EUROPEAN ECONOMY & JAPANESE ECONOMY- AN ANALYSIS OF DRAGHINOMICS V/S ABENOMICS

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Introduction

The economy of Japan had been staggered for almost two decades since early 1990s after the burst of Japanese asset price bubble. The slipping GDP during the 90's and the nominal interest rates stuck at zero, led to further problems. The real GDP growth between 1993 and 2012 averaged just 0.8%[1]. Additionally, Japan's economy was further impacted by the 2008 recession and by the devastating earthquake and tsunami in 2011. On 26th December 2012, Shinzo Abe became the Prime Minister and introduced an economic program called "Abenomics" consisting of three components, also referred as "three arrows".[2] The three arrows of Abenomics consists of 1) bold monetary policy, 2) flexible fiscal policy and 3) growth strategy to promote private investment. Abenomics was able to raise 2013 output to 1.8%. However the long term effect of Abenomics is yet to be determined.

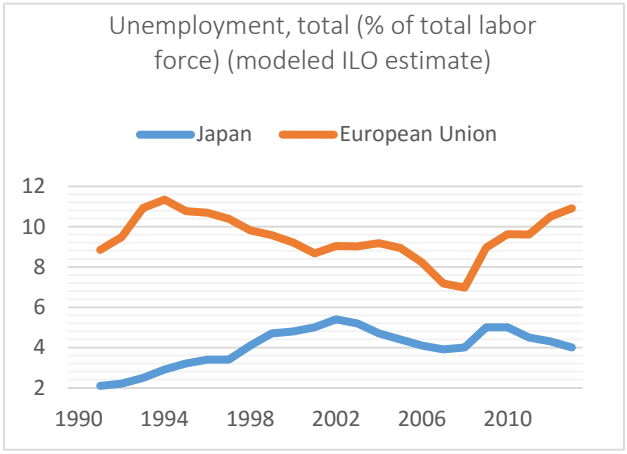


Figure 1: Unemployment Comparison

On a similar thread, the European economy is also going through its own set of crisis. The great depression of 2009, erupted the European Debt Crisis (or the Eurozone crisis) where states were unable to repay or refinance the government debt. As a result several of the government and central banks have asked for bailouts. In order to lift the economy, European Central Bank President Mario Draghi, in 2014, has called for several qualitative and quantitative packages to lift the euro-zone economy out of lethargy. As like Abenomics, three areas identified in Draghinomics, were 1) acceleration of structural reforms, 2) fiscal consolidation to improve GDP growth, 3) qualitative and credit easing to boost private sector growth. There has been a slight recovery in the growth rates of some of the countries, but still the long term effect is yet to be determined.

There has been a lot of research in the area of "*Japanification*" of the European economy. Through this study we intend to first understand the complexities involved in each of these economies in a greater depth. And later compare the economic states of the two economies – Japan and Eurozone – and the effectiveness of the two policies in place with

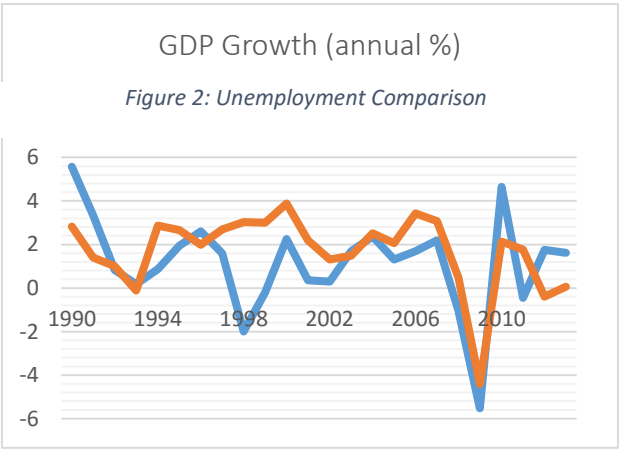


Figure 2: Unemployment Comparison

Figure 3: GDP Comparison

[1] Source: World Bank Data on Annual percentage growth rate of GDP at market prices. Aggregates are based on constant 2005 U.S. dollars.

[2] Abenomics: Preliminary Analysis and Outlook, Joshua K. Hausman and Johannes F. Wieland, Brookings Papers on Economic Activity; Spring 2014 Conference. http://www.brookings.edu/~/media/projects/bpea/spring-2014/2014a_hausman.pdf

respect to classical macro-economic theories.

European Union

Greece – The throne that the Gods abdicated

The story of Greece is an interesting one. It had a glorious past sparkled with legends, the likes of Aristotle, Plato, Alexander and the mythical Hercules. In order to truly understand and appreciate the pinnacle of Greece, we need to turn the pages of history and go back to 5th century B.C.E., when the Greeks enjoyed a form of governance that was alien to the rest of the world of that era – "Democracy". Greece at that time enjoyed a prosperous economy, flourishing trade, a strong Navy to defend the invasion of the strongest of nations including Persia. They had friendly relations with other countries in the Western Europe and had strong allies in the Warrior state of Sparta. But these days of bliss were short-lived. A fallout of democracy led to a series of invasions, finally restored to its state of beauty and pride by Alexander the Great, though the governance changed from being a democracy to monarchy. Irrespective of the changes, Greece continued to enjoy a good economy[3].

Moving ahead in time, we can see Greece surviving the World War II, civil war and moving ahead to join the European Union. Though there were intermittent setbacks, the real downfall began after the Global Recession of 2008 and the economy could never recover from the set back. How exactly did a country with such a rich history get to a dismal state which is almost as if the Gods abdicated the throne of Greece? To understand the probable reasons that led to this spiralling downfall we need to analyse the time line from the formation of the European Union to the current date at a greater depth. The analysis is presented in the following sections.

Post inclusion into Eurozone

Greece joined the European Union in the year 2000 based on a number of criteria such as inflation rate, GDP, public debt etc. Inclusion into the Eurozone saw a rise in the fortune of Greece with a consistent rise in most of the macroeconomic indicators of Greece. This section briefly describes the various indicators.

GDP

As seen in Figure 3[4], the period from 1993 till 2008 saw a consistent YOY growth of approximately 5% in the country's GDP. But there is a declining trend post-recession, and as per World Bank data, the GDP in 2013 had come down by almost 27% since 2008. Service sector is the major contributor to the GDP with 80.6% share followed by the Industrial sector (15.9%) and agriculture (3.5%)[5].

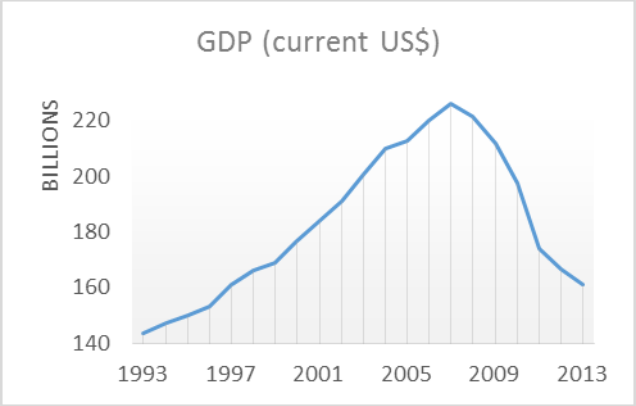


Figure 5: Greece GDP

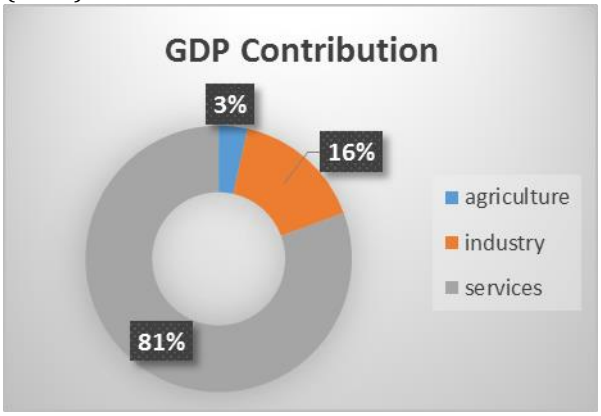


Figure 4: GDP Contribution

[3] "From Democrats to Kings: The Downfall of Athens to the Epic Rise of Alexander the Great"; Michael Scott; Icon Books Ltd; 2009

[4] Source: World Bank Data

[5] "CIA World Factbook: Greece, country profile". CIA.

Service Sector

Tourism is one of the major contributors to the country's economy. Greece being the origin of "Olympics" has been historically associated with tourism, and currently it contributes 18.2% of the GDP with approximately 16 million tourists visiting Greece every year[6]. It employs close to 19% of the country's labour force5. This industry is still flourishing and as per a recent report there are hostel rooms selling at 1600 euro/night8. But due to lack of structural reforms there is barely any development in the infrastructure. Banks are not willing to lend money to develop new hotels8. Given tourism being one of the major contributors to the country's revenue the government should take swift action in terms of expanding this sector.

Figure 6: Goods Export[4]

Tourism is followed by the shipping industry with 7.6% of Greek GDP and employs 3.5% of the labour force[7]. But there are two major problems with the shipping industry: (1) A majority of workers involved in the industry are not Greeks, hence there is still an opportunity to increase the domestic employment in this sector, (2) Even though the industry is worth $106 billion, the industry doesn't pay tax on international earnings, hence the government loses out on a huge amount of tax revenue[8].

Another important sector with a potential to play a major role in the future is the energy sector. Currently it contributes close to 4% to the Greek GVA[9] (GVA = GDP – Taxes + Subsidy), the interesting part of the Greece's energy sector is the availability of sustainable energy sources, for instance with 300 days of sunlight available, solar energy is one of the sources of sustainable energy.

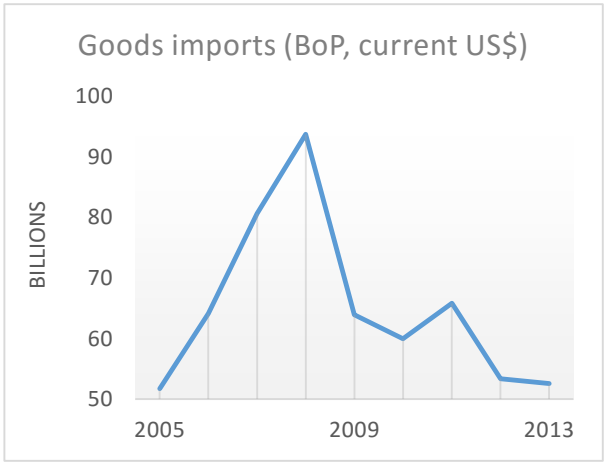


Figure 7: Goods Import[4]

Industry

The manufacturing sector in Greece comprises of 4 major contributors: (1) Food Processing: accounts for 30% of manufacturing GVA and 20% of employment, (2) Heavy Industry: 26% of manufacturing GVA and 33% of employment, (3) Beverages: 10% GVA, (4) Smaller size subsectors contributing to the rest 34% of GVA9. This sector has seen a growth of 4.4% YOY in terms of Volume between 1999 and 2008. But it was hit badly by the recession. As far as energy production is concerned, government has been pushing for renewable sources of energy, with solar power being one prominent area.

[6] *Tourism in OECD Countries 2008: Trends and Policies*. OECD. 2008.
[7] "Shipping industry is key growth driver for Greek economy"; http://www.sqemarine.com/page/446/19/shipping-industry-is-key-growth-driver-for-greek-economy; Accessed on 25th July 2015
[8] "How Greece can save itself"; Peter Coy & Demitra Kessenides; Business Week, Bloomberg L.P
[9] "Greece 10 years ahead: Defining Greece's new growth model & strategy"; McKinsey & Company; March 2012

Agriculture & Fishery

Greece is a major producer of cotton, pistachios, rice and olives apart from other commodities like tomato, figs and tobacco etc.[10]. It employs 12.4% of the country's labour force5. Fishing is also a prominent activity in Greece. It accounted for 19% of the total EU's fishing haul in the Mediterranean Sea in 2007[11].

Export/Import

Greece is a major exporter of refined petroleum oil (9.4%) followed by packaged medicaments (5.7%) and wheat (2.6%). The balance of trade has been negative since the recession but has shown signs of improvement recently due to reduction in imports & slight improvement in the exports. Turkey, Italy, Germany and Bulgaria are the top 4 importers of products from Greece. While major exporters to Greece being Russia, Germany, Italy and Saudi Arabia[12]. The important thing to note in this is that the biggest importers of Greece are within EU, hence the economic downturn in EU countries can have direct impact on Greece's economy. If instead the country could increase its exports to other countries beyond the European Union, it will help in reducing such a risk. The trends in Goods export/import are summarised in Figures 5 and 6. The major exports of Greece are summarised in figure 10[13].

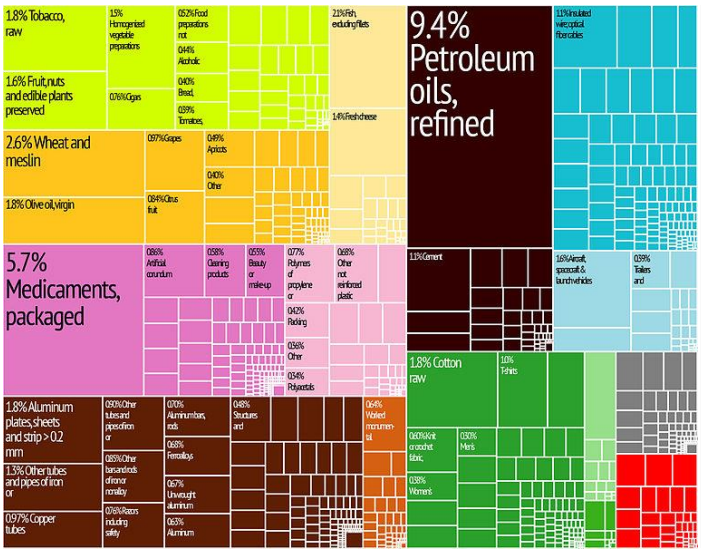


Figure 11: Major Exports - Greece[13]

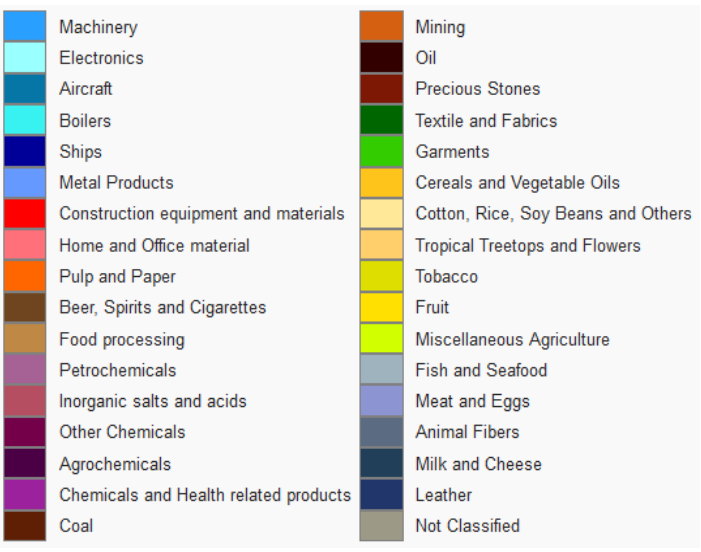


Figure 10: Legends[13]

As seen from the plots (7 & 8), even the services exports has seen slight increase after a steep downfall due to recession. The services imports has been low thereby improving the balance of trade. The overall Balance of Trade is shown in the figure 11.

