A Macro-Economic Analysis of the German Economy

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Abstract
This article has focused on the trade, economic sectors, culture, legal and political system and business growth in Germany. Germany can attribute its success in globalization to its attractiveness as a place to do business. Germany, boasting the largest national economy in Europe, is the world's second highest exporter specializing particularly in engineering fields such as automobiles, machinery, metals, and chemical goods. In a post-reunification world, there are complexities in German culture that make broad generalizations difficult. Similar to the majority of Western Europe, Germany operates under a civil law system. Germany, sitting in the middle of Europe and covering a landmass roughly the size of Montana, is the largest economy in Europe and the 5th largest economy in the world. It is an extremely competitive country and is renowned for a stable and transparent legal environment.

Indexing terms/Keywords: economic analysis; Germany; culture; business growth; globalization.

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INTRODUCTION
Globalization and German International Trade

Economic value is created through the innovation of new products, new processes, and/or changes in organization requiring the input of a skilled labor force. Germany's pre-war versus post-war economy reveals two very different worlds. In 1998, Germany's economy sank and unemployment skyrocketed to the highest levels since Nazi Germany. Due to the high hopes brought about by the implementation of the German Wirtschaftswunder, or economic miracle of the 1950s, Germany was seen as a prosperous and stable national economy able to provide high employment and wage rates. Germany tried to provide a positive outlook on capitalism and a Social market wirtschaft, or a social market economy. Unemployment rates of over 10.6 percent threatened Germany's entire economy built post war. In the 1990s, Germany was experiencing a stalled economy and an increasing number of unemployed workers. In contrast, the U.S. was experiencing the lowest levels of unemployment in decades and an ever increasing demand for skilled workers. The United States was successful in creating new jobs, but unsuccessful in the fact that a gigantic gap was created between the wealthy and the poor. "These two national economic experiences reflect widely different ways of organizing the economy have dictated alternative responses to the global economic order." (Lankowski, 1999) The difference between Germany’s social market and the United States’ entrepreneurial model demonstrates why each country is in their respective economic conditions today.

Since the fall of the Berlin Wall and the collapse of the USSR, Germany's economy has flourished into the seventh most competitive nation in the world. The country has benefited from diminishing embargos resulting in freer movement and higher flows of goods and services, investment, capital, people, and ideas. Germany adopted two strategies to compensate for their restricted domestic markets. First, the country was to develop export markets outside of the domestic market internationalizing German companies to take advantage of scale economies. Second, the country was to rely on a skilled labor force and high levels of human capital to produce superior quality products.

Germany has become the world's number one exporter of goods and the number three exporter of services. Germany is now ranked second as a destination for R&D investments worldwide. The country focuses their globalization strategy towards consumption oriented, rapidly developing countries. Trade surplus with both developed and developing countries contributes up to 1.9% to German GDP. Germany has doubled their exports in the past decade. "The comparative advantage of the German producer was in moderate-technology products in traditional industries, such as machine tools, automobile parts, metalworking, chemicals, and the food industry." (Lankowski, 1999) Throughout a period of tremendous growth Germany has faced some challenges. The country now must address sluggish domestic demand forcing it to become heavily reliant on export growth markets. Germany is challenged with a trade deficit in services.
Globalization has produced strong gains in both manufacturing and services trade in solar power. Germany is a leading exporter of wind turbines.

Each industry is said to have a life cycle and the most famous of the life cycle theories was introduced by Raymond Vernon who stated that “(1) the United States was the sole technological leader and the sole economic leader; (2) Germany was a follower and (3) industries evolve over a technological life cycle.” (Lankowski, 1999) This means the United States (considered the world’s technological leader with high productivity) provided Germany with technology that could be adapted resulting in lower unit costs of production and increased international competitiveness in Europe. As Germany’s economy caught up with the technology of the United States, wages and non-wage income ultimately surpassed U.S. levels of compensation.

The financial crisis of 2008 has greatly demonstrated how interconnected nations have become throughout the past few decades. The financial market issues which started in the United States made some in Europe consider abandoning America economically to go their own way. As a result, the European Central Bank raised interest rates thus causing inflation. “In the 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 U.S. quickly translates into a problem for Europe and its largest economy, Germany.” As a result of higher capital costs and lower consumer demand, German car companies were forced to decrease production. The GM owned Opel factory in the state of Thuringia is experiencing a crisis similar to the workers in Michigan. One of Germany's leading technology companies, SAP, experienced a loss of earnings due to a credit crisis, causing companies to defer spending on information technologies. In 2009 Germany's GDP dropped by 0.5% in the second and third quarter officially beginning the recession in Europe's largest economy.

Strong trade flows have assisted in boosting sales and profits of many German companies. Increased cross-border trades have resulted in lower import costs and a rise in productivity and overall earnings. Germany has strength in outflows allowing greater access to foreign markets, while rising inflows have helped increase the competitiveness of firms, thus allowing them to expand. Also, Germany is not experiencing the aging of its workforce that the United States is which allows for augmented availability of workers. The expansion in trade has become an increasing source of income and employment for workers in Germany in addition to lower cost of imports. In contrast to the national system of innovation adopted by the United States, the greatest feature of the German economic strategy is the depth of investment in human capital and the enhancement of workforce skills. The United States is characterized as solely focusing on breakthrough innovative activity instead of enhancing what is already present.

