global good governance.

The most important is a sustained commitment to a rules-based system of open global commerce, underpinned by concrete efforts to reduce trade and investment barriers with the rest of the world. Germany has benefited enormously from the openness and predictability of the international trading system. An immediate priority in this regard is agreement in the stalled Doha Round of multilateral trade negotiations. In earlier such multilateral trade rounds, Germany often made the difference in the final stages by throwing its considerable weight behind freer markets. It needs to do so again now.

The financial crisis is the most dramatic indicator of the growing mismatch between the scope and scale of global challenges and the ability of intergovernmental mechanisms to deal with them. Germany and its partners need to consider new forms of governance at the global level, and to integrate rising powers in ways that give them a stake in the system. Fortunately, today's international system -- open, integrated, rules-based – has proven to be unusually durable and accommodating. It has facilitated the participation and integration of both established great powers and newly independent states. Its very openness and flexibility means that rising powers can gain full access to and thrive within this system. Germany's own postwar success is a dramatic testament to this proposition.

The resilient nature of the current system means that we best tackle its excesses not by starting from scratch but by returning to first principles -- reinvesting in and reinforcing those features that encourage engagement, integration and restraint.[93] The more open, consensual and rules-based these structures are, and the more widely spread their benefits, the more able they will be to advance the interests of rising powers through integration and accommodation rather than through conflict. If Germany and its partners want to preserve their ability to shape the environment in which rising powers can make critical strategic choices about their engagement in the world, they must work together to strengthen the rules and institutions that underpin that order – giving potentially revisionist powers more incentives for integration than opposition, making it hard for them to be spoilers or challengers. By agreeing to abide by common rules of the road, we gain the commitment of others to live by our standards in areas such as food safety, public health, intellectual property rights, environmental and labor protection. We also establish the means to measure compliance.

Returning to first principles also means ensuring that global governance is also good governance. Global mechanisms and institutions must be grounded in the rule of law and norms of transparency, nondiscrimination, accountability, representation and responsiveness. These characteristics assure that effectiveness is enhanced, corruption is minimized, and the views of minorities are taken into account. We should apply these principles to reform in each of our major institutions of global governance.

Other nations are willing to adhere to these standards not just because they want access to our markets, but because they increasingly realize that a system based on such standards is key to their own ability to benefit from globalization. And that can give them a stake in quelling conflict, working towards equitable economic development, and promoting sustainable use of national resources. As a major beneficiary of globalization, Germany has a particularly important role to play.

Notes on Terms, Data and Sources

By Europe, we mean the 27 members of the European Union, as well as Switzerland and Norway. Throughout this volume, we also refer to the EU15, which includes the United Kingdom, Ireland, Belgium, Luxembourg, the Netherlands, Austria, Spain, Italy, Greece, France, Germany, Portugal, Sweden, Finland, and Denmark. On occasion we refer to the EU25, which includes all members of the EU except Bulgaria and Romania, which joined the EU in January 2007.

Where possible, data is drawn from official sources: the European Commission, various European governments, the U.S. Commerce Department's Bureau of Economic Analysis, the OECD, European Central Bank, the United Nations, the European Bank for Reconstruction and Development, the World Bank, and the International Monetary Fund. We have also drawn on considerable scholarly work, which we have cited. We apologize for unintended omissions or errors, and want to express our appreciation to those who have worked so hard to produce such useful data and analysis.

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Daniel S. Hamilton and Joseph P. Quinlan have authored and edited a series of award-winning books and articles on globalization and developed economies, including *Globalization and Europe: Prospering in the New Whirled Order* (2008); *France and Globalization* (2008); *The Transatlantic Economy 2008*; *Sleeping Giant: Awakening the Transatlantic Services Economy* (2007); *Protecting Our Prosperity: Ensuring Both National Security and the Benefits of Foreign Investment in the United States* (2006); *Deep Integration: How Transatlantic Markets are Leading Globalization* (2005); and P*artners in Prosperity: The Changing Geography of the Transatlantic Economy* (2004). Together they received the 2007 Transatlantic Leadership Award from the European-American Chamber of Commerce and the 2006 Transatlantic Business Award from the American Chamber of Commerce to the European Union.