[10] "The range of agricultural holdings and fruit and vegetable production"; Agriculture and Fisheries; Eurostat; Dated 07/02/2001.

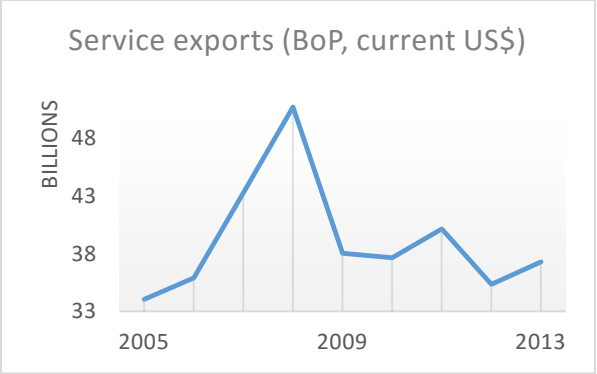
[11] "Fisheries Statistics: 1995-2008"; Eurostat; Accessed on 25th July 2015

[12] "ITC Trade Map Database"; http://www.trademap.org/; WTO-ITC; Accessed on 25th July 2015

[13] Economic Complexity Observatory, MIT Media Lab and the Center for International Development at Harvard University; R. Haussmann, Cesar Hidalgo.

Figure 9: Service Export4

Figure 8: Service Import4



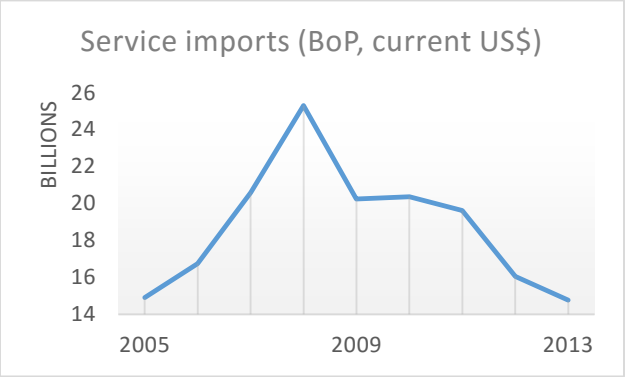
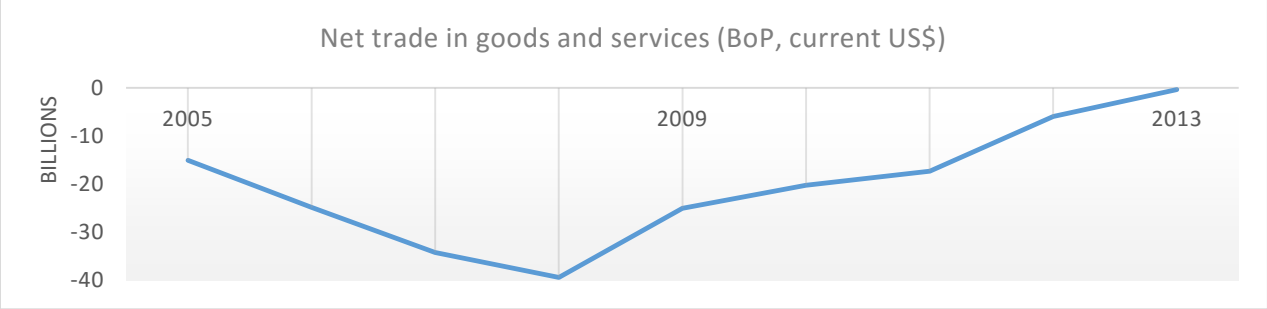


Figure 12: Net Trade[4]



Population and Employment

The population of Greece saw a healthy growth until the recession, but has been on the declining trend thereafter. The current population of Greece is 10,775,643 (2015)[14]. Currently there is over 20% population above the age of 65% while only 14% below the age of 14. The population pyramid in Figure 12 shows the population at different age groups for both male and female[14].

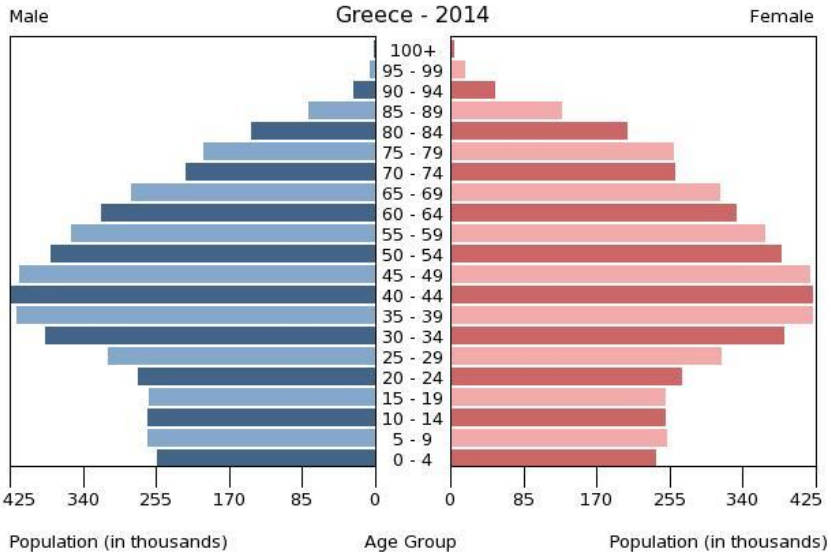


Figure 13: Population Pyramid-Greece[14]

[14] People & Society: Greece; CIA Factbook; https://www.cia.gov/library/publications/the-world-factbook/geos/gr.html; Accessed on 25th July 2015

As the percentage of population in different age groups suggest, Greece is currently facing a negative population growth rate of approximately -1% (2012-2013). Also the higher percentage of population in the upper age group leads to reduction in the labour force. Apart from this the average age of retirement in Greece is lower (50-54 years)[15] as compared other countries in EU, this further reduces the proportion of working population and increases the burden on the government in terms of pension related schemes. Lower age of retirement also leads to reduction in the spending rate of the population, this could move the "Demand" curve inwards thereby negatively impacting the economy. This is a vicious as the reduction in the demand and domestic demand leads to lower drive for production, this leads to lower requirement of workforce and hence higher unemployment rates. These facts are substantiated in Figures 13 & 14. As seen in Figure 14 the unemployment rate is almost 30% of the labour force, which in itself is experiencing a negative growth rate.

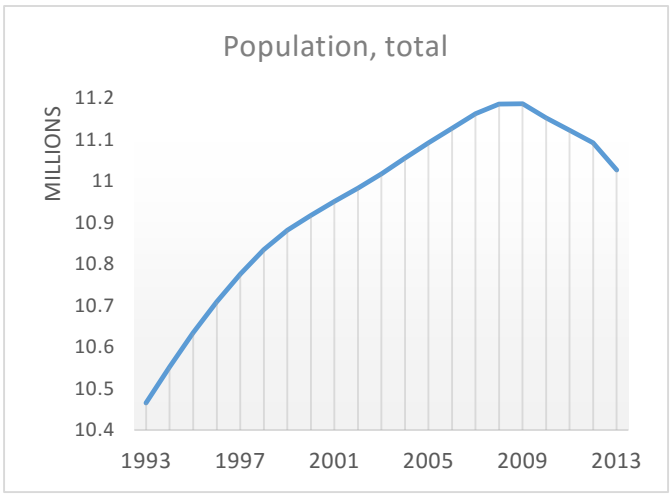


Figure 16: Greece Population[4]

Demand in the Economy

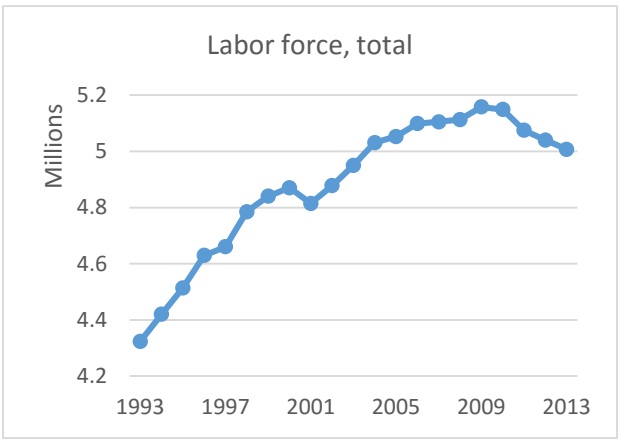


Figure 14: Labor Force - Greece[4]

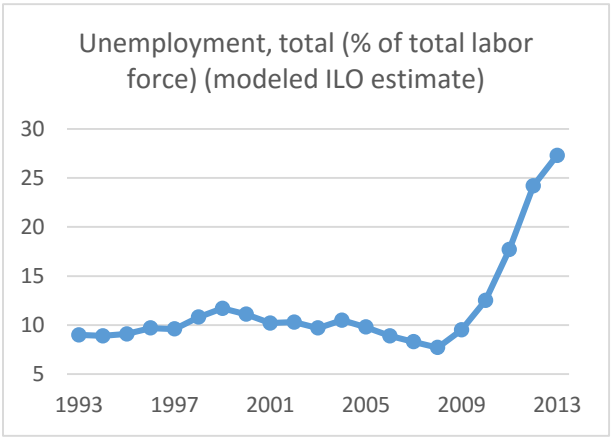


Figure 15: Unemployment - Greece[4]

As discussed in the previous sections domestic conditions like lower employment, declining population etc. have a negative impact on the economy. When the internal demand is low, countries rely on exports for sale of goods which can drive production. But as seen in Figure 16[16], the external sector is small and hence exports are also lower. This further makes the economy more dependent on the domestic demand. But deflationary pressures further lead to slack in domestic demand. Even industries and other manufacturing sectors postpone purchase decisions to take advantage of falling prices. This leads to further reduction in demand. This is effect can be clearly observed in the trend for domestic demand in Greece as seen in Figure 18. Further trends in the domestic demand of Greece are provided in the Appendix A2.

[15] "How Greece can save itself"; Peter Coy & Demitra Kessenides; Business Week, Bloomberg L.P
[16] Euromonitor International from national sources/Eurostat/OECD/IMF

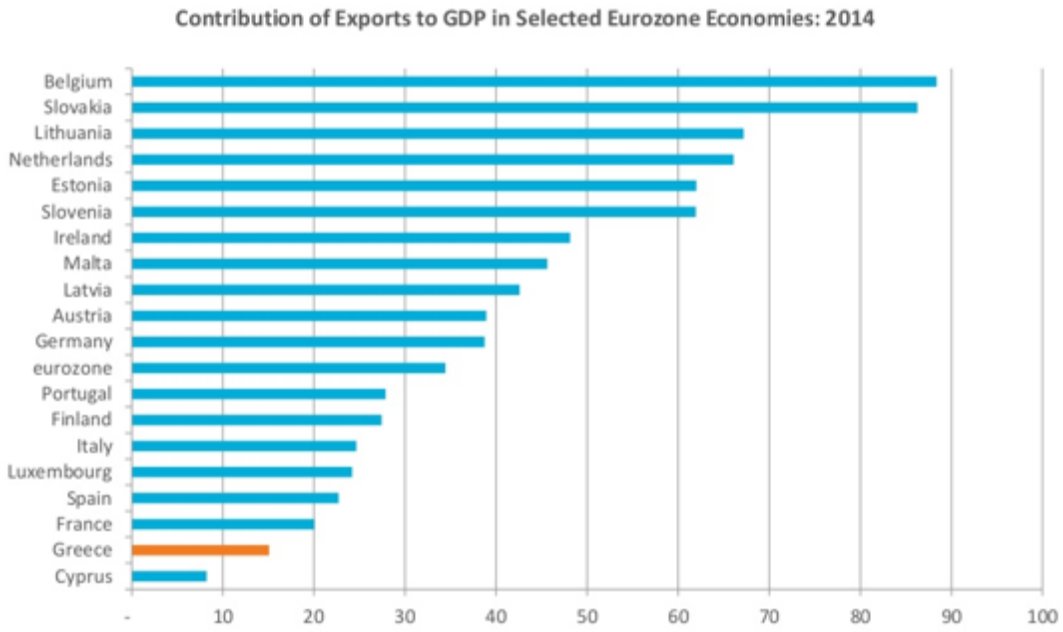


Figure 17: Contribution of Exports to GDP[16]

As per World-Bank data the domestic demand is low in Greece, with slight recovery post 2013 but even then it is quite low, pretty close to almost Zero demand. Apart from the domestic demand, even the Government spending/consumption has taken a hit especially post-recession. This kind of trend when the domestic spending is low again hampers the growth of the economy.

Public Debt & Foreign Investments

Some other interesting factors that should be considered are public debt and investment. Increase in public debt increases pressure on the Government and the threat of the government going insolvent. Subsequently Beta value goes up and hence reduces the foreign investments.