**German Economic Sectors Contributing to Trade**

Since the country is successful in its production of automobiles, it holds an advantage over most countries in this sector for the ability to build the most cutting edge automobiles along with the United States and Japan. This particular sector also enjoys intra-industry exchange with Japan for instance where the German BMW is exported to Japan and Japan's Lexus is imported into Germany. In recent times, German automakers such as Mercedes-Benz and BMW have undertaken foreign direct investment by manufacturing outside of Germany. The eclectic theory best applies to this case undertaking foreign direct investment. Choosing the location advantage such as Mercedes-Benz's decision to begin production in Alabama has enabled them to lower labor costs and obtain the most aggressive tax incentive programs. Another advantage is that “Alabama's electric utility rates are among the lowest in the U.S. The average cost for industrial users is 4.15 cents per kilowatt hour, ninth lowest in the country and well below the U.S. average (5.27 cents)” (Advantage Alabama, 2010), thus saving even more money for Mercedes-Benz.

Germany is among the world’s top industrial nations. Engineering orders from Germany grew by 67% and external demand increased by 60% for high-end German engineering equipment (Tan, 2010). The national competitive advantage theory applies to why Germany holds a competitive advantage, particularly in the expertise of engineering. The advanced technological infrastructure already in place for engineering companies gives it a strategic advantage over other nations. An advanced factor that can be applied to German companies is that its workforce possesses the education and skill set needed to generate new ideas in the engineering field. German engineering companies lead in energy efficiency, giving providers and customers a competitive edge. These companies save not only costs, but emit fewer carbon emissions which in turn protect the climate. “With strong exports and a global market share of around 20%, the German engineering sector's contribution to climate protection goes beyond national boundaries” (German engineering companies, 2009). The wind industry, which generates wind electricity, has also become increasingly competitive. Energy imports and the costs of electricity and gas have reduced due to wind-generated electricity. In 2008, the German wind industry was responsible for creating 25% of the worldwide value in the wind sector (Growth sector wind, 2009). Wind turbines installed throughout the world have created demand in German engineering expertise and production. These wind turbines and their components employ a large labor force in order to supply other nations with this innovation that protects the world climate.

A shift in the range of the automobile production sector will most likely occur in the next few years. China is rapidly producing automobiles and is determined to expand its own auto industry, which has already surpassed Japan and the United States in becoming the largest vehicle market (Automobile industry in, 2010). Germany will have to sustain its competitive advantage in this industry by investing in research and development and finding the best ways to lower labor costs in order to continue leading in this sector of international trade. The nation has taken action by opening steel plants in Spain to cut costs, through access to cheaper labor rates. Mercedes-Benz has opened a plant in Alabama, which has invested FDI into the United States. Demand for goods from Germany will still exist, particularly due to the high engineering quality that the nation is known for. Consumers demand high quality products, therefore establishing and
expanding existing German companies. The weaker Euro has also encouraged demand for exports from the country, saving costs for other nations on goods purchased from Germany. Tariff-free trade within the European Union could threaten the demand for German products, but Germany has always been recognized for quality products and the demand for them has been high. The nation will have to continue providing high quality products along with innovative ideas in order to ensure success.

German Culture

German culture comes from trying to describe a society that is well-educated and modern, with a rich cultural tradition, but also one where one quarter of the population is living below the EU definition of poverty (Societàts-Verlag, 2010). Two-thirds of the population of Germany is Christian, divided equally between Catholicism and Protestant faiths. Islam, other faiths and “unaffiliated” individuals make up the remaining third of this increasingly diverse country (Central Intelligence Agency, 2010). Even aesthetically, while German history is richly populated with philosophers, poets and musicians known throughout the Western world, at the same time, it is actively cultivating new directions in its music and literature (Societàts-Verlag, 2010).

Building on its cultural heritage, Germany has a strong educational system and can boast of a 99% literacy rate (Central Intelligence Agency, 2010). It has a multiple track system for advanced education that includes classical and technical or engineering degrees at the university level, as well as a vocational training program that is widely attended (Societàts-Verlag, 2010). This third vocational alternative, known as the “dual system”, includes both a formal classroom education component and in-company training, and is attractive since it can be completed in around three years (Federal Office for Migration and Refugees, 2010). Due to the variety of options available, a relatively high percentage of the workforce has advanced training, a strong factor in the country’s competitive profile. Together, these cultural trends and characteristics describe a diverse country with deep cultural roots and an educated population, but also a country with changing cultural directions that match its changing society.

German Business Culture: Values, Attitudes, Manners and Customs and Social Structure

Despite the changing environment, some specific comments can be made about German values and attitudes. For instance, Wierzbicka (1998) looked for cultural rules or ‘scripts’ in the speech patterns of Germans as clues to identify German values and attitudes. She concluded that where Anglo cultural scripts are linked with ‘personal autonomy’, German scripts are linked with ‘social discipline’ and ‘order’ (p. 278). There are many unspoken rules in German business culture regarding manners and customs. For instance, meetings are formal, appointments are expected, and they tend to follow an agenda. When meeting individuals, dress tends to be conservative, greetings are formal, titles should be used and distinctions between work and personal life are maintained (Kwintessential Ltd, 2010). From the perspective of social structure and the roles of the two genders, Alwin and Braun (1992) compared the attitudes of Americans and Germans with regard to women in the workplace. While both cultures were supportive of women working when there are no children at home, the Americans were more willing to approve of women working when a family has pre-school children, suggesting Germans have a more traditional view of gender roles in the workplace and at home.