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Endnotes

[1] *"Wann war die gesamte Erde je durch so wenige Bande so eng verbunden? Wer hatte jemals mehr Macht und mehr Maschinen, so dass mit einem einzigen Impuls, einer einzigen Fingerbewegung ganze Nationen in ihren Grundfesten erschüttert werden können?"*
[2]http://www.worldpublicopinion.org/pipa/pdf/feb08/BBCEcon_Feb08_rpt.pdf
[3]Ibid.
[4]Axel Weber, President of the Deutsche Bundebank, *"Globalisation, Monetary Policy and the Euro,"* March 7, 2008 http://www.bundesbank.de/download/presse/reden/2008/20080307_weber_oslo.php
[5]Made in Germany. Wie die deutsche Wirtschaft durch die Globalisierung gewinnt. *Spiegel Special* Nr. 5, 2008., p. 3
[6]Ibid.
[7]Gerlinde Sinn and Hans-Werner Sinn, Kaltstart. *Volkswirtschaftliche Aspekt der deutschen Vereinigung* (Tübingen: Mohr, 1992).
[8]Jan Priewe, *"Die Folgen der schnellen Privatisierung der Treuhandanstalt. Eine vorläufige Schlussbilanz,"* in Aus Politik und Zeitgeschichte, B 43-44/94 (October 1994), pp. 21-30.
[9]"Germany: Looming test of economic strengths," *Financial Times*, September 30, 2008.
[10]Nelson D. Schwartz, "U.S. Missteps are Evident, but Europe is Implicated, *New York Times*, October 13, 2008.
[11]*Washington Post*, October 7, 2008. For the story of SachsenLB's financial misadventures, see Aaron Kirchfeld and Jacqueline Simmons, "Lehman Toxic Debt Advice Led Leipzig Bank to Ruin Via Dublin," http://www.bloomberg.com/apps/news?pid=20601109&sid=aPxfNBXGvA4g&refer=home
[12]Mike Esterl and Charles Forelle, "German Banks Now Face Big Losses From Their Misadventures in Iceland," *Wall Street Journal*, October 24, 2008, p. A8.
[13]Mike Esterl and Charles Forelle, "German Banks Now Face Big Losses From Their Misadventures in Iceland," *Wall Street Journal*, October 24, 2008, p. A8.
[14]*Financial Times*, October 6, 2008.
[15]Ibid.
[16]See Andrew Batson and Ian Johnson, "China Slows, World Feels the Pain, *Wall Street Journal*, October 21, 2008; Mike Esterl, "German Exporters Feel the Financial Squeeze," *Wall Street Journal*, October 21, 2008, p. A4.
[17]German business confidence hit its lowest level in more than five years in October 2008. The Munich-based Ifo institute business climate index, based on a survey of 7,000 executives, fell to 90.2, its weakest since May 2003.
[18]GDP growth expanded by 2.5% in 2007, but consumer spending was further held in check by a big 3% increase in value-added-tax at the beginning of 2007.
[19]German Federal Statistics Office, *Statistical Yearbook 2008.*
[20]Mike Esterl, "German Exporters Feel the Financial Squeeze," *Wall Street Journal*, October 21, 2008, p. A4.
[21]German Federal Statistics Office, *Statistisches Jahrbuch 2007*, p. 478; Heribert Dieter, "Deutschland in der Weltwirtschaft des 21. Jahrhunderts, mimeo, p. 71, with gratitude to the author.
[22]"Foreign trade with the People's Republic of China: high-quality technical products in high demand," Destatis, July 25, 2008, German Federal Statistics Office.
[23]Ibid.
[24]Axel Weber, President of the Deutsche Bundesbank, "Globalisation, Monetary Policy and the Euro," March 7, 2008 http://www.bundesbank.de/download/presse/reden/2008/20080307_weber_oslo.php
[25]In the automobile industry, the share of gross value added by imports from countries with low labor costs quadrupled during this period from 7% to 28%. One key reason for this phenomenon could be the integration of eastern Europe into the European mainstream. See "Top 500 Companies Central and Eastern Europe," *Financial Times*, September 11, 2008.
[26]Michael Woodhead, "Germany still the king of exports," *Sunday Times*, March 30, 2008.
[27]German investment in China over the ten years ending in 2007 was just 6% of German investment in the United States.
[28]The Bundesbank notes that various countries such as the Netherlands are not always the country of domicile of the ultimate beneficial owners, since such countries serve as important holding company locations. It recommends looking at the source of the original investment rather than on the immediate country of origin.
[29]Japan invests 15 times more in Germany than does Russia.
[30]http://www.imf.org/external/pubs/ft/weo/2007/02/pdf/c4.pdf
[31]IMF Staff Discussion Paper, "Reaping the Benefits of Financial Globalization," June 2007, http://www.imf.org/external/np/res/docs/2007/0607.pdf
[32]http://www.imf.org/external/pubs/ft/weo/2007/02/pdf/c4.pdf
[33]IMF Staff Discussion Paper, op. cit.
[34]http://www.weforum.org/pdf/FinancialDevelopmentReport/2008.pdf
[35]Weber, op. cit.
[36]DB Research, "US-euro area economic interdependence in monetary policy: Does the ECB follow the Fed?" September 12, 2008
[37]Library of Congress – Federal Research Division, "Country Profile: Germany," April 2008, http://lcweb2.loc.gov/frd/cs/profiles/Germany.pdf
[38]McKinsey Global Institute Global Financial Stock Database. The eurozone accounted for $37.6 trillion of assets; the UK for $10 trillion; and non-euro countries Switzerland, Sweden, Iceland, Denmark and Norway for a combined $5.6