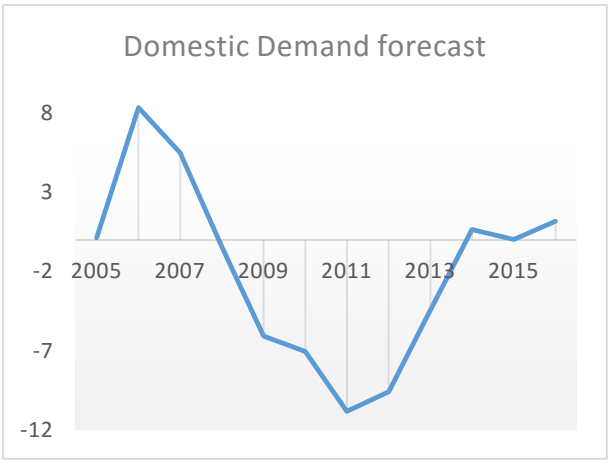


Figure 19: Domestic Demand Forecast[4]

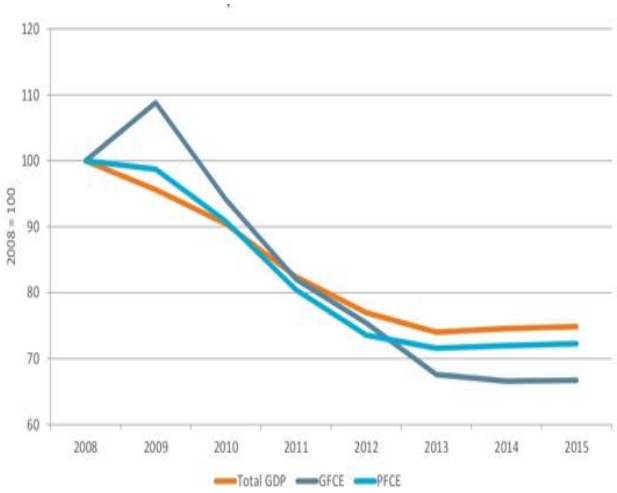


Figure 18: Spending - Greece[16]

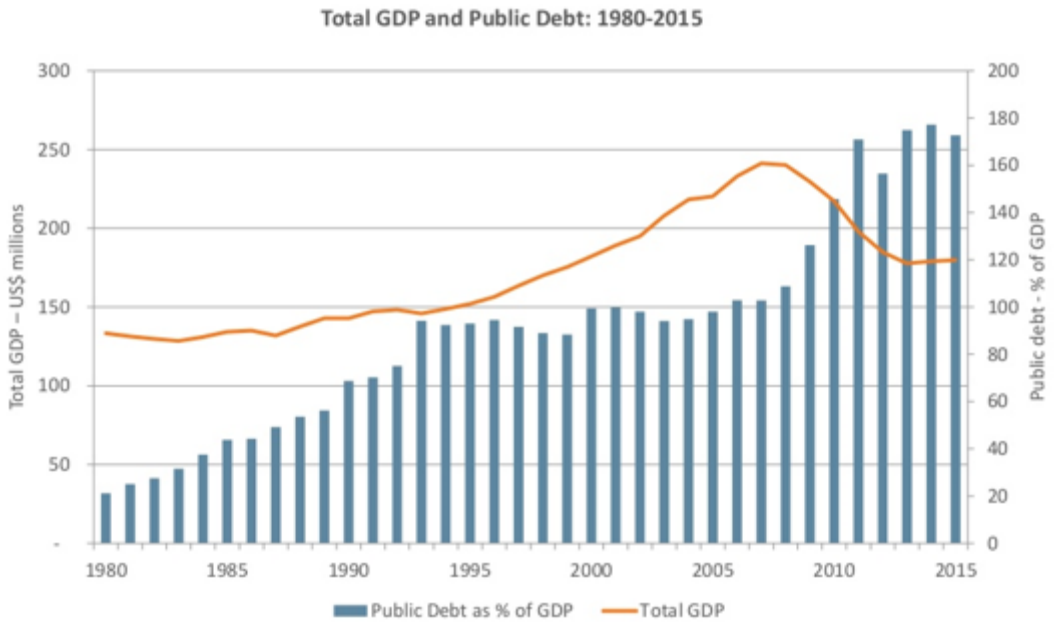


Figure 20: GDP and Public Debt - Greece[16]

As seen in Figure 19, the public debt is close to 170-180% of the country's GDP which in itself is in a negative growth phase. Further Figure 20 shows the negative growth of FDI, indicating the lack of faith in the Greece economy of external investors.

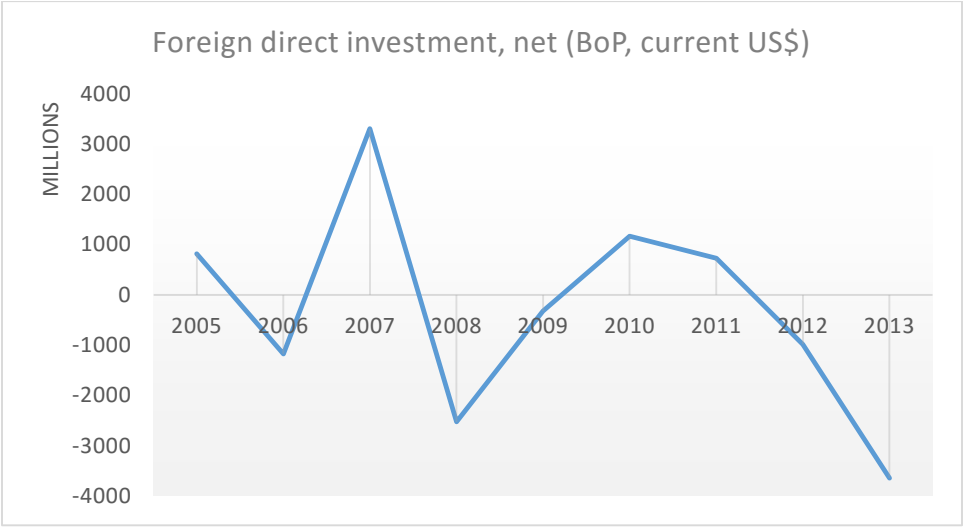


Figure 21: Greece FDI4

Current Scenario and Brief Analysis

As per today, most of the reforms taken by the President of European Central Bank (Mr. Mario Draghi) have been in in terms of monetary reforms. Further loan is being provided to Greece to pay off the previous debts. This decision could partially be due to the pressure from the lending countries to recover their loans.

But if we look at some of the key issues with respect to Greece from the data provided in the previous section:

1. Declining GDP

2. Declining population
3. Lower retirement age
4. Increasing unemployment
5. Lower domestic demand
6. Lower FDI
7. High public debt

None of them can get resolved by only altering the monetary policies. Through the current policies the LM curve will move outwards but unless the IS curve also moves outward this will not lead to a permanent solution. Providing only monetary support will only be like hitting the can to a few paces ahead on the road.

If instead the money being lent to Greece is used by the government in structural reforms, for instance to boost the tourism sector then it will create a further source of income that can not only help drive the economy further but also help Greece in servicing the loans taken from the other countries.

Structural reforms will also lead to increase in the domestic demand, this will help Greece come out of the deflationary pressure it is currently facing. Healthy inflation will further drive Demand outwards in the Supply Demand curve. This movement combined with structural reforms will help the Supply curve to move outwards and hence will lead to a long term growth strategy.

Without these changes, Greece seems to only be digging a deeper pit and can expect to face a similar situation again in the near future with the fears of "*Grexit"* and insolvency of the government surfacing again.

Portugal - The Imperialists

Portugal was an imperialist during the late 15th-16th Century C.E. and considered to be a global maritime power of that period. But it lost a lot of its wealth after the liberation of Brazil, one of its wealthiest colonies and the earthquake of 1755[17]. It joined the European Commission (EC) in 1986 and made a good progress as a result of it due to easier access to global markets[18]. Again just like other ailing countries of the EU, it got into economic distress due to the global recession and was forced to take loan from the IMF to stabilize its finances.

Economy

After joining EC, it slowly turned into a pretty diversified economy with increasingly service based sectors. It saw liberalization of the economy and privatization of many of the sectors over the next two decades (1986-2000). This section describes the major macroeconomic indicators to evaluate the Portuguese Economy.

GDP

The GDP saw a gradual rise from $100 billion to $250 billion in 2008 but started declining thereafter to see a recovery only after 2014. A major portion of the GDP is contributed by the service sector (75%) followed by 22.4% from industries and 2.6% from agriculture[17].

Tourism Sector

Portugal is amongst the 20 most visited countries in the world and just like Greece, tourism is one of the primary drivers of the services sector of the country. Banking and insurance sectors being few of the other industries contributing to the service sector.

Industries

[17] Global Factbook; https://www.cia.gov/library/publications/the-world-factbook/geos/po.html; Accessed on 26/8/2015

[18] Source: Wikipedia

Portugal has a diversified set of industries ranging from automotive, aerospace, electronics, textiles etc. Hydroelectricity has been the major source of energy for Portugal, with energy derived from waves also being a source. The government also encourages usage of solar power for household usage.

Agriculture

Agriculture is not a major contributor to the GDP with only 2.6%. Yet Portugal produces a wide variety of crops and livestock products including tomatoes, green vegetables, red meat etc.

Export/Import

Again just like Greece, Petroleum is one of the major contributors to the Export revenue of Portugal. The automotive industry and electronic industry being the next largest exports. The balance of payment has been negative during most of the time post-recession only to see a positive trend towards the end of 2012 and 2013. Also, unlike Greece, Portugal exports to countries beyond the European Union, with China being one of the major importers of Automotive from Portugal[19]. Goods import has declined over the years especially after the recession, due to the contractionary policies of the government. Crude Petroleum is one of the major imports in terms of value. In the services category the exports are almost close to $30 billion which is more than double that of the services import which is close to $14 billion.

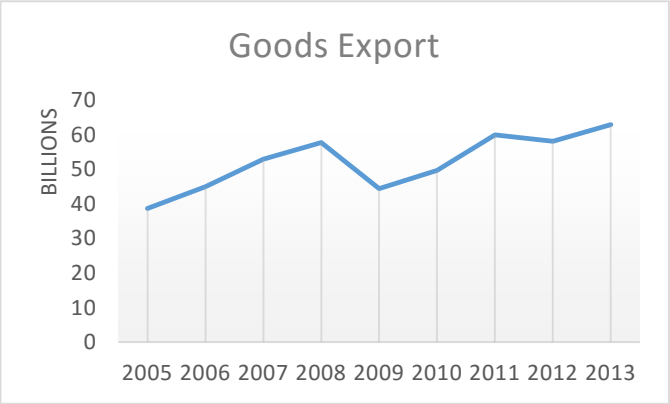


Figure 25: Goods Export-Portugal

Figure 24: Goods Import-Portugal

Figure 22: Services Export-Portugal

Figure 23: Services Import-Portugal

[19] http://www.worldsrichestcountries.com/top_portugal_exports.html; Accessed on 27/8/2015

Unlike Greece, Portugal has some portion of its exports going to countries beyond the EU. This can help protect Portugal's export revenues from any economic turmoil within EU. The major exports and imports are summarized in the figures 27 and 2

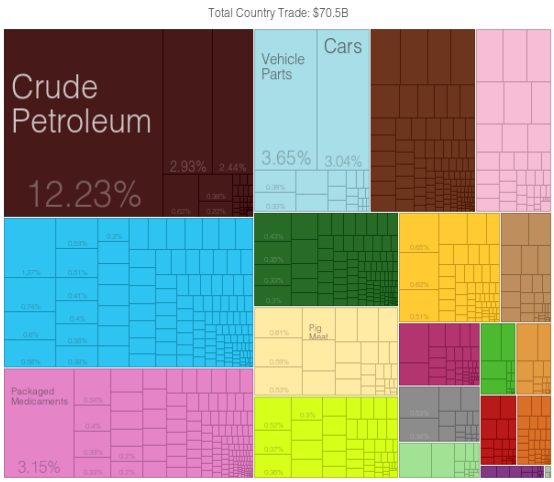


Figure 26: Import Composition-Portugal

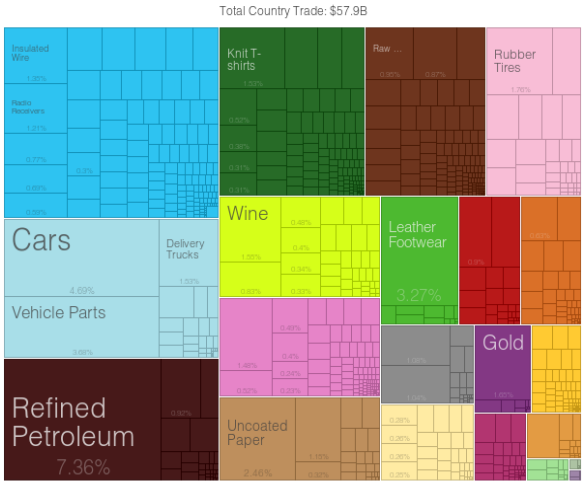


Figure 27: Export Composition-Portugal

Population and Employment

The population of Portugal saw a healthy growth until the recession, but has been on the declining trend thereafter. The current population of Portugal is 10,825,309 (2015)[20]. Currently there is over 19% population above the age of 65 while only 16% below the age of 14. The population pyramid in Figure 10 shows the population at different age groups for both male and female[20].

[20] People & Society: Greece; CIA Factbook; https://www.cia.gov/library/publications/the-world-factbook/geos/gr.html; Accessed on 25th July 2015

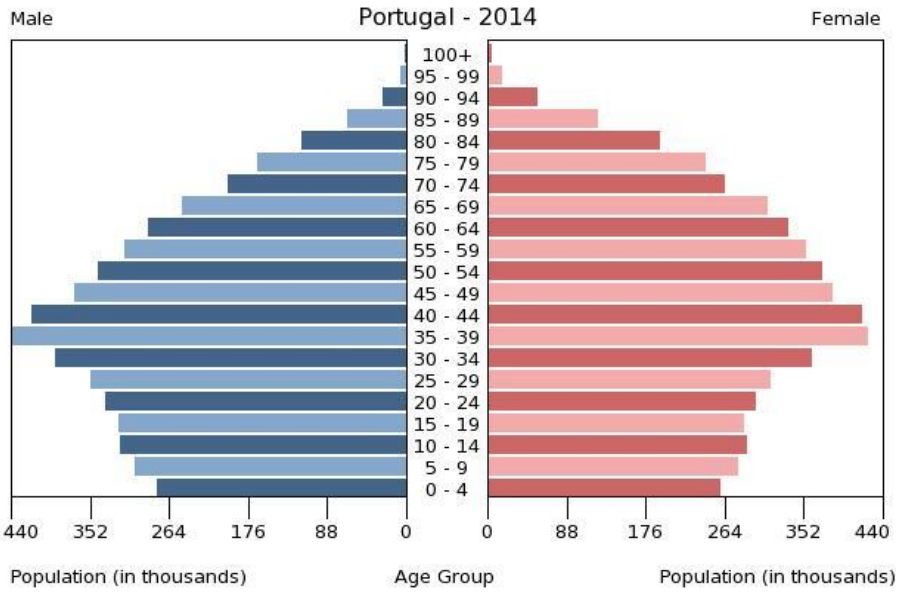
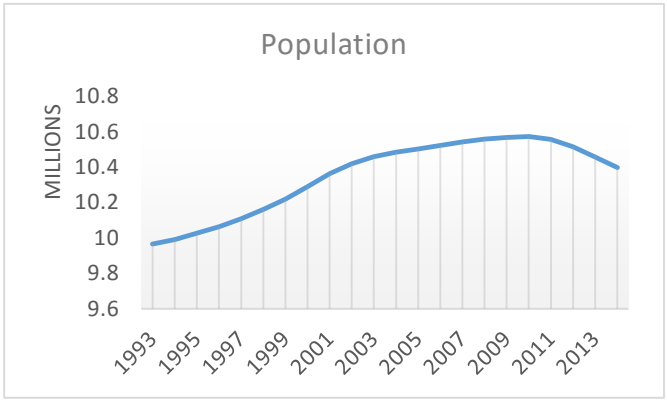
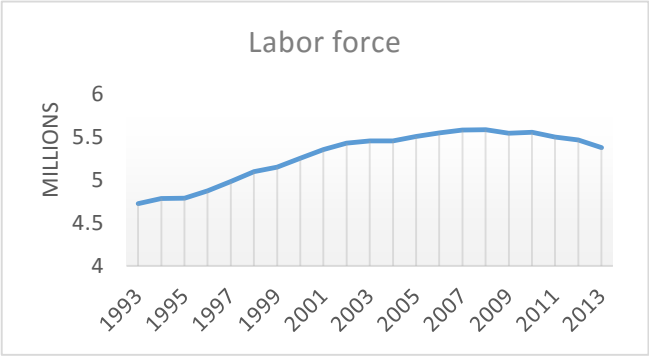


Figure 28: Population Pyramid-Portugal



The percentage of population below the age of 14 is declining. Indicating a negative population growth. A majority of population lies in the age group of 35-60 years. The current government has decided to increase the retirement age of the population, this is a wise move given a majority of the population lies in the working age group. But with a declining population this would not be sustainable unless enough measures are taken by the government to promote population growth. The working age population also provides a higher labor force which is slightly higher than Greece (close to 5.4 million as compared to 5 million in the case of Greece). But the unemployment levels are almost half of that of Greece, with 15% as compared to 25% in Greece. Portugal's labor market seems to improve with unemployment trending towards 14% in 2014[21]. Due to active labor policies taken by the government combined with decline in the labor force by 0.4% unemployment is further forecasted to reduce to 12.8% by 2016.