Physical and Material Environment

When considering physical and material environments, Germany has many natural and man-made assets. It sits in a strategic location geographically in the centre of the European plain, has a temperate climate, well-developed highway, rail and seaport transportation options, and according to the CIA Facebook (2010), it has “one of the world’s most technologically advanced telecommunications systems as a result of intensive capital expenditures since reunification”. In support of these obvious environmental advantages, an interesting study was conducted by Sternberg and Litzenberger (2004) where they looked for empirical evidence of regional clusters of firms in Germany. They found regional clusters for automotive manufacturing in Bremen and Stuttgart (Mercedes production sites) as well as Starkenburg, Brunswick and Ingolstadt. They also looked for clusters of general manufacturing within ten subcategories including aircraft, weapons, clocks, textiles, batteries, motorcycles and media. Such regional manufacturing clusters were found in South West Saxony, Dusseldorf, Middle Upper Rhine and Donau-Ilmer. Finally, they considered regional clusters for ten service areas including financial intermediaries, transport, media, news, and R&D. In this case, the clusters were located near the major cities including Hamburg, Berlin, Munich and Frankfurt.

In all three cases, it seems that there are well-defined, and largely non-overlapping regional clusters of firms throughout the country. Higher measures of entrepreneurship were also found in these regional clusters. Sternberg and Litzenberger (2004) described such regional clusters as occurring due to a number of factors, including social infrastructure that supports entrepreneurship. The distribution of the locations and their number also suggests that Germany’s rich physical and material environmental advantages may have played a role in their creation. They support the case that Germany has a rich physical and material environment, and that this in turns provide a foundation for entrepreneurship and German economic growth.

Hofstede Framework: Germany and the US

The Hofstede framework provides a way of characterizing culture. It is based on studies conducted by Geert Hofstede while he was working at IBM. The framework measures culture based on five dimensions. The original work done by Hofstede included only four dimensions, and the fifth was added later (Hofstede & Hofstede, 2005). The first dimension in the framework is power distance (PDI). Based on the study results, Germany had a PDI score of 35 (out of 100) as compared with the US value of 40. This implies that a lesser level of social inequality is accepted by the people of Germany as compared to those of the US (Wild, Wild and Han, 2010). In his original work comparing cultures, Hofstede
(1984) noted that Germany exhibited a low level of wage inequality when compared with other countries with higher power distances, a finding consistent with the measure. The second dimension of the framework is individualism (IDV). Here, Germany scored 67 and the US value was 91. As shown in Figure A1 this dimension represents the greatest difference between the two countries. Also, as Figure A2 shows, the US had the highest ranking (1st) out of 74 countries. These figures indicate a high level of individualism in the US as compared with a more orderly Germany.

![Figure A1](image)

**Hofstede Framework Dimensions – German and US Values**


![Figure A2](image)

**Hofstede Framework Dimensions – German and US Rankings**


The third dimension of culture is achievement vs. nurturing (Hofstede originally characterized it as masculinity vs. femininity, hence it carries the notation MAS). In the study, Germany has an MAS score of 66 and the US has a score of 62. Germany is ranked 12th and the US is ranked 19th among the 74 countries, indicating that both are very achievement-oriented cultures. For Germany specifically, Hofstede & Hofstede (2005) discussed two points: the correlation between MAS and gender related measures of competitiveness, and also its relationship to the stigma associated with academic failure. For the fourth dimension, uncertainty avoidance (UAI), Germany scored 65 out of 100, and the US had a score of 46. This was the second area where there were significant differences between the US and
Germany. Based on the scores, you would expect individuals in the US to be more open to change and new ideas than a comparable group from Germany would be. Both Hofstede (1984) and Hofstede and Hofstede (2005) wrote about Germany and the impact of UAI in that culture. Specifically, they discussed its affects on business focus, rules in society, views toward illness, expectations regarding professors and classes, management focus and politics. In each case, the point was the same, that there is a cultural desire to remove sources of uncertainty in personal and business life. The fifth and final dimension of the Hofstede framework is the one that was added later, long-term orientation (LTO). The score for Germany (31) and the US (29) are similar, and are at the bottom of the group of 39 countries measured for this dimension. This indicates a shorter-term focus for both cultures. To summarize, the greatest differences between the countries and their cultures are a higher degree of individualism for the US and a higher level of uncertainty avoidance for Germany. For the other three dimensions, the two countries and cultures are fairly similar.

German Legal and Political Systems

Its current constitution, commonly known as the Basic Law, has been in effect since May 23, 1949. In October of 1990, it became the constitution of the unified Germany after the fall of the Berlin Wall (CIA, 2010). Under the Basic Law, Germany is defined as a constitutional state, representative democracy, federal state and welfare state. Section 1 stipulates that “human dignity shall be inviolable. To respect and protect it shall be the duty of all state authority.” This section is designated as the most important part of the constitution (Hartmann, 2010). In addition, the Basic Law lays out the role of political parties in presenting candidates for office and campaigning for office. The Basic Law also lays out the duties of the President and Chancellor, the Bundesrat and Bundestag, as well as the Federal Government as a whole. The Bundesrat is the council that represents the sixteen states in the federal government, and the Bundestag is the parliament of Germany (Hartmann, 2010).