trillion.
[39]Weber, op. cit.
[40]Daniel Gross, "People Who Live in Glass Häuser," *Slate*, October 10, 2008.
[41]German goods are produced in the U.S. for export to Germany and other European markets – such as the BMW SUV X5, sports car Z4, the Mercedes SUV ML and GL and the R Class van, and Volkswagen produces its Fox brand of car in Brazil and the Golf Kombi and Beetle in Mexico. See Dieter, op. cit., p. 36.
[42]International Monetary Fund, "France: Staff Report for the 2007 Article IV Consultation," January 25, 2008, http://www.imf.org/external/pubs/ft/scr/2008/cr0875.pdf
[43]"Made in Germany. Wie die deutsche Wirtschaft durch die Globalisierung gewinnt." *Der Spiegel* Special Nr. 5, 2008., p. 3
[44]"Die Schul(d)frage," *Der Spiegel*, October 20, 2008, pp. 80-85.
[45]Jeff Dayton-Johnson, Louka T. Katseli, Gregory Maniatis, Rainer Münz and Demetrios Papademetriou, *Gaining from Migration: Towards a New Mobility System* (Paris: OECD, 2007).
[46]European Commission, "Attractive conditions for the admission and residence of highly qualified immigrants," European Commission Memo 07/423, October 23, 2007.
[47]*BDI-Manifest für Wachstum und Beschäftigung – Deutschland 2020* (Berlin: Bundesverband der Deutschen Industrie, July, 2008); Made in Germany, op. cit., p. 150; German Federal Statistics Office; "Die Zuwanderng nach Deutschland steigt," Frankfurter Allgemeine Zeitung, May 24, 2008.
[48]The government has opened labor market access for nationals from the EU accession countries in various engineering professions.
[49]Various studies by the IMF tend to support this conclusion. For an overview of the empirical evidence, see Walter Nonneman, "European Immigration and the Labor Market" (Migration Policy Institute/Bertelsmann Foundation, July 2007), http://www.migrationinformation.org/transatlantic/ImmigrationEULaborMarket_75=2507.pdf
[50]*2006 European Regional Innovation Scoreboard*,
http://www.proinno-europe.eu/ScoreBoards/Scoreboard2006/pdf/eis_2006_regional_innovation_scoreboard.pdf
[51]Deutsches Institut für Wirtschaftsforschung, *Innovationsindikator 2007* (Berlin, 2008) http://ww2.bdi.eu/initiativen/innovationsindikator/Documents/innovationsindikator_studie_2007.pdf; Studies by the European Commission conclude that Sweden, Switzerland, Finland, Denmark and Germany rank within the top tier of global innovation leaders, on a par with the U.S., Japan, Israel and Singapore.
[52]BDI, op. cit.
[53]BDI, op.cit.; Stifterverband Pressekonferenz 2007.
[54]Heike Belitz, "Deutschland nach den USA zweitgrößter Forschungsstandort für multinationale Unternehmen," *DIW Wochenbericht*, 18/2008, April 30. 2008.
[55]Ibid.
[56]Ibid.
[57]Ibid.
[58]Public investment in education of 4.6% of GDP falls below the OECD average of 5.4 percent. The "dual system" of vocational training is marked by a combination of practical work and classroom training. German industry invests €28 billion and signs contracts with 500,000 trainees annually in the system.
[59]BDI, op. cit.
[60]ECB 2008.
[61]Weber, op. cit.
[62]Deutsche Bundesbank, "Globalisation and Monetary Policy," *Monthly Bulletin*, October 2007.
[63]German Federal Statistics Office; OECD; German Economy Watch, http://germaneconomy.blogspot.com
[64]Bundesministerium für Bau, Stadtverkehr und Entwicklung, *Jahresbericht der Bundesregierung zum Stand der deutschen Einheit 2008.*
[65]Deutsche Bundesbank, *Bestanderhebung über Direktinvestitionen*, Statistische Sonderveröffentlichung, April 2008, pp. 10.
[66]Deutsche Bundesbank, "Kenngrössen von Unternehmen im Ausland mit unmittelbarer und mittelbarer deutscher Kapitalbeteiligung nach wichtigen Ländern," Stand Ende 2006, 24. April 2008.
[67]Ibid.
[68]Ibid.
[69]Deutsche Bundesbank, "Die deutschten Direktinvestitionen mit dem Ausland: neuere Entwicklungstendenzen und makroökonomische Auswirkungen," in Monatsbericht, September 2006, pp. 45-61.
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[76]*Der Spiegel*, September 24, 2007.