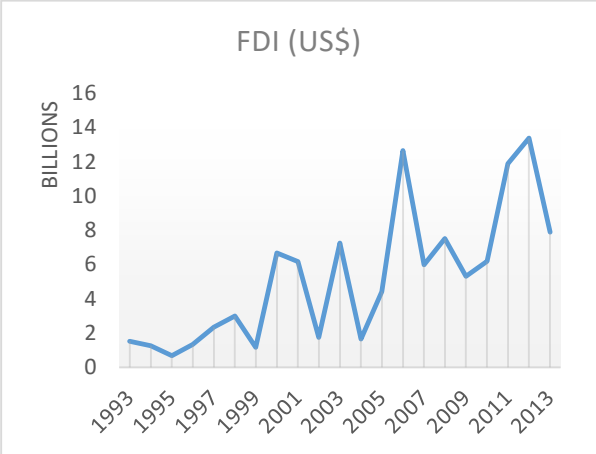
[21] http://ec.europa.eu/economy_finance/eu/forecasts/2014_autumn/pt_en.pdf

Demand in the Economy

Until 2013 exports were one of the major contributors in terms of demand and hence to the GDP. As per a European economy forecast, the exports are expected to wane and much will depend on the domestic demand to continue the economic recovery process. And the government of Portugal is acting along these lines by trying to boost private domestic demand in the country. Policies like increase in the minimum labor wage rate, reduction in interest rates have contributed positively to increasing the demand. This has also reduced the deflationary pressures on the economy.

Government Policies & FDI

Post-recession, a financial rescue package was sanctioned by the IMF to Portugal. The government of Portugal took contractionary measures that involved spending cuts and tax increases to comply with the conditions of the rescue package. This led to the inward movement of IS curve. The economic recovery gathered steam due to increase in exports. Further by reducing interest rates they succeeded in moving the LM curve outwards, thereby driving private demand. Apart from that, Government cracked down heavily on the corrupt practices prevalent in the economy and in the political circle that led to the economic downfall at the first place, it also instituted reduction of salaries of the politicians and diplomats thereby reducing the government expenditure. Apart from that the loopholes in tax collections were addressed and strict rules and vigilance was put in place to avoid tax evasions. This along with other structural changes like reduction in the rigidity of labor markets helped attract FDI which has increased over the past few years. These efforts have also helped bridge the budget deficit that Portugal Government currently faces. Although the government has been institutional in driving the economic recovery, hard policies like tax increase for the high earners has also made it quite unpopular in the influential circle. And there is a level of uncertainty looming in front of them ahead of the forthcoming elections. This along with the increasing public debt to GDP ratio (130.2%; Source: "http://www.tradingeconomics.com/portugal/government-debt-to-gdp") has also increased the risk perception of the economy and is reflected in the recent decrease in the FDI (2012-2013).



But there is no doubt looking at the policies by the government that they are working in tandem with Draghi's policies to get Portugal back on the path of growth.

France – A leader

Unlike the previously discussed countries of the EU, France has probably a completely opposite story, a story of success, of leadership. It is a permanent member of the UN Security Council, G-20, G-8, NATO, EU and many other multilateral organizations. France has had a rich history, a successful period of monarchy, period of enlightenment through the renaissance, the French revolution overthrowing monarchy etc. It was occupied by the Germans during the WW-II only to be liberated in 1944. A higher fertility rate combined with growth oriented policies post WW-II led to further development and economic recovery. And despite slow economic growth in the recent years and issues with Muslims, it still remains a strong economic and political power in the Common Era[22].

[22] Source: Wikipedia; https://en.wikipedia.org/wiki/History_of_France

French Economy

France has a well-diversified economy spanning across many sectors. France has the sixth largest economy by nominal figures and by PPP figures it ranks 9th in the world[23]. The GDP of France has seen a constant rise since the early 90's with some signs of slowing down post-recession, but has maintained a steady level of close to $3 trillion. We will look at the macroeconomic factors of France in this section.

GDP

The GDP of France as per 2014 data is $2.847 trillion with a positive growth rate of 0.4% YoY. The per capita GDP is close to $40,400 which is quite high as compared to Portugal ($27,000) and Greece. The GDP again like Portugal and Greece is more or less dominated by the services sector with 78.9% share, followed by the industrial sector (19.4%) and agriculture sector with 1.7%. Tourism sector is one of the prominent contributors to the GDP. Chemical industry being another major sector in France[24].

Tourism Sector

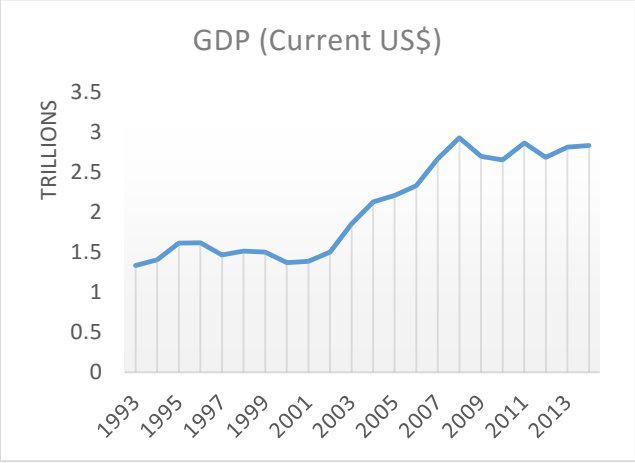
Tourism is a prominent sector in the French economy with close to 81.9 million foreign tourists visiting France in a year (2007)[25].

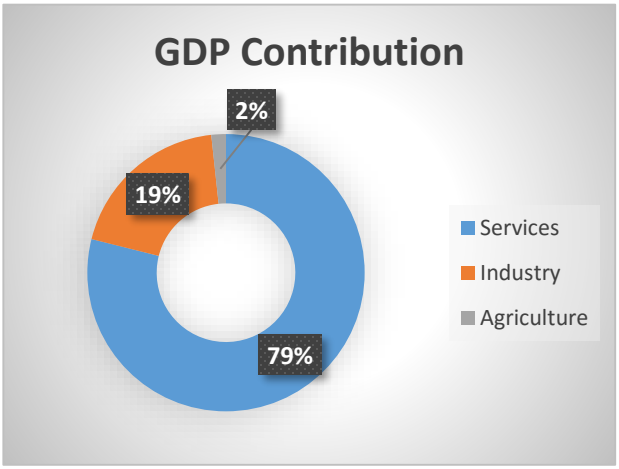
Industries

The leading industries in France include chemicals, textiles, telecommunication, aerospace and defense, automobile production[26]. France is in fact the 4th largest weapons exporter in the world[27]. It had world's 31 largest companies in 2013 spread across multiple sectors, some major names being – AXA (insurance), Air France, L'Oreal, Areva (Nuclear Energy), Michelin, Total, Renault-Nissan etc[26].

Agriculture

France is the 6th largest agricultural producer in the world and accounts for one-third of all agricultural land within the EU. France is also the 2nd largest exporter of Agricultural produce after US. The principal exports of France being Wheat, meat and dairy products. It presses advantage in competition from US due to the high quality and world renown of its produce, especially cheese and wine[26].





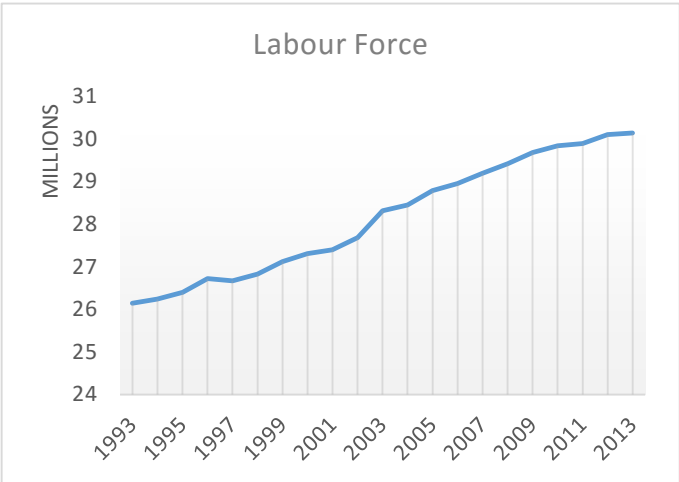
[23] "Gross domestic product 2008" (PDF). World Bank. Retrieved 27 Aug 2015
[24] http://www.invest-in-france.org/Medias/Publications/227/Chemical%20Industry.pdf
[25] "Le tourisme international en France en 2007" (PDF) (in French). Direction du Tourisme (French government's tourism agency).
[26] Source: Wikipedia; https://en.wikipedia.org/wiki/Economy_of_France
[27] SIPRI Arms Transfers Database, data 2000–10. Stockholm International Peace Research Institute

Export/Import

France has been the 2nd largest trading nation in the EU (after Germany). It enjoyed a surplus in the BOP in trade until the recession, post which there has been a slowdown and currently a deficit of close to $30 billion. Goods Export and Import run neck to neck with both being close to $600 billion. Services Export lies marginally ahead of Services import which is close to $250 billion. In terms of products, heavy vehicles like Planes, Spacecraft etc. contribute the highest to the GDP in terms of value (6.72% of GDP) followed by packaged medicaments (5.16%). 60% of French foreign trade is within the EU with the rest spread across the world. Appendix A3 show the nations France exports to and composition. As far as imports are concerned Crude and Refined petroleum are two major imports in terms of value contributing to almost 11.93% of the country's trade. The graphics illustrating the import composition is provided in A3. The YoY performance of Goods export and imports are provided in Appendix A3.

Population and Labor market

The current population of France is close to 66 million with a growth rate of 0.43%. A higher proportion of population (38%) lie in the age group of 25-54 years[30]. This is a healthy sign for France as the majority population lies in the working age group. The labor force has seen a constant rise with reaching close to 30 million by 2014[28]. The labor productivity levels are pretty high in France[29] but it has lower workforce participation rate, i.e. they tend to work for fewer hours per day (Paul Krugman). This is also partly responsible for the unemployment levels which is close to 24%[30]. Many actions have been taken by the government of France to try and reduce the



[28] Source: Worldbank Data

[29] "Labour productivity levels in Europe" by Monsieur Fou - Own work. Licensed under CC BY-SA 3.0 via Commons - https://commons.wikimedia.org/wiki/File:Labour_productivity_levels_in_europe.svg#/media/File:Labour_productivity_levels_in_europe.svg

[30] Source: CIA World Factbook; https://www.cia.gov/library/publications/the-world-factbook/geos/fr.html

unemployment levels, one such method to make supply side reforms, but it failed to earn any positive results. According to Krugman two main reasons for the unemployment levels are: 1) generous college aid and 2) lower retirement age.

Another interesting piece of information is the fact that 82% of the people hired were on temporary basis. This was attributed as the "Floating generation" as they preferred temporary jobs as compared to full time employment. The reason behind that though is 3 folds – 1) An elitist educational tradition doesn't integrate graduates into the workforce 2) Rigid labor market makes it difficult for newcomers to enter and 3) the tax systems makes it expensive for the companies to hire or lay off full time employees. This situation makes people commute to the neighboring Luxembourg for higher paying and better jobs. Currently the labor force is adequate and hence this is not posing any major threats but if the Government of France needs to restructure the labor laws and tax regime in order to avoid this trend. Else the labor force supply might reduce in the near future[26].