The Federal Republic of Germany is divided into sixteen federal laender (states) under the federal government. States are individually responsible for education, security and police, and local government organization (Hartmann, 2010). Germany’s capital is Berlin. There are six primary political parties: Alliance ’90/Greens, Christian Democratic Union, Christian Social Union, Free Democratic Party, Left Party, and the Social Democratic Party. In elections, voters vote for a party, rather than an individual (CIA, 2010). The Bundestag, Germany’s parliament, elects the Chancellor who is head of government. The Chancellor position is modeled after the Prime Minister position in Great Britain. The current Chancellor is Angela Merkel, who was elected for her first term in 2005 and subsequently re-elected in 2009. The Chancellor determines government policy, as opposed to the President who is head of state and typically handles diplomatic and ceremonial duties.

Financial System

Germany has a robust financial system that encompasses many different sectors. The largest sector is the banking sector, which accounts for the vast majority (78%) of total assets. Within the banking sector are three groups: commercial banks that cater to businesses, savings banks that cater to individuals and cooperative banks, which handle a variety of financial transactions. After banking, the next largest sector of the financial system is the insurance and pension sector. This sector encompasses 12% of the financial system. Globally, Germany has been increasingly involved in financial transactions and insurance (International Monetary Fund, 2003). However, due to the integration of the money markets within the European Union over the past several years, it is difficult to segregate each separate country’s markets (International Monetary Fund, 2003).

The country participates heavily in foreign direct investment and welcomes other nations’ investment in Germany as well. Due to the large volume of international business activities in Germany, there are some taxation issues that arise. One such issue is transfer pricing. Transfer pricing is a tax rule that deals with related parties such as two subsidiaries of the same company. The two related parties must act as independent parties in the transaction. This rule requires that the German government inspect the transaction and decide if the income is accounted for properly. There are several provisions that define the rules for transfer pricing in Germany. In addition, there are two methods for determining the proper transfer price when conducting a transaction between related parties: the traditional transaction method and the transactional profit method. German authorities prefer that companies utilize the traditional transaction method (Fabry, 2005).

Another issue that arises when companies conduct international business is the issue of double taxation. Double taxation arises when two countries impose taxes on the same income. Typically the country where the income was earned has taxation priority over the home country of the taxpayer. Countries may have agreements with each other so that individuals would only have to pay tax in one country on their income. Germany utilizes a Double Tax Treaty that stipulates its specific rules on double taxation (Beck, 2002).

Infrastructure Support

Germany possesses the world’s best infrastructure, particularly relative to the logistics industry (Henkel, 2010). It has twenty-three international airports, twenty-two seaports, 7,500 kilometers of waterways, 231,000 kilometers of roadways and 37,900 kilometers of railways. Also, it is geographically located in the center of Europe, so it is a key location for the trade and transit of goods through the European Union. It possesses one of the most advanced telecommunications systems in the world. It has modern networks of telephone exchanges and excellent cellular coverage and service. More than 90% of Germans have cable or satellite television and 62% are internet users (CIA, 2010).
Germany is a large investor in renewable energy. It is considered by other nations to be at the forefront of initiatives to reduce climate change and develop renewable energy options. The city of Bonn in western Germany is the headquarters for the United Nations’ Framework Convention on Climate Change. Its primary goal is the reduction of harmful greenhouse gases. Approximately eleven percent of Germany’s energy consumption is comprised of some source of renewable energy (Wille, 2010).

Corporate Social Responsibility

Germany, in addition to several other EU countries, is currently developing a national plan for corporate social responsibility. This initiative will be coordinated by the Federal Ministry of Labour and Social Affairs and is tentatively called “Action Plan for CSR in Germany” (Federal Ministry, 2010). The definition of corporate social responsibility (CSR), according to Germany’s national CSR forum, is “a company’s assumption of social responsibility above and beyond what is required by law” (Federal Ministry, 2010). The general objectives of corporate social responsibility are: reduction of poverty, promotion of freedom and security, environmental protection, and increased globalization. For the most part, Germany’s large multi-national corporations are already engaging in corporate social responsibility activities, therefore the emphasis is being placed on small and medium-sized companies. The specific objectives of Germany’s corporate social responsibility strategy are to increase the visibility of CSR both domestically and internationally, and to mold the social and environmental aspects of globalization (Federal Ministry, 2010). The CSR plan will have two parts. The first part will lay out the general structure of the plan and the second part will identify the areas that will require government involvement in order to be implemented (Federal Ministry, 2010).

German National Economy

Being a developed nation, Germany practices a market economy that allows its citizens to engage in free enterprise. There is government involvement to enforce antitrust laws, preserve property rights and most recently, help to provide a stable fiscal and monetary policy. The latest Human Development Index (HDI) ranks Germany 22nd showing the government does a good job of providing its citizens with a healthy life, education and decent standard of living. According to the International Monetary Fund, Germany’s 2009 GDP was 3,352,742 (millions of USD) and is projected to grow 1.4% in 2010 and 1.6% in 2011 (see Figure A3). Germany was affected by the economic crisis over the last few years, putting it into a deep recession. GDP fell by over 4% in 2009, one of the biggest drops in the European Union, in part due to the banking crisis. Being the largest economy in Europe and a country that’s economy is reliant on their exports, Germany is heavily affected by the global economy. When global demand slows and exports drop, Germany’s economy slows as well. In 2009, out of the $3.35 trillion GDP, $1.159 trillion came from exports.