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[78]International Monetary Fund, *World Economic Outlook*, April 2007; Dieter Braeuninger,“ Globalisation and Distribution –Industrial Countries Also Face the Challenge,” Deutsche Bank Research, Current Issues, November 2007.
[80]Nicola Fuchs-Schündeln, Dirk Krüger, and Mathias Sommer,” Inequality Trends for Germany in the Last Two Decades: A Tale of Two Countries,” September 22, 2008, http://www.econ.upenn.edu/~dkrueger/research/germany.pdf
[81]*Made in Germany*, op. cit. p. 3. According to Eurostat, downward pressure on consumer prices due to cheaper imports contributed to a doubling in the growth rate of real consumption wages in the EU over the 1990s.
[82]The German Institute for Economic Research estimates that if annual wage increases remain 1% below annual productivity increases, the number of jobs and related working hours would increase annually by 0.4 % -- an annual increase of 130,000 jobs and an annual net plus of almost ?4 billion to German GDP.
[83]Fuchs-Schündeln, Krüger, and Sommer, op. cit., p. 16.
[84]The gap in wages between women and men in Germany, however, is among the highest in Europe. This is not due to globalization, of course, but globalization has exposed these differences. German law requires that men and women be treated equally, yet men typically earn 24% more per hour than women, among the widest gender pay gaps in Europe. Women working the same jobs at the same firms typically earn only 88% of what men do. See Mary Jordan, “In Affluent Germany, Women Still Confront Traditional Bias,” *Washington Post*, October 25, 2008
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[88]*BDI Manifest für Wachstum und Beschäftigung – Deutschland 2020* (Berlin: BDI, July, 2008).
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GERMANY AND GLOBALIZATION

BY DANIEL S. HAMILTON AND JOSEPH P. QUINLAN

"The work of Daniel Hamilton and Joseph Quinlan on globalization and transatlantic relations is compulsory reading for many entrepreneurs, politicians, journalists and academics."

- José Manuel Barroso
President of the European Commission

In recent decades walls have fallen, borders have been erased, and continents are connecting as never before. New markets beckon. Freer flows of people, money and ideas offer new opportunities. Yet more than a billion people have entered the global labor force. Food and fuel prices have soared. Financial crises threaten even the most solvent of nations.

Germans are gloomy about globalization, even though Germany has been a big winner. Germans understand that their prosperity is tied to an open and vibrant global economy, yet most believe that globalization's gains and pains have not been fairly shared. Many are anxious about the pace of global economic change. They worry that their hard-won prosperity could simply slip away, and that the future winners of globalization could live in Mumbai, Shanghai and Dubai rather than in Mannheim, Stuttgart or Dortmund.

What are globalization's gains and pains, and what do they mean for Germany? In this study Dan Hamilton and Joe Quinlan offer a balanced, up-to-date look at how globalization is affecting Germany. They map changing flows of trade, investment, people, money and ideas. They explain globalization's effect on German consumers, workers, companies and government. Who wins, who loses, and why. They highlight opportunities, identify challenges – and offer some surprising conclusions.