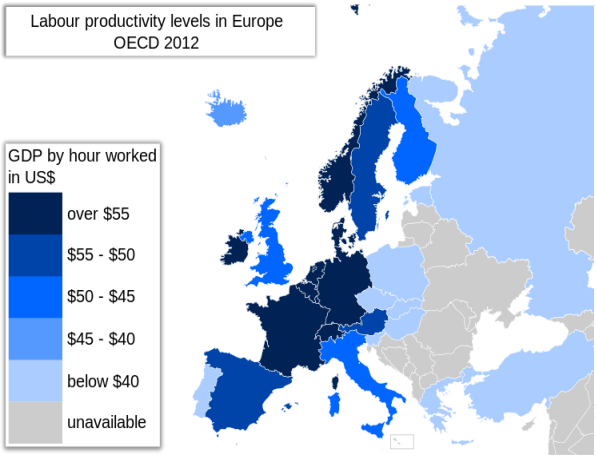


Figure 30: Labor Productivity levels - France

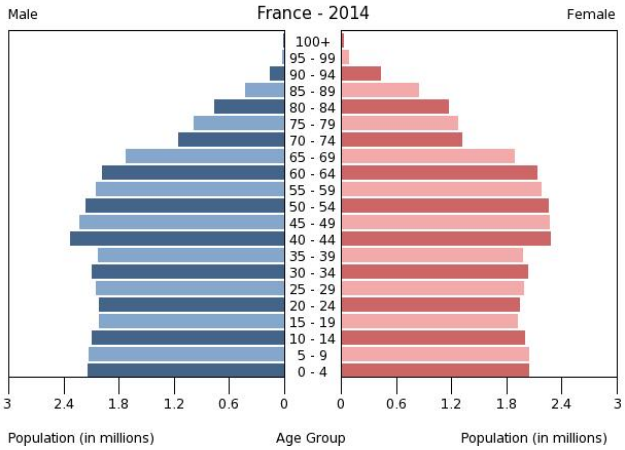


Figure 29: Population Pyramid

Public Debt and FDI

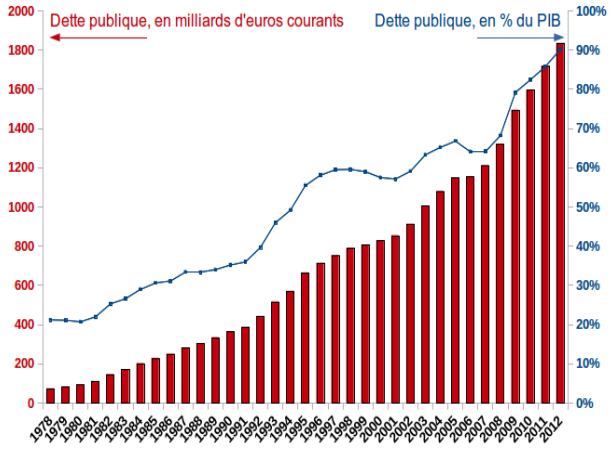


Figure 32: Public Debt

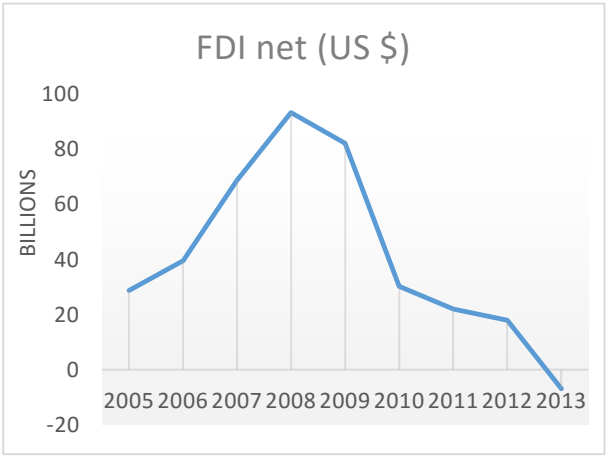


Figure 31: FDI levels in France

Post-recession the public debt of France have seen a considerable rise. The public debt reached $1,833 billion by the mid-2012. It was equivalent to 91% of country's GDP[31]. The credit ratings of the country by many rating agencies like S&P and Moody's have taken a hit due to this, it has come down from being at AAA to AA in 2014[32]. As shown in the figure 32, the public debt has been constantly rising since 1978. The red bars indicate the debt in terms of million Euros and the blue line indicates it as percentage of GDP[33]. Due to this the FDI has taken a direct hit which has reduced from being close to $100 billion in 2008 to almost zero in 2013. In order to take corrective actions, the latest government has taken action to reduce the austerity measures and cancel the tax cuts and exemptions being provided to the wealthy and raising the top tax bracket to 75% on incomes over 1 million Euros26.

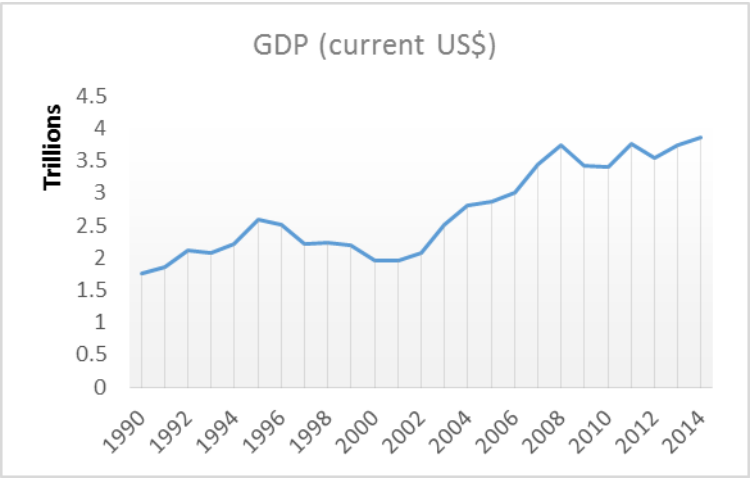
Germany

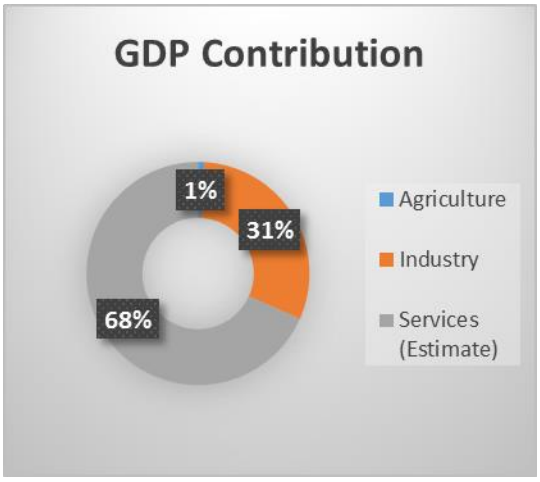
Germany is the largest economy in Europe. It is also the second populous country in Europe after Russia. The country has suffered the devastation in the two world wars which left the country invaded by the allied powers of US, UK, France and the Soviet Union in 1945. Germany was then divided into West Germany and East Germany, the former being democratic and the latter being communist. The decline of the Soviet Union in 1990 led to the unification of the two parts into Germany. In 1990, Germany along with 10 other countries adopted the common currency of European Union, the Euro.

The German Economy

Germany has the fifth largest economy in the world in PPP values and Europe's largest economy. It is among the largest and most technologically advanced producers of iron & steel, automobiles, cement, machinery, vehicles, coal, shipbuilding, textiles and many more. The country benefits from its highly skilled workforce. The country's GDP has seen a constant rise since the early 90's with some slowing down post-recession of 2008, but has maintained a steady level of close to $4 trillion. We will look at some of the macroeconomic factors of Germany in this section.

GDP





[31] "French debt jumps, minister promises to meet deficit target". FRANCE 24. 28 September 2012.

[32] Deenpattern dots, Mark (12 December 2014). "France's Credit Rating Cut by Fitch to 'AA'; Outlook Stable". *Bloomberg.com*. Bloomberg.

[33] "Dette publique france percent du PIB" by Gedefr pour la version actuelle, MaCRoEco pour la version initiale - INSEE : http://www.insee.fr/fr/themes/comptes-nationaux/souschapitre.asp?id=61 tableau 3.341. Licensed under CC BY-SA 3.0 via Commons - https://commons.wikimedia.org/wiki/File:Dette_publique_france_percent_du_PIB.png#/media/File:Dette_publique_france_percent_du_PIB.png

The GDP of Germany is at USD 3.8 trillion as of 2014 with a real growth rate of 1.6% (2014) and a per capita GDP (PPP) of $45900. The GDP is dominated by the services sector with 68.4% share, followed by the industrial sector (30.8%) and agriculture sector with 0.9%. With almost 72% of the population involved in services sector, it is the major contributor of the GDP of the country. It includes the industries such as the construction industry, retail industry, logistics industry, financial and consulting industry, real estate industry and others[34]. IT services and research and development industries have a high potential of growth. Banking and insurance companies are concentrated in Frankfurt where the leading banking sector – European Central Bank, the German Central Bank and the Deutsche Borse are all headquartered[35].

Germany was a latecomer to Industrial Revolution, but by 1910 it was one of the world leaders in industrial development alongside US and the UK. Germany is home to 37 of the world's 500 largest stock market listed corporations including Volkswagen, Siemens, Daimler, BASF, BMW, Robert Bosch, ThyssenKrupp, Bayer, Adidas, Aldi Lidl and Hugo Boss[36]. Germany's industrial sector is driven by many small and medium sized enterprises and are generally family owned.

Export/Import

Germany is the third largest exporter and importer in the world. In 2014, it had the highest trade surplus in the world making it the biggest global capital exporter. The net of export and import amounts to 4.4% of GDP with total exports amounting to 45.7% of GDP. Most of the exports of Germany consists of industrially produced goods and services which include engine parts, automobiles and other vehicle parts and chemicals. Major export partners include France, Netherlands, US, Austria, China, Italy, Switzerland, Poland and Belgium. Major imports products consists of oil and gas, metals, vehicle parts, chemicals, electric equipment and pharmaceuticals. Major import partners are European Union, China, US, Switzerland and Russia. Figure 34 shows a summary of all imports and exports of Germany. Graphs displaying the export and import trends are shown in Appendix (A4).

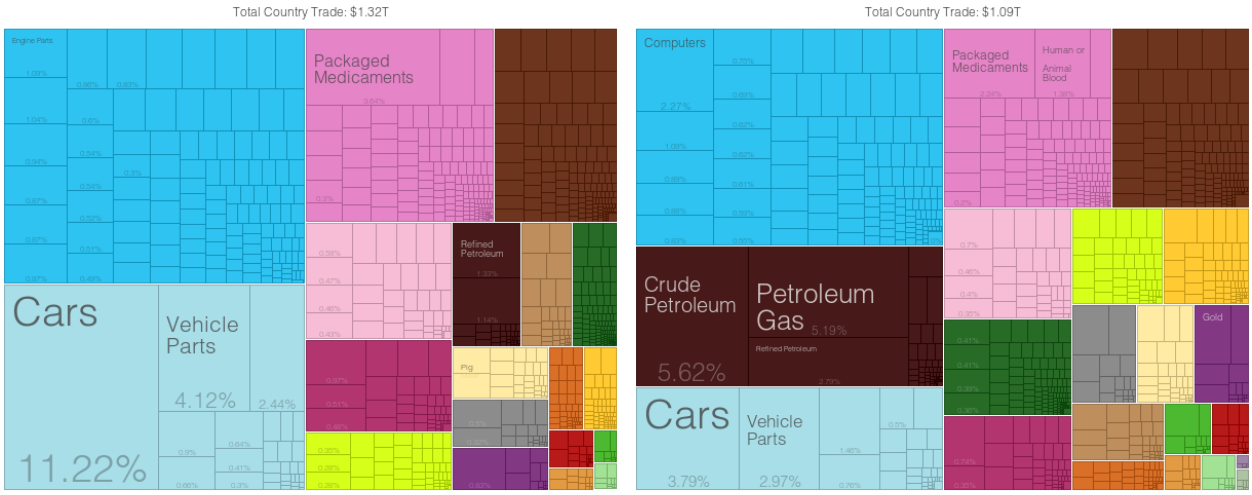


Figure 33: Germany's Export (left) and Import (right) as of 2012

[34] Service Industry, iXPOS – The German Business Portal, accessed on 28th August 2015, http://www.ixpos.de/IXPOS/Navigation/EN/Your-business-in-germany/Eu-service-market/service-industry.html

[35] Facts about Germany, accessed on 28th August 2015, http://www.tatsachen-ueber-deutschland.de/en/economy/main-content-06/strong-sectors-in-industry-and-service-providers.html

[36] Germany Industry Sectors, Economy Watch, accessed on 28th August 2015, http://www.economywatch.com/world_economy/germany/industry-sector-industries.html

Population and Labor market

The demographics of Germany is not very different from the rest of the Eurozone. With a median age of 46.1 years, the population of Germany is aging faster. As estimated by the Central Intelligence Agency, the death rate in Germany (11.42 deaths/1000 people) is faster than the birth rate (8.47 births/1000 people) leading to decline in the population and hence the workforce in the country. The population of the country is at 81 million in 2014 and might fall to 68-73 million by 2060 with lower number of immigrants due to the stricter immigration laws and anti-immigration movements.

The country faces a total dependency of 52.1% which includes 19.8% of youth dependency (age 0-14 years) and 32.3% of elderly dependency (age 65+ years). With the increase in the median age of the country, the elderly dependence will rise in the country[37]. This will impact the export-driven economy in the long term.

The total workforce of Germany is estimated to be around 42.65 million as of 2014 with around 5% of the workforce being unemployed. A total

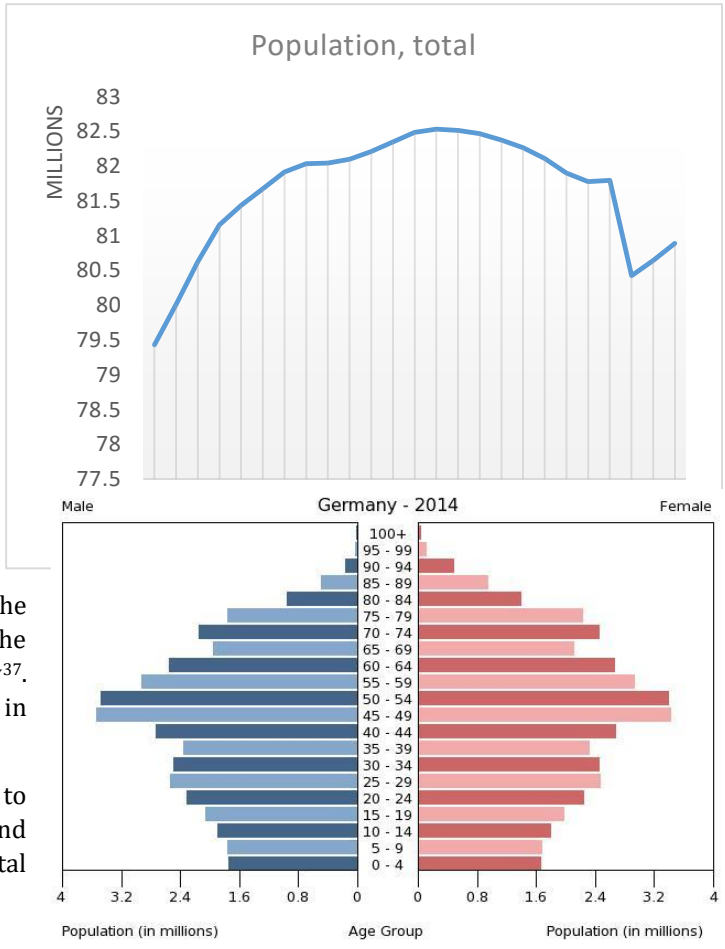


Figure 34: Population Pyramid-Germany

[37] The World Factbook, Central Intelligence Agency, a
https://www.cia.gov/library/publications/the-world-factbook/geos/gm.html

of 15.5% of the total population lives below the poverty line.

Public Debt and FDI

The country has tried to reduce the Government Debt through large amount of exports. The amount of debt had risen post 2008 recession but have been declining since 2012. Eurostat data estimates the total Government Debt of Germany at 74.7% of GDP[38].

The foreign direct investment has been fluctuating in Germany with not very clear policies set by the Government. The amount of investment by the Government has been low, but with new announcements on switching to renewable sources of energy may boost public and private investments in that sector.