![Germany GDP (in millions USD)](image-url)

Figure A3

Germany’s Gross Domestic Product by Year


Despite the recession, employment remained relatively strong with a slight drop from 2008 to 2009 of only 0.3%. This was due in part to an adjustment in working hours and the introduction of some government subsidies. Rather than lay people off during the economic slowdown, companies and employees chose to work fewer hours in the week, which helped relieve individual households’ burdens. As with the rest of the global economy, a large part of Germany’s crisis was caused by stronger credit constraints. Government also helped to offset some of the downturn with fiscal policies like Konjunkturpaket II, a second stimulus package, cash-for-clunkers propped up with €5 billion euro and Wachstumsbeschleunigungsgesetz tax breaks which amounted to 0.25% of GDP. It is recognized, however, that these were all short-term fixes and will not sustain long-term economic growth.

The economy is expected to recover in 2010. Moving into 2011, it will not have the rate of growth Germany was accustomed to before the recession, but it will move into positive territory. With slower growth, the labor market may suffer, even with shorter workweeks. Unemployment will probably rise and workers may be laid off to match productivity with demand. From the first part of 2006 until the middle of 2008, during good economic times, the EUR/USD currency pair rose from 1.1716 to 1.5934 or 36% (see Figure A4). Although Germany no longer has its own currency, these numbers tell us that there was demand for Euros over U.S. dollars. When the value of one currency rises in relation another, it can be due to several factors. Some of those reasons might include investments in European currencies, companies or countries purchasing Euro's to pay invoices coming out of the European Union or a large amount of exports. Whatever the reason for the rise, it contributed to good economic times for Germany. Between 2008 and mid 2010 the U.S. dollar gained versus the Euro, but since June 2010 the EUR/USD has risen from 1.1964 to 1.39322 for a 19.6% gain (see Figure A4). This rise again tells us that there are investors betting on a European recovery and/or customers purchasing what the EU and its countries have to offer. We don’t expect the euro to continue to increase at such an accelerated rate, but we do expect it to continue to rise. This is a sign that the economic recovery in Europe and more particularly in Germany is underway.

Using technical analysis to compare past and current performance of German economic sectors as well as fundamental research on the economy, we have made an assessment of where to place investments for the next several years. A security we used in our assessment was the iShares MSCI German Index fund (EWG), an exchange-traded fund that tracks the performance of the German market. It also gives us a small sample size of how that market is performing. Figure A5 shows EWG moving above a two and a half year diagonal resistance line indicated by Line #1 and starting to move in a positive direction indicated by line #2. We then took a closer look by breaking the companies held in EWG into different sectors and determined how each sector is performing over the past ninety-five days using cumulative simple moving averages.

![Figure A5](https://www.thinkorswim.com/tos/displayPage.tos?webpage=clientApplication&displayFormat=hide)

*iShares MSCI German Index fund (EWG)*


During an economic recovery, certain sectors will lead the recovery while others lag. Of the leading sectors in the early recovery of a recession, industrials and materials tend to outperform their peers. A demand in materials shows us companies are starting to produce goods. Also, when industrial production starts to increase, the economy will begin to pick up due to businesses ordering more equipment for production. This increase in demand starts a domino effect which will spark more products being shipped and transported, thus leading to the need for more trucks, buses, airlines, etc. This is a positive scenario for Germany, which according to the World Fact Book is "among the world's largest and most technologically advanced producers of iron, steel, machinery, vehicles, machine too." Since most industrial equipment is made out of iron & steel, we know Germany is going to play a large role in providing industrial equipment through exports. Figure A6 shows the recent trends for both the industrial and materials sectors in Germany, signaling that the economy is starting to recover. Utility companies are the economic lagers, known to do well in a declining interest rate environments, which typically happens during early and full recessions. Although interest rates are still low, the next exhibit shows us investors expect those rates to rise. Figure A7 shows the most recent down trend of the utility sector in Germany, reaffirming we are in an early expansion with the economy. The risk to investing in the Industrial sector is it may take Germany's economy longer to recover than anticipated.
Figure A6

German Industrials and Materials: Market Trends

Looking at other investments using world trends we believe it is important to invest in areas that are environmentally friendly and promoting the “Green” movement. In 2009 the German government committed €500 million towards Electro-mobility, the development of battery technology for vehicles. Although Germany is currently behind other nations in this effort, their goal is to put one million electric cars on the road by 2020. Environmental Minister Sigmar Gabriel said “the country (Germany) plans to increase the share of renewable energy sources in its electricity mix from around 15% today to as much as 40% by 2020”. With Germany’s technological sophistication, the government’s goal to place Germany at the cutting edge of electric car production and a global push to be “Green” we believe this is an area that is going to drive Germany’s economy for the next 10 years. The risk involved in this investment is if the National Platform for Electric Mobility (NPEM), the group formed to create actionable details behind the 2009 German Development Plan for Electro-Mobility, cannot bring together all necessary parties to achieve their goal.

Foreign Investment and Trade Policies

It is open across practically all industry sectors and embraces Foreign Direct Investment (FDI). Based on their principles, policies, and the rules and regulations of their foreign trade and investments, it is a prime example of how a country should operate in order to maximize their bottom line and effectively help other countries benefit in trade. Since 2003, Germany overtook the United States to become the world export leader and its exports have grown by around eight percent each year (Germany Trade and Invest, 2009). In 2008, the goods that Germany exported were worth approximately €995 billion and imported goods were worth €819 billion, marking a high point in German trade history (German Trade and Invest, 2009). To get a better understanding of Germany’s exports, foreign direct investments and trade policies, the theory of national competitive advantage and eclectic theory will be incorporated into the discussion.