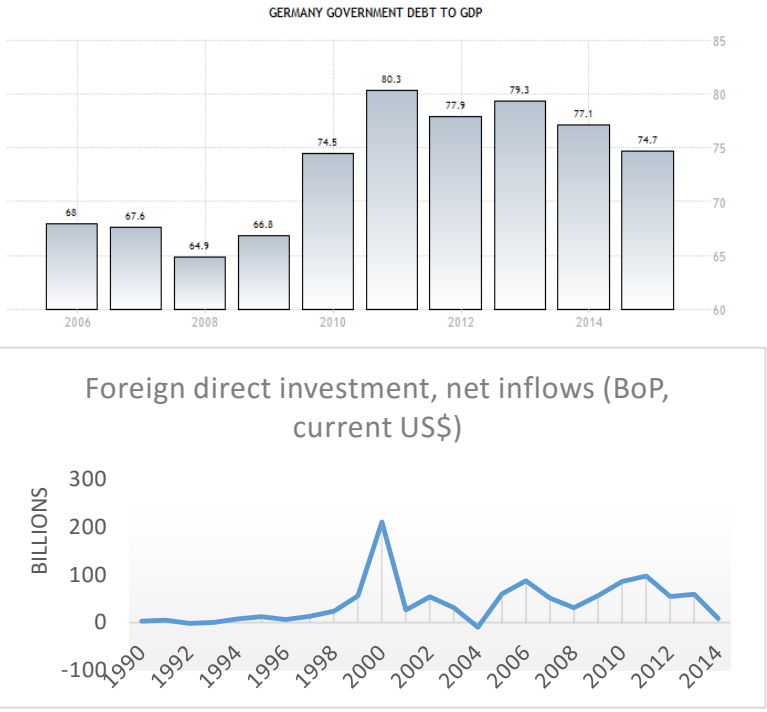


Figure 35: Germany Government's Debt to GDP

Summarizing the European Economy

So far we analyzed the economic performance of 4 representative countries of the EU and key characteristics of each of the economies. Greece showed a glim picture of a failed economy, Portugal is an example of a nation struggling hard to the path of recovery, while France and Germany represent the developed and economically strong nations in the EU. Though Draghi has formulated many policies that according to classic macroeconomic theories should help put an economy on a growth trajectory, but the results have not been uniform across all the countries. One primary reason being lack of transmission of the policies in different countries. The difference in government policies, political situation, banking sector effectiveness, varying level of public debt and also difference in psyche of people and culture could be blamed for this. This section briefly elaborates the policies implemented by Draghi or rather "Draghinomics" and the common pertinent economic issues faced by the nations in the EU.

Draghinomics & the unique challenges of the European Economy

The European Central Bank President Mario Draghi has been instrumental in setting up a framework for the recovery of the European economy after the Global recession of 2008. Like Shinzo Abe, he drew a three pronged plan for the recovery. Let us look at the 3 steps and the corresponding reactions in the four countries described before.

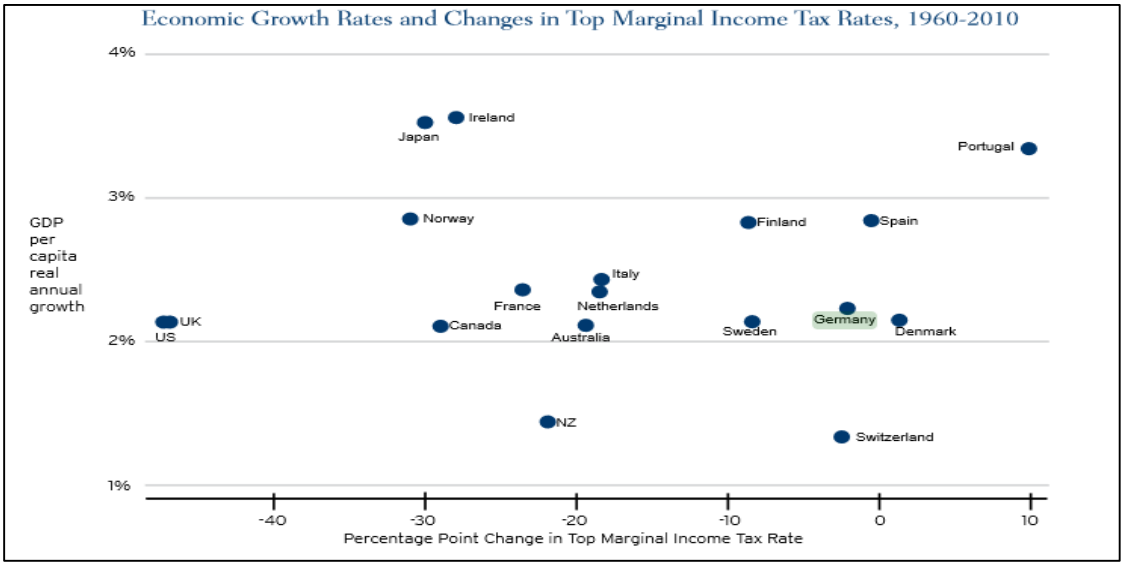
1. Monetary Policy

One of the first steps taken by Draghi was with relation to the Monetary Policy. Just like the case in Japan, Quantitative Easing was implemented to boost the economic activity. Steps like these move the LM curve outwards, thereby reducing interest rates and promote easy borrowing and hence more investments. In the

[38] Germany Government Debt to GDP, Trading Economics, accessed on 28th August 2015, http://www.tradingeconomics.com/germany/government-debt-to-gdp

early 2015, ECB announced to purchase $70 billion in sovereign debt monthly for at least one year[39]. QE though effective in the short run, it fails to drive the economy forward in the long run without support from the movement of the IS curve which is mostly controlled by government policies & public/private spending. This was experienced in Europe where at least $1.7 trillion in European sovereign bonds have reached negative bond yields[39]. Analyzing the impact on the 4 countries discussed in this paper, Greece has minimal effect from the QE. Further, it has been kept out in the latest round of QE issued by the ECB[40]. There have been very minimal investments by the Government or the Private sector in response to this policy. The unstable government, unfriendly investment policies are some of the prominent reasons for the failure of policy here. Portugal has been more or less successful in making good use of these schemes, government has tried to pass on the lower interest rates to the investors incentivizing growth, but due to problems in the banking sector the pass through has not been entirely successful. Germany on the other hand has opposed this policy of QE stating it to be causing more woes than good to the economy. Though according to ECB, QE aiming to reduce the value of Euro could help Germany in getting cheaper imports and help in supporting the growth[40]. And given Germany being one of the EU countries whose bond prices have fallen below zero due QE, it has not been entirely beneficial to Germany. France probably is one of the few countries in EU which has positively gained from the QE.

2. Fiscal Stimulus



The second step in Draghinomics is to ensure debt sustainability and aid in long term-growth. And Draghi asserted the need for tax cuts instead of increased spending. Tax cuts move the demand curve outwards, this increases the propensity to consume and hence increases private spending. The increased demand ideally should increase the pressure on supply side, not only will this drive a healthy inflation but will lead to increased production. This will lead to a snowball effect and help drive economy outward towards an optimum level. The increased private spending will move the IS curve outward and hence drive growth. But again, this has not been the case in most of the economies in the EU. One major reason as stated earlier being failure to transmit the policy as is. The rising level of public debt in countries like Greece and Portugal have forced the government to still have high taxes for the upper bracket (in terms of economy) of the population.

[39] Investopedia; http://www.investopedia.com/articles/personal-finance/031215/fundamentals-draghinomics.asp; Retrieved on 26th August 2015

[40] Europe Newsweek; http://europe.newsweek.com/germany-and-greece-losers-ecbs-quantitative-easing-plan-313740; Retrieved on 26th August 2015

Greece government in fact raised the level of indirect taxes as well, and justifies it as to provide some breathing space to the Government and support the recovery[41]. Greece and France have further problems with respect to the effectiveness of tax collection. But France has been able to gain positively due to the tax cuts as seen in the figure[42]. Germany probably has had no considerable difference due to the tax cuts.

3. Structural Reforms

The final and most vital policy of Draghinomics is – structural reform. As per Draghi all other measures will not take effect unless rapid structural reforms are instituted by the countries. Structural reforms move the IS and the Supply curve outward. This helps in the long-term stabilized growth of the economy. But this is where most countries in the EU have failed to perform. And this has in fact been one of the main challenges that has not let them realize the full benefits of the steps taken by Draghi. With a turbulent political scenario Greece has not been able to implement the structural reforms, lack of banking side reforms makes it difficult to access loans to develop new infrastructure; the tax laws have loop holes leading to tax evasions and rising public debt etc. and the results are clear with Greece still struggling to come out of the economic downfall. Portugal on the other hand has tried to take steps in this regard. The labor market reforms giving easy access to labor, also industry friendly government policies have led to more investments in the private sector. France has again not been able to perform that well in this regard, unfriendly tax laws have created hiring problems for many of the corporates within France. This has further led to people travelling outside the country to find better and high paying jobs. Germany with its stronger economy and stress on renewable energy sources has in fact been one of the few countries to have been more successful in implementing the structural reforms.

As per the discussion thus far, we saw the major policies of Draghinomics and its impact on the EU. We need to now understand briefly the Japanese economic condition and Abenomics in order to check if there could be any cross-learnings between the two economies.

Japan

Japan – One 'miracle' economy

Right from the 16th century, Japan had a large number of political reforms to become one of the largest economies in the world. However, all of the strength of Japan was spent during the Second World War. It is estimated that the country lost about one-quarter of its economic wealth and about 2 million people during the World War II. Japan reconstructed its nation to become the second largest economy in the world in less than forty years after the defeat in World War II. The country initiated some major reforms right from land reforms to labor laws which helped developed the economy at such rapid pace. The average growth rates in the 1960s was about 10%, about 5% in 1970s and about 4% in 1980s.

Economic downturn and the 'lost decades'

In the second half of the 1980s, the rising stock prices and the real estate prices created an 'economic bubble'. The bubble burst during the Tokyo Stock Exchange crash in 1990-92 and the fall of asset prices. Also, the Nikkei 225 fell almost 60% from December 1989 to August 1992. Additionally, six large Japanese cities saw land prices fall by 50 percent from 1991 to 1996 and it continued to decline thereafter. The real GDP growth between 1993 and 2012 averaged just 0.8%[43] giving rise to the term 'The Lost Decade'. There are a lot of hypotheses attributed to the lost decade – inadequate fiscal policy, the liquidity trap, lower investments due

[41] The Guardian; http://www.theguardian.com/business/live/2015/jun/23/greek-crisis-athens-creditors-deal-imf-ecb-banks-live#block-5589453ae4b0e0aeb0115449

[42] Image Source: Effects of Income Tax changes on economic growth; William G Gale, Andres A Samwick; Brookings

[43] Source: World Bank Data on Annual percentage growth rate of GDP at market prices. Aggregates are based on constant 2005 U.S. dollars.

to over-investments during the bubble period and the problems with financial intermediation[44]. The liquidity trap is the situation where the central bank is unable to lower nominal interest rates as they are already close to zero. Additionally, high personal savings rates in Japan, owing to the aging population and the dependence on traditional banks for loans at lower interest rates became a major concern when the banks tried to increase the interest rates. The Lost Decade is also due to the fall in the growth rate of total factor productivity (reduction of steady-state growth path and increase in capital-output ratio) and also to the reduction of the workweek length due to revision of the Labor Standards Law in 1988.

Early 2000's and Abenomics

Japanese economy has been stagnated since 1992 leading to two 'lost decades' (1990-2010). In addition, the 2008 recession and then after the major earthquake and tsunami in March 2011 further hit the Japanese Economy.

Shinzo Abe, the president of Liberal Democratic Party (LDP) became the prime minister on 26th December 2012 after a landslide victory. Abe's bold strategy by the name of 'Abenomics' is undoubtedly the most ambitious attempt to revive the Japanese Economy. Abe's three pronged strategy (also known as the three arrows) are the combined use of expansionary monetary, fiscal and structural policies to boost economic growth[45].

1. **Monetary Policy:** Prime Minister Shinzo Abe reasoned that the Bank of Japan should increase the inflation target and participate in 'unlimited quantitative easing'. The Bank of Japan then set a 2% inflation target which was the highest year-on-year inflation rate in Japan since 1991[46].
2. **Fiscal Policy:** In order to reduce the fiscal deficits, consumption tax was increased from 5 to 8 percent in April 2014 and is planned to increase additionally by 2 percent in October 2015. IMF projects that the primary budget deficit will decline from 8.5% of potential GDP in 2013 to 6% in 2014 and 4.8% in 2015.
3. **Structural Reforms:** The proposed structural reforms are largely vague, but it may include less protection for farmers, relaxations of labour market rigidities and utility deregulation.

We will look at some of the macroeconomic factors of Japan in this section.

GDP

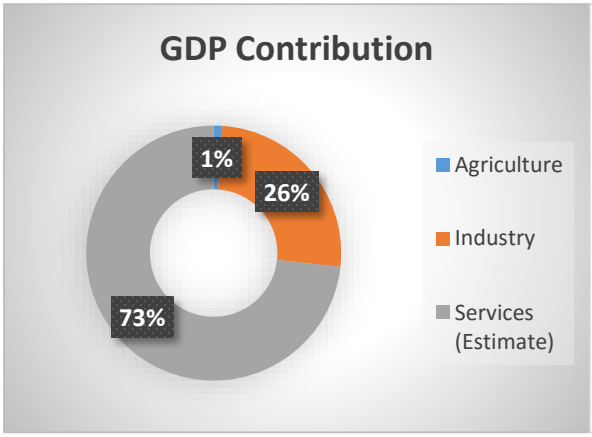


Figure 37: Japan's GDP (at Current US$) - World Bank

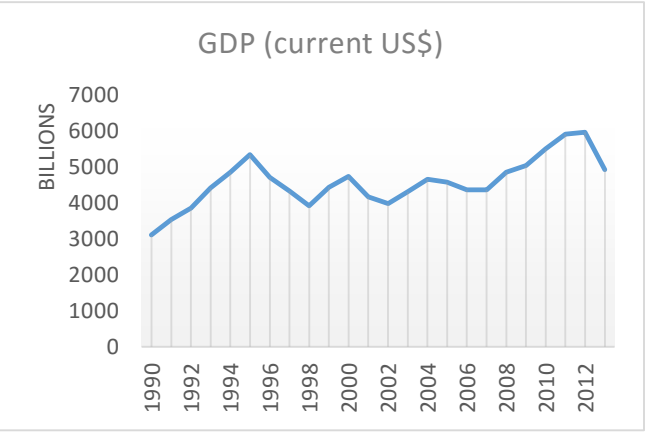


Figure 36: Japan's GDP Contribution

[44] The 1990s in Japan: A Lost Decade by Fumio Hayashi, Edward C. Prescott

[45] Abenomics Gamble and the Japanese Economy: The Risks and Opportunities by Shalendra D Sharma, Journal of International Economics, ISSN 0976-0792 Volume 5, Issue 2, July-December 2014, pp. 103-113

[46] Abenomics: Preliminary Analysis and Outlook, Joshua K. Hausman and Johannes F. Wieland, Brookings Papers on Economic Activity; Spring 2014 Conference. http://www.brookings.edu/~/media/projects/bpea/spring-2014/2014a_hausman.pdf

As seen in Figure 38, and as per World Bank data, the GDP in 2013 stands at US$4.9 trillion. Service sector is the major contributor to the GDP with 73.2% share followed by the Industrial sector (25.6%) and the agriculture sector (1.1%)[47].