National Competitive Advantage Theory

The strength of Germany's foreign trade position can be explained using national competitive advantage theory. The national competitive advantage theory is based on Porter’s Diamond. The diamond is made up of four segments that include: factor conditions, demand conditions related and supporting industries, and firm strategy, structure and rivalry (see Figure A8). It also states that a nation’s competitiveness in an industry depends on the capacity of the industry to innovate and upgrade (International Business, p. 160-163, 2010).
Factor conditions

The factor conditions section within the national competitive advantage theory encompasses the nation’s resources. This consists of all that is predominant to a country for producing its products and exports – skilled labor, infrastructure, natural resources, etc. Germany is a leading exporter of machinery, vehicles, chemicals, and household equipment, and benefits from a highly skilled labor force. Logistics in Germany make up around twenty-eight percent of the European logistics market, making it a major player in the economic development of Europe (German Trade and Invest, 2009).

Demand conditions.

In order for Germany to keep up with sophisticated customers’ demand conditions, they are inclined to design new and modified products and technologies. Keeping an open mind towards new technologies, innovation, trade, and business activities as well as establishing close contacts and communication with other countries, aids in effectively satisfying customer demands. They pursue this with their multilateral level of open markets for German exports and having numerous bilateral and bioregional free trade agreements with third countries, such as partnerships and cooperation agreements (Auswartiges Amt., 2010).

Relating and supporting industries.

Along with the latest technology available and strong local suppliers, they have a high level of cluster development and collaboration. From the perspective of FDI inflows, foreign companies invested in 39 different sectors of Germany’s highly diversified economy (Germany Trade and Invest, 2009). Twenty-one percent was within ICT and software industry; business and financial were next by sixteen percent, followed by automotive and industrial machinery and equipment. To see a breakdown of Germany’s sectors, see Figure A9.
Germany emphasizes close ties with the United States, membership with NATO, and the strong integration among current members of the EU. Germany is also a keen advocate of the United Nations and the Organization for Security and Cooperation in Europe (OSCE). The European Union’s trade policy also deems relations with developing countries to be important. They have granted preferential access to the EU market under the Cotonou Agreement, in particular, to countries in Africa, the Caribbean and the Pacific. As part of the agreement, they can use the custom advantages of the EU’s Generalized System of Preferences (GSP). It grants all exports except arms and transitional regulations for bananas, sugar, and rice (Auswartiges Amt., 2010).

Eclectic Theory

As referenced above, an important component of Germany’s trade story is the level of foreign direct investment (FDI). According to the latest World Investment Report, Germany ranked 4th in FDI outflows and 7th in FDI inflows (United Nations Conference on Trade and Development, 2010). The sheer volume of German exports can help explain the high level of FDI outflows, since a large global production engine is required to support the export volume. However, to understand the inflows, we considered the eclectic theory of foreign direct investment. Briefly, the eclectic theory describes why a company makes a foreign direct investment in a particular location due to its characteristics, combined with the company’s ownership and internalization advantages. The United Nations Conference on Trade and Development (UNCTAD) World Investment Prospects Survey 2009-2011 supported Germany’s reputation as one of the most attractive business locations in continental Europe. It was included under the categories of market size, access to regional markets, presence of suppliers, business environment, and skills and talent (United Nations Conference on Trade and Development, 2009).

Germany has well-known innovative brands such as Bayer, Siemens, BMW, Volkswagen, Daimler, etc. In addition, their gross value added in research-intensive manufacturing and technological industries — those whose products use more than seven percent of their turnover of R&D expenses, and high-tech products whose R&D budget range between 2.5 and 7 percent of revenue generated (German Trade and Invest, 2009). This suggests to companies considering FDI that German manufacturers are capable of quickly implementing the very latest innovation.
According to The World Factbook, after the EU and the USA, Germany was listed third for exports worldwide in 2009 – $135.1 billion (CIA, 2010) as well as for imports – $966.9 billion (CIA, 2010). See Figures A10 and A11 for detailed information about Germany’s leading export and import partners and commodities for 2009. Even though Germany ranked as the sixth nation under GDP ($2.81 trillion), the European Union is displayed as the world leader – $14.43 trillion (CIA, 2010). To reiterate, that makes Germany’s share about twenty percent of EU’s GDP (see Figure A12). Having the biggest percentage of the EU economy should prove that they have acquired the advantage of being a very productive workforce.

<table>
<thead>
<tr>
<th>Share of Total GDP and Population in the European Union 2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>----------------</td>
</tr>
<tr>
<td>Germany</td>
</tr>
<tr>
<td>France</td>
</tr>
<tr>
<td>UK</td>
</tr>
<tr>
<td>Spain</td>
</tr>
<tr>
<td>Netherlands</td>
</tr>
<tr>
<td>Poland</td>
</tr>
<tr>
<td>Czech Rep.*</td>
</tr>
<tr>
<td>Slovak Rep.</td>
</tr>
<tr>
<td>USA</td>
</tr>
<tr>
<td>Japan</td>
</tr>
<tr>
<td>EU-27</td>
</tr>
<tr>
<td>Eurozone</td>
</tr>
</tbody>
</table>