Major Services in Japan include banking, insurance, transportation, retailing and telecommunication. Japan also has a variety of industries including automobiles, machine tools, electronic equipment, ships, textiles and processed foods. Japan's boasts of second largest automobile industry in the world only behind China. Six of the top twenty largest vehicle manufacturers in the world – Toyota, Renault-Nissan, Honda, Suzuki, Mazda and Mitsubishi are in Japan[48]. Japan is also the world's largest electronics manufacturer with companies such as Sony, Casio, Panasonic, Canon, Fujitsu, Nikon, Yamaha etc. Agriculture and fishing appears very minute in the GDP contribution, but is a very important component in the Japan's economy. Only 15% of the total land is suitable for agriculture and thus Japan heavily relies on import for most of the food products.

Export/Import

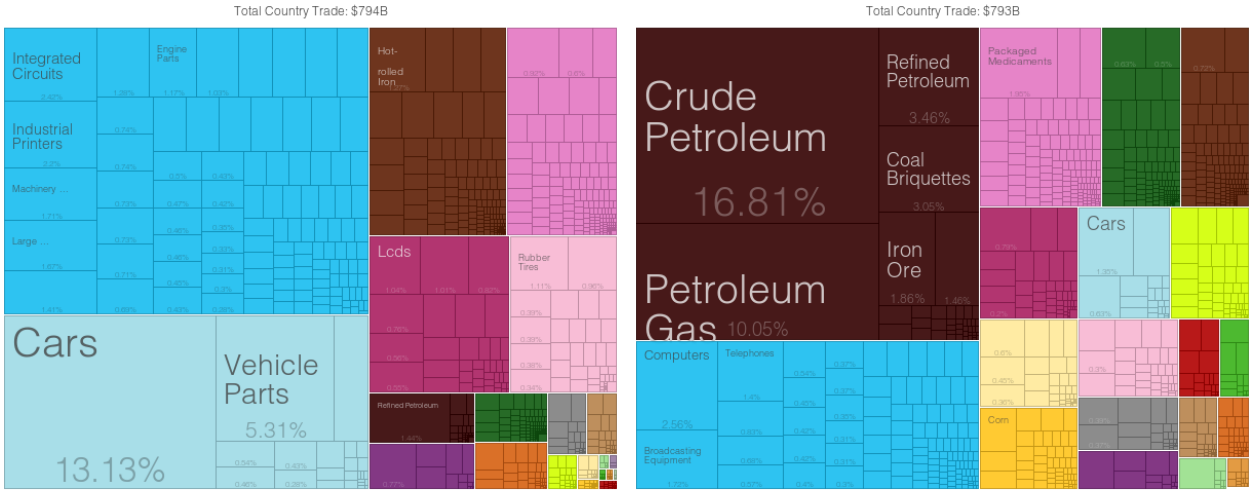


Figure 38: Japan's Export (left) and Import (right) as of 2012

Japan is one of the largest importers and exporters in the world. It imports the raw materials, adds value by processing and then export the outputs. Major exports include motor vehicles, semiconductors, iron and steel

[47] "CIA World Factbook: Greece, country profile". CIA.

[48] Japan's Industry Sector, Economy Watch, http://www.economywatch.com/world_economy/japan/industry-sector-industries.html

products and imports include petroleum, liquid natural gas, clothing and coal. The overall export and imports as of 2012 are summarized in figure 39[49].

The balance of trade has been negative since 2011 due to reduction in imports & exports. As seen from the plots below, even the services exports and imports have seen a slight decrease. The overall Balance of Trade is shown in the figure 40.

Population and Employment

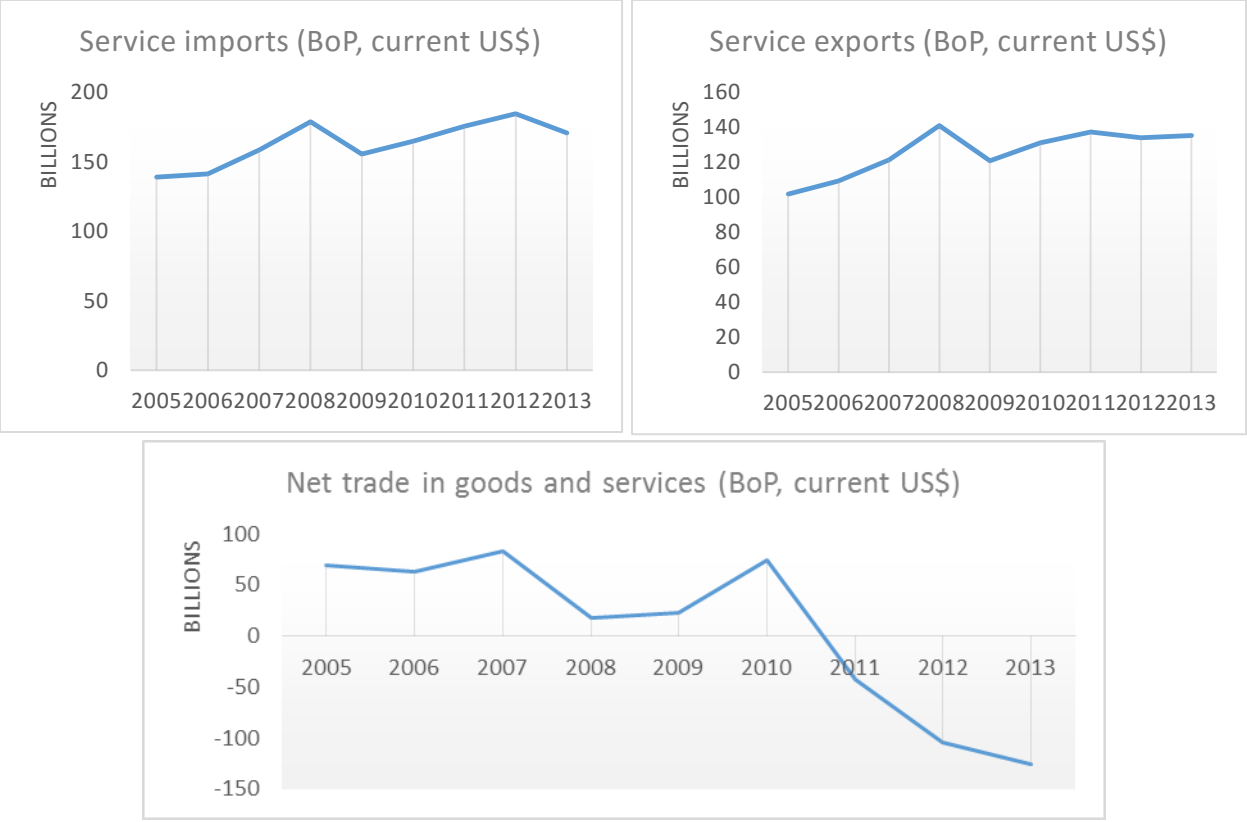


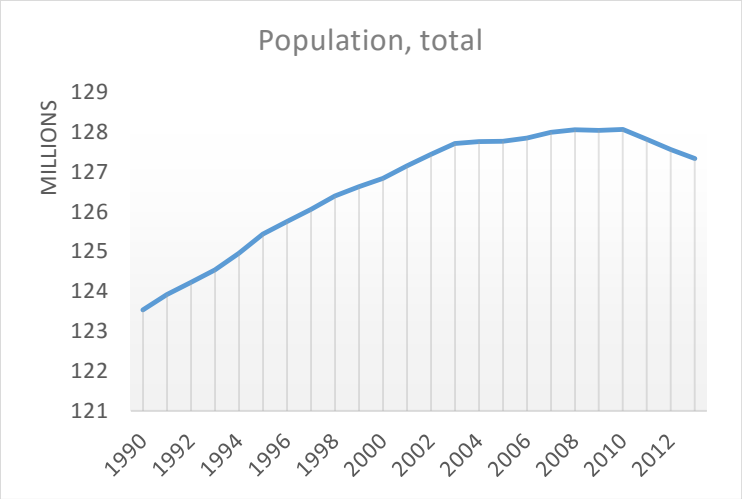
Figure 39: Japan's Overall Balance of Payment

Japan's population is on the decline since 2000. The biggest problem for Japan maybe because the population is aging. More than a quarter of the population is above 65 years of age. The government estimates that by 2060 over 40% of the population would be over 65 years[50]. Since 1963, Japanese government has been celebrating Senior's Day to honor the citizens who have lived past their 100th birthday and has been rewarding them. Today, the number of such citizens has crossed 29,357[51].

[49] Economic Complexity Observatory, MIT Media Lab and the Center for International Development at Harvard University; R. Haussmann, Cesar Hidalgo.

[50] Japan's Population Falls to 15-Year Low, Time Magazine, http://time.com/3827440/japans-population-falls/

[51] There are too many centenarians in Japan, Tech Insider, http://www.techinsider.io/there-are-too-many-centenarians-in-japan-2015-8



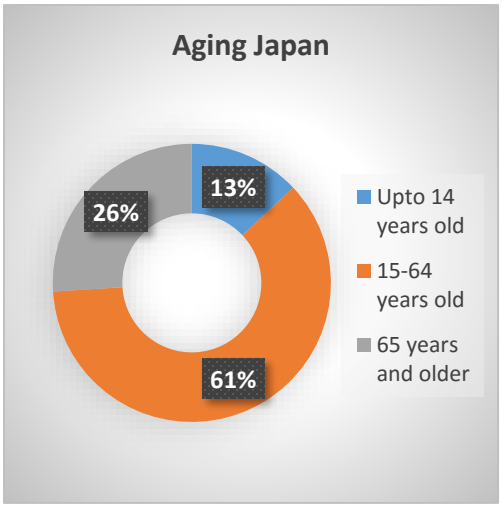
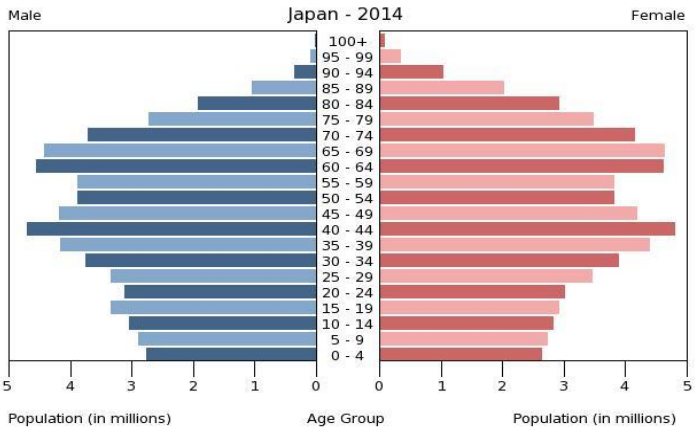


Figure 40 Japan's Population Growth over the years

The population pyramid as shown on the right shows the male and female population of Japan broken down into 5-year age groups. This further shows the aging population of Japan with high percentage of people above the retirement age.

This also suggests high level of dependency of the people of Japan. According to the Central Intelligence Agency, as of 2014, Japan has a total of 63.3% of the population dependent on the working population with the elderly dependency ratio (age group 65+) of around 42.1% of the total population. The total median age is around 46.1 years[52].

On the bright side, even though the economy is shrinking, the unemployment level is decreasing for the 4 years.



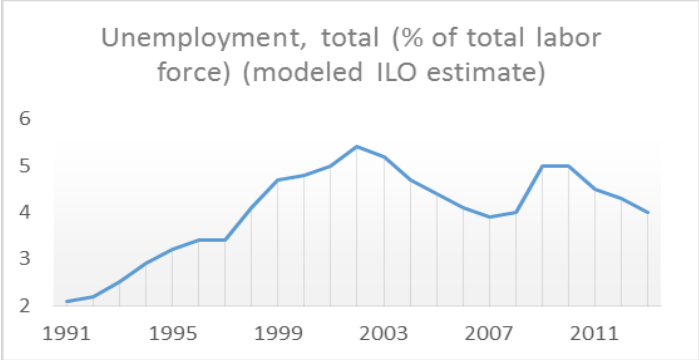


Figure 41: Japan's total unemployment as a % of total labor force

[52] CIA: The World Factbook, accessed 26th August 2015, https://www.cia.gov/library/publications/the-world-factbook/geos/ja.html

Public Debt and Foreign Investment

Japan Government recorded an all-time high public debt of 230% of country's GDP in 2014[53]. The Government debt as reported by the Ministry of Finance, Japan is shown in Figure 43.

Figure 42: Japan's Government Debt to GDP as per Ministry of Finance Japan

With increase in public debt, the foreign direct investment is set to decline. Japan has seen a steep decline in the foreign investment from 2008 until 2011, after the global recession. However, since 2011 there has been a slight growth in the foreign investment which brings a positive hope in the Japanese economy. This has been possible due to the structural reforms as proposed by the Abe Government. Figure 44 shows the fluctuations with respect to foreign direct investment in Japan.