* Estimate

Figure A12
Share of Total GDP and Population in the European Union 2008


Currently, the European Union has a definite market presence worldwide and is a key player in international trade and investment. Germany falls under the same policy as other EU countries when it comes to foreign investment and trade. To support the eclectic theory even further, Article 133 of the EC Treaty requires for the principles to be uniform regarding tariff rates, trade agreements, export policies, and measures to protect trade. Proposals for the common commercial policy are to be submitted to the Council where it will be reviewed and negotiated in order to make sure that it is compatible with internal policies and rules. There, the Council will act by a qualified majority. An agreement may not be concluded by the Council if it includes provisions that go beyond the Community’s internal powers, in particular by leading to harmonization of the laws or regulations of the Member States in an area for which this Treaty rules out such harmonization (Official Journal of the European Union, 2003). This means that decisions are made at a Community level internally and not by individual members outside of the Council. Internalization advantage describes the situation where a company feels it would benefit for internalizing a business activity versus leaving it to a relatively inefficient market. The stability, predictability and access offered by the EU trade environment makes an internalization decision easier. To summarize, according to the eclectic theory, when location, ownership, and internalization advantages are all present, a company will undertake FDI. For companies with ownership advantages such as a strong brand or differentiating technology, clearly, Germany has location advantages and an environment that supports internalization advantages, so that investing there makes sense, as evidenced by its relatively high level of FDI inflows.

Trade Policies

Germany has a high IP protection and effective antitrust policy. The Act Against Unfair Competition safeguards their fair competition policy and explicitly prohibits misleading advertising, governs comparative advertising and direct marketing activities. When dealing with international trade and services, embracing a wide variety of business activities opens doors to a large rise of legal relationships as well. According to the German Business Portal, “The basic rule is that the contracting parties are free to choose which national law is to govern their contractual relationships (Art. 27 EGBGB). If no choice is made, the contract will generally be governed by the law of the country of the habitual residence of the debtor. If consumer protection rights are involved, the contract is – by operation of law – governed by the law of the country of the consumer’s habitual residence, which cannot be waived.” (The German Business Portal, 2010). Having no restrictions or
barriers to capital transactions or currency transfers, real estate purchases, repatriation of profits, or access to foreign exchanges, the legal framework for FDI in Germany favors the principle of freedom of foreign trade and payment.

**International Business Growth Trends in Key Economic Sectors**

As discussed in sections 5 and 6, Germany is Europe’s largest economy and the world’s fifth largest. Also, according to the Central Intelligence Agency World Fact Book (2010), it has 82 million people or 17% of the European Union (EU) population (see Figure A12). That makes Germany the largest country in the EU on the basis of population. It also has 20% of the EU’s Gross Domestic Product (GDP). The German economy can be described as well-developed and diversified. Automotive, machinery and equipment, chemicals, metal and metal processing, textiles, and foodstuffs are high-demand sectors and the focus of international business activities in the German economy.

**Germany’s Exports**

Despite the recent international financial recession, Germany has increased its exports. As discussed in Section 6, between 2003 and 2008, its exports grew about 8% per year, and its 2008 export amount of 995 billion was the largest export amount in Germany’s trade history (German Business Portal, 2009). Comparing the top five export countries in 2009, Germany, with exports of $1.15 trillion, was the second largest exporter in the world, and only slightly behind China’s export figure of $1.20 trillion (Table A1). Germany’s main export partners are France at 10.2%, the U.S. at 6.7%, Netherlands at 6.7%, UK at 6.6%, Italy at 6.3%, Austria at 6%, China at 4.5%, and Switzerland at 4.4% (see Figure A10).

**Table A1**

<table>
<thead>
<tr>
<th>Country</th>
<th>Import Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>$1,204,000,000,000</td>
</tr>
<tr>
<td>Germany</td>
<td>$1,159,000,000,000</td>
</tr>
<tr>
<td>United States</td>
<td>$1,046,000,000,000</td>
</tr>
<tr>
<td>Japan</td>
<td>$542,300,000,000</td>
</tr>
<tr>
<td>France</td>
<td>$472,700,000,000</td>
</tr>
</tbody>
</table>


**Figure A10**

*Germany’s Leading Export Partners for 2009*

Germany's Imports

Again, as noted in Section 6, the value of Germany's imported goods in 2008 was € 819 billion (German Business Portal, 2009). Germany's main import partners are Netherlands 12.71%, France at 8.3%, Belgium at 7.19%, China at 6.89%, Italy at 5.88%, UK at 4.76%, Austria at 4.55%, the U.S. at 4.25%, and Switzerland at 4.07%. Table A2 shows the top five import countries and amounts for 2009 (see Figure A11).

Table A2

<table>
<thead>
<tr>
<th>Country</th>
<th>Import Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>$ 1,563,000,000,000</td>
</tr>
<tr>
<td>Germany</td>
<td>$ 966,900,000,000</td>
</tr>
<tr>
<td>China</td>
<td>$ 954,300,000,000</td>
</tr>
<tr>
<td>France</td>
<td>$ 538,900,000,000</td>
</tr>
<tr>
<td>Japan</td>
<td>$ 499,700,000,000</td>
</tr>
</tbody>
</table>


Automotive Industry

The automotive industry is one of the most critical sectors in Germany. German autos are famous for their quality and safety worldwide. The German automotive industry is the largest automotive market in Europe. In 2009, 3.8 million new vehicles were registered, 700,000 of which were imported autos. With 3.34 million exported autos, the automotive industry is the country's top export goods in 2009. Every day, ten new automotive patents are given in Germany. Likewise, € 20.9 billion was spent in 2009 for research and development studies, which show 4.4% increase in comparison with 2008. The workforce of the automotive industry is about 723,000 (Automotive Industry Profile: Germany, 2009). The
German automotive market value was $54.02 billion in 2003. It had 20.2% of the European market. In 2003, the German automobile market sales were 3.4 million. The compound annual growth rate in the 1999-2003 periods was -3.9% (Automotive Industry Profile: Germany, 2004).

Machinery and Equipment Industry

In 2005 annual turnover rate in machinery and equipment industry in Germany was 5.6%. The rates increased and become 10.6% in 2006, and 13.8 in 2007 (Invest in Germany, 2008). This is the second largest sector in Germany. The workforce of the machinery and equipment industry is 939,000. Germany’s export is 19% of machinery sector in the world. Germany had 28% of the registered patent in machinery sector in the world. Machinery is one of the fastest growing sectors, and the number of the companies in the sector is 6,099 (Industrial Machinery Industry Profile: Global, 2009).

Chemical Industry

Germany’s chemical industry is the largest sector in Europe and fourth largest sector in the world. The workforce is 400,000 in the sector. In 2009, the chemical industry exported € 109.4 billion. The sector had the largest import rates (with 11.6 %) in Germany. The number of companies in this sector is about 2,000. Chemical Industry in Germany had a value of $198.4 in 2008. In the chemical industry, Germany has a 20.7% market share in Europe in 2008 (Chemical Industry Profile: Germany, 2009). The German chemicals market value was $136.1 billion in 2004. The compound annual growth rate in the period of 2000-2004 was -0.3%. Germany had 21.3% market share in Europe in the chemical industry in 2004 (Chemical Industry Profile: Germany, 2005).

Metal and Metal Processing

The metal industry is the fourth largest sector in the country. Germany is the largest steel producer in Europe. Germany has 15.2% of the European metal market share. The industry is based on importing raw metal materials. The German metal industry had a value of $42 billion in 2009. In the period of 2005-2009, the industry’s compound annual rate was -10.9% (Metal and Mining Industry Profile: Germany, 2009). The German metal industry’s value was $45.4 billion in 2005. In the period 2001-2005, the industry’s compound annual growth rate was13.8%. Germany’s market share was 13% in European metal markets (Metal and Mining Industry Profile: Germany, 2006).

Textiles

Germany is the second largest textile importer in the world after the U.S. Therefore, it has received the attention of various textile exporting countries for three decades. In addition, the workforce in the sector is 130,000, and there are 1,300 textile companies in Germany. The German textile industry had a value of $33.1 billion in 2009. In the period of 2005-2009, the industry’s compound annual rate was -2.2%. Germany had 14.9% of the European textiles market share in 2009 (Textiles Industry Profile: Germany, 2009). The German textile industry’s value was 36.5 billion in 2005. Germany’s market share was 22.9% in European textiles markets in 2004 (Textiles Industry Profile: Germany, 2005).

Foodstuff

Germany has the largest foodstuff market in Europe, and it is the second largest food producer in Europe. The foodstuff market is the fifth largest sector in the country. The workforce is 535,000 and the number of companies is 5,800. In 2009, the foodstuff industry exported € 39.2 billion. Germany has 14.1% of the European foodstuff market share. The German foodstuff industry has the largest market share, with a value of $234.8 billion in Europe in 2009. In the period of 2005-2009, the industry’s compound annual rate was 2.1% (Food Retail Industry Profile: Germany, 2009). The German foodstuff market value was $150 billion in 2005. The compound annual growth rate in the period of 2000-2004 was 2.5%. Germany had a 14.8% market share in Europe in the foodstuff industry in 2004 (Food Retail Industry Profile: Germany, 2005).

Sector Growth Forecasts

Germany’s automotive market is very competitive, and German products are known for their high performance, sustainability, and quality. The compound annual growth rate in the 2004-2009 periods was 1.1%. In terms of these values, the compound annual growth rate of the market is predicted to be the same values (Automotive Industry Profile: Germany, 2009). Germany is one of the world’s export leaders in the machinery and equipment industry with 18% global trade share (Invest in Germany, 2008). Based on the sector’s annual turnover rates, it can be said that it keeps its growing in the next years. Germany’s central place in Europe makes it a key player in distribution of chemical products. The compound annual growth rate of the market in the period 2004-2008 was 5.6%. In terms of these values and the global growth of the chemical sector, German chemicals will able to show an increase of 7.4% for next 5 years. In the period of 2008-2013, the compound annual growth rate can be 4.1% (Chemical Industry Profile: Germany, 2009). Germany is one of the key processing nations, and it needs to import raw metal to maintain its position. In the German metals industry, an important growth can be expected in five years; the compound annual growth rate of the industry can reach more than 10 %. Thus, the metal industry’s market value can be more than $70 billion in 2014 (Metal and Mining Industry Profile: Germany, 2009).

Germany is the second largest textile importer in the world. However, the German textiles industry has experienced declining sales over the past 5 years. This decrease may continue for the next five years. On an annual basis, a 3% annual decline in sales is predicted (Textiles Industry Profile: Germany, 2009). The German foodstuff industry is very attractive because there is an increasing demand for low prices and quality, as well as interest in organic products. Germany has opportunities to provide these kinds of products. Therefore, in the foodstuff industry growth can be expected.
over the next five years. The compound annual growth rate of the industry can reach more than 2.5%. Thus, the foodstuff industry's market value could be more than $265.5 billion in 2014 (Food Retail Industry Profile: Germany, 2009).

References