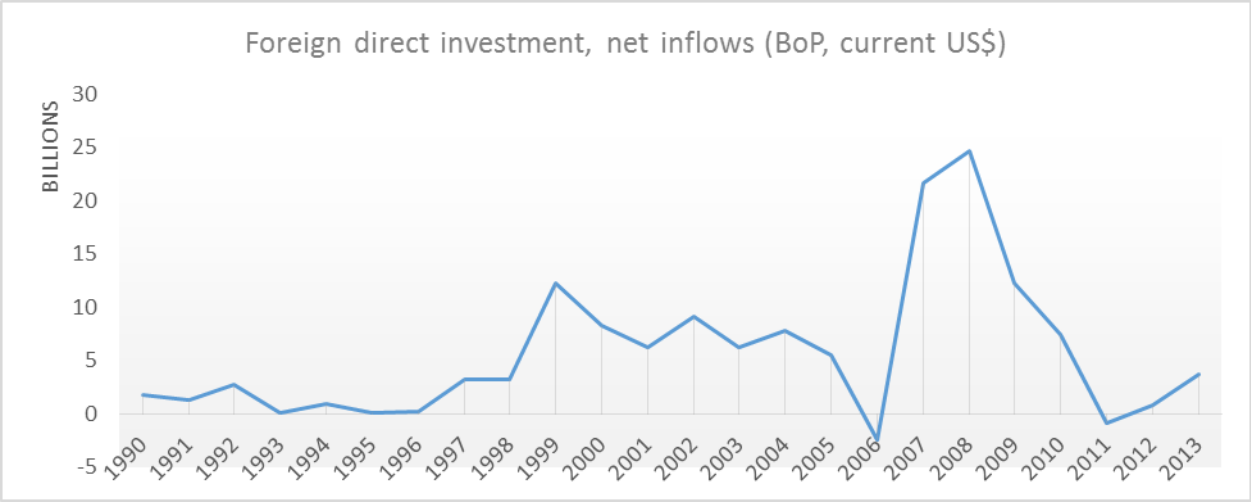


Figure 43: Japan's Foreign Direct Investment as a total of net inflow

[53] Trading Economics – Japan Government Debt to GDP, accessed on 26th August 2015, http://www.tradingeconomics.com/japan/government-debt-to-gdp

Current Scenario and Brief Analysis

The Abe Government, led by Prime Minister Shinzo Abe have been engaged in aggressive Quantitative Easing – central bank purchasing various kinds of bonds – in order to raise the inflation rate to 2%.

But if we look at some of the key issues with respect to Japan from the data provided in the previous section:

1. Fluctuating GDP
2. Declining population
3. Aging population
4. Increasing unemployment
5. Increasing goods and services imports
6. Rising Government Debt

Additionally the effects of Abenomics have not been able to provide growth drivers so far because of the following reasons[54]:

1. Aggressive Quantitative Easing does not stimulate consumption spending. Although the tax rates have been hiked, but the workers' wages have not increased as per inflation.
2. Big corporates are not investing the profits they have earned. The hoarding of profits as internal reserves has a negative effect on investment spending.

Therefore, in addition to the already existing three arrows of Abenomics – Monetary Policy, Fiscal Policy and Structural Reforms – following steps can be taken to further revive the economy:

1. **Increase in Real Wages:** In order to achieve the targeted 2% inflation rate, the consumption spending by the people of the country needs to be increased. One easier way is to increase the real wages, not only for the workers in big corporations but also small and medium-sized enterprises (SMEs)
2. **Public investment in basic industries:** The Government can invest to adopt basic industries for future generations. Japan can invest to become the largest renewable energy technology. Japan can learn from the disaster in nuclear power plant after the tsunami in 2011 and can create a boom in the renewable energy sector by bridging the gap between the investors and the borrowers who plan to start such businesses.

[54] Can "Abenomics" Revive Japan's Economy?, Junji Tokunaga, http://www.nakedcapitalism.com/2015/01/can-abenomics-revive-japans-economy.html

Conclusion: Draghinomics vs Abenomics

Based on the study so far we observed that the policies of Draghi in the European Union and Abe in Japan have a lot of similarities. Both of them are targeting the LM curve through fiscal stimulus and Quantitative Easing. One difference being in terms of IS curve, where Draghi being the ECB president can only advise the governments of the European economies to promote structural reforms, Shinzo Abe being the Prime minister of Japan can actually influence and drive the structural reforms and hence has better control over the macroeconomic instruments.

One other difference comes from the cultural aspect. Japan being one sovereign country the reaction to the policies have been more or less a uniform across the nation, whereas in the case of EU, each country has its own culture. The Governments are different and so is the psyche of people. Under such circumstances it becomes really difficult to have a uniform impact of the policies across all the countries. And this is clear from the difference in the results of the policies in Portugal as compared to Greece. Yet there are some common recommendations we could formulate that can aid in the recovery of both the nations in general.

1. **Tax Reforms**
   As discussed in prior sections, countries like Greece and France are facing issues with relation to the tax collections. And Greece with a higher public debt faces an even graver situation as compared to France due to this. A better tax regime which varies with the economic strata of people will help in increasing demand in the economy as well as reduce the fiscal deficit which has been rising for both Greece and France. With increase in the consumption tax in Japan, the tax revenues are expected to rise in the next few years. Also, an increase in the profits and the wages of the employees will lead to higher income tax revenue for the Japanese Government which will help to reduce the fiscal deficit of the country.

2. **Labor Market**
   Cues can be taken from Portugal regarding better labor laws that promote industrial growth. The decision of the government to increase in the minimum wage level has also helped in driving the demand in the economy. This supplemented by tax cuts as has been suggested by Draghi can help in moving the IS curve outward and in driving healthy inflation. Japan can take cue from Portugal in this regard and increase the wage levels of the working population. This will help increase domestic demand and drive healthy inflation.

3. **Retirement Age**
   One other issues faced by most of the European countries is the lower retirement age of the working population. A higher proportion of retired population increases the burden on the government on pension and other retirement benefits. This increases government expenditure and hence the fiscal deficit. With age the propensity to save also comes down, hence the level of public savings also takes a hit. This reduces the lending potential of the banks and further creates a lack of funds in the economy. Countries like France where people have a tendency to retire at the age of 50-55 face even greater threat due to this. Compared to this in Japan the retirement age has been 60. Though many countries in EU including France have already started implementing the rule to increase the retirement age to 60 it might take some time to take effect and have considerable impact on the economy.

4. **Fertility Rate**
   Japan has a declining population with almost 42% of the population above the age of 65. This again creates issues similar to the ones discussed in the previous point. This is also the case in some European countries like Greece but the situation is not as grave as Japan. The Japanese government needs to take cue from the EU, from countries like France and start incentivising population growth. Japan needs to stop giving special rewards to the 100 years plus citizens This not only increases the Government expenditure given the sheer number of people in that age group (In fact, Japan has the

second largest number of people with age over 100 years) but also is opposite to what is needed, they should rather start incentivising increase in younger population. The government of Japan has taken certain initiatives and aims to maintain a population level of 100 million[55], yet it is a long way from reversing the population growth trend.

5. **Increase investment in Renewable Energy**
   Japan can invest to become the largest renewable energy technology. It can learn from the disaster in nuclear power plant after the tsunami in 2011 and can create a boom in the renewable energy sector by bridging the gap between the investors and the borrowers who plan to start such businesses. Japan can take cue from countries like Germany, Portugal and Greece in the EU to harness renewable energy. With 29000+ km of coastline it can also research on harnessing wave energy like Portugal.

These are only few of the many cross-learnings between both the economies. But as discussed in previous sections one common need in both the economies is – **structural reforms**. In Japan the enough has been done already on the monetary front. In fact so much so that the LM curve has almost reached the rock bottom. Similarly in EU Draghi's policies are moving the LM curve in a favorable direction, the need of the hour is to move the IS curve through favorable government policies and initiatives. IS curve t a high level depends on the public and private investments, and foreign exchange and these can be attained through favorable structural reforms. Structural reforms like tax reforms, industry friendly labor laws, infrastructure development, wage structure to drive domestic demand etc. Only when the IS curve moves in tandem with the LM curve can a sustainable growth can be attained. But the major challenge is first to have a stable government. The Prime Minister of Greece has stepped down as we speak and there are talks again in the direction of "GrExit", Portugal is heading for an election and so on, under such dynamic political scenario it is really difficult to predict the future of certain countries in the EU. Bold moves like that of "GrExit" might appear lucrative in the short run, but doesn't provide a long term solution for the economic and political issues. Though there are influential proponents on the likes of Warren Buffet who suggest that EU might benefit from GrExit[56]. According to him EU need not have the original members it started with but rather have few members with compatible labor laws, fiscal deficits and general management of the economy. But we do not completely agree with the concept of GrExit, one main reason being this might start an avalanche effect that might lead other countries also to default on their commitments and leave the EU. This can also negatively impact the lenders such as Germany. This can add further uncertainty in an already chaotic ecosystem. On the other side, in Japan however the situation is comparatively less problematic, yet, given the slow pace of structural changes and higher rate of declining population it is yet to see how long it takes to come out of the economic turmoil it currently faces. This paper discussed the theoretical measures with respect to classical macroeconomic theories that can help each of the economies, but the biggest challenge would be in terms of putting them into action given the various implementation issues mentioned before in each of the countries.

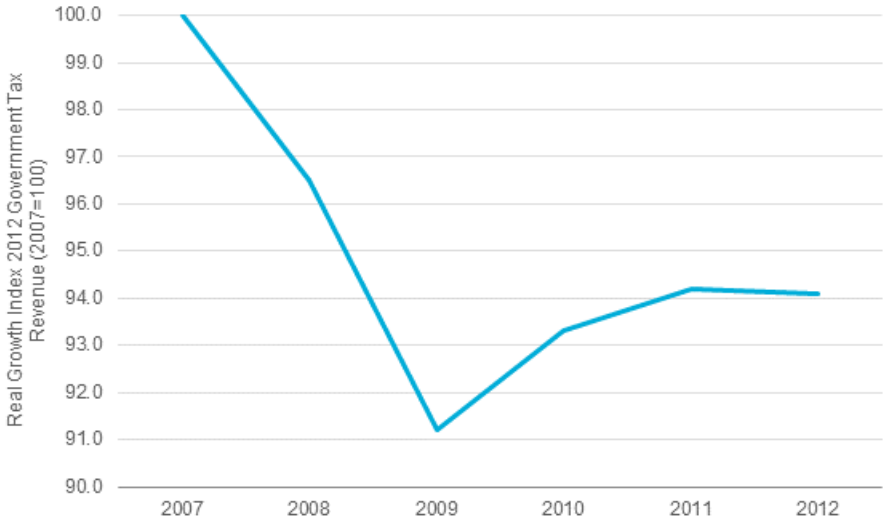
[55] Article in Nippon; http://www.nippon.com/en/features/h00057/; Accessed on 29/8/2015
[56] Marketwatch; http://www.marketwatch.com/story/warren-buffett-says-eurozone-could-benefit-from-grexit-2015-04-01

Appendix

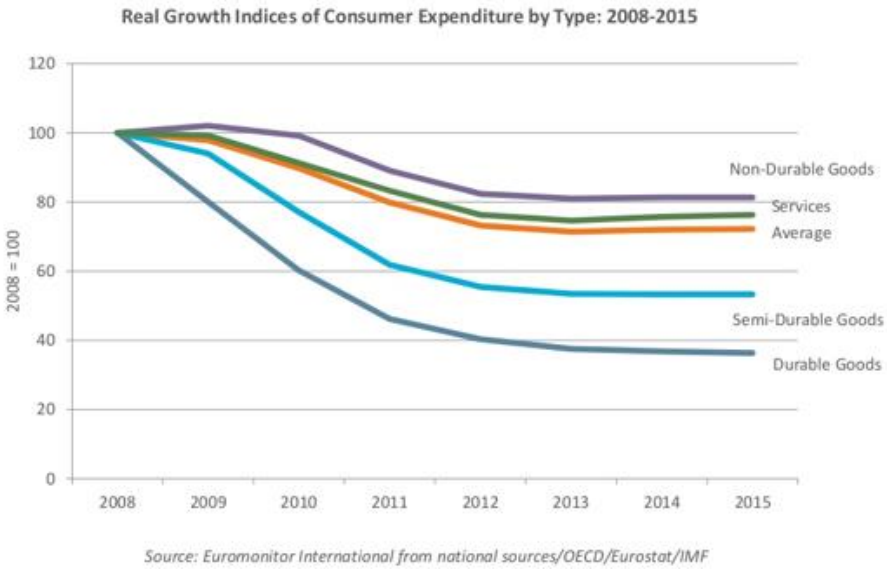
A.1 Abbreviations

Abbreviation	Explanation
GVC	GVC = GDP – Taxes + Subsidy
GFCE	Government Final Consumption Expenditure
PFCE	Private Final Consumption Expenditure

A.2 Additional Plots describing situation in Greece and the EU[16]



Description: Plot shows the rate of growth of Government Tax in EU. The reduction in tax indicates the level of tax evasion pervasive in the EU.

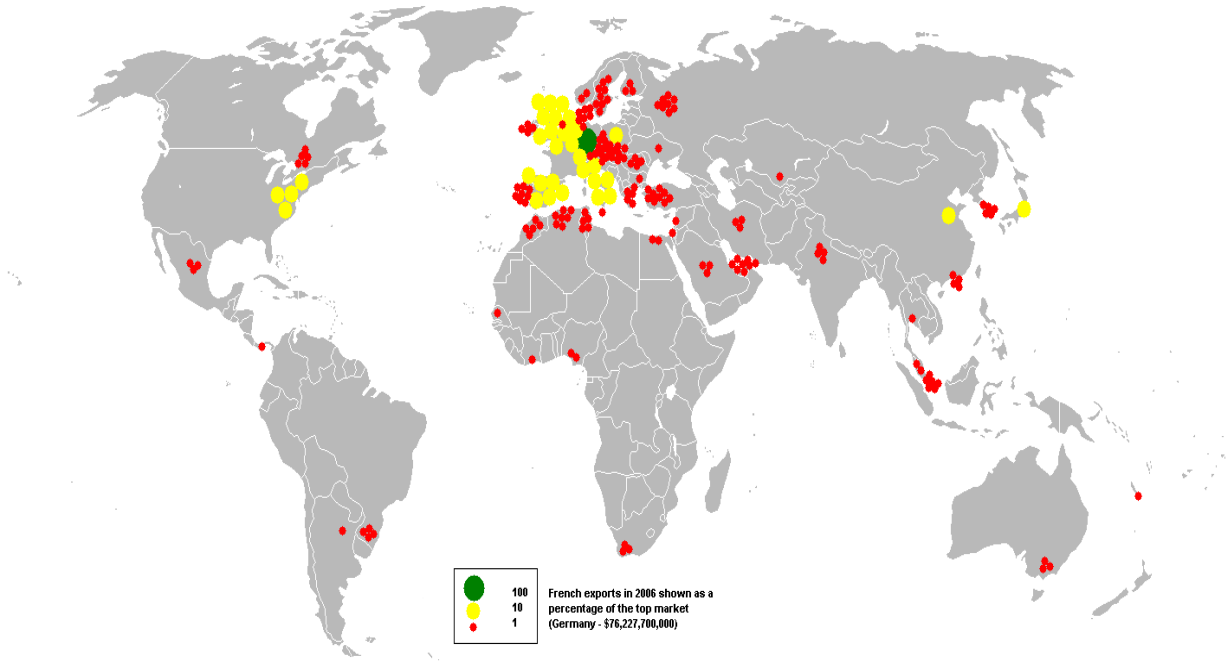


Description: The plot indicates the various sectors of Consumer expenditure.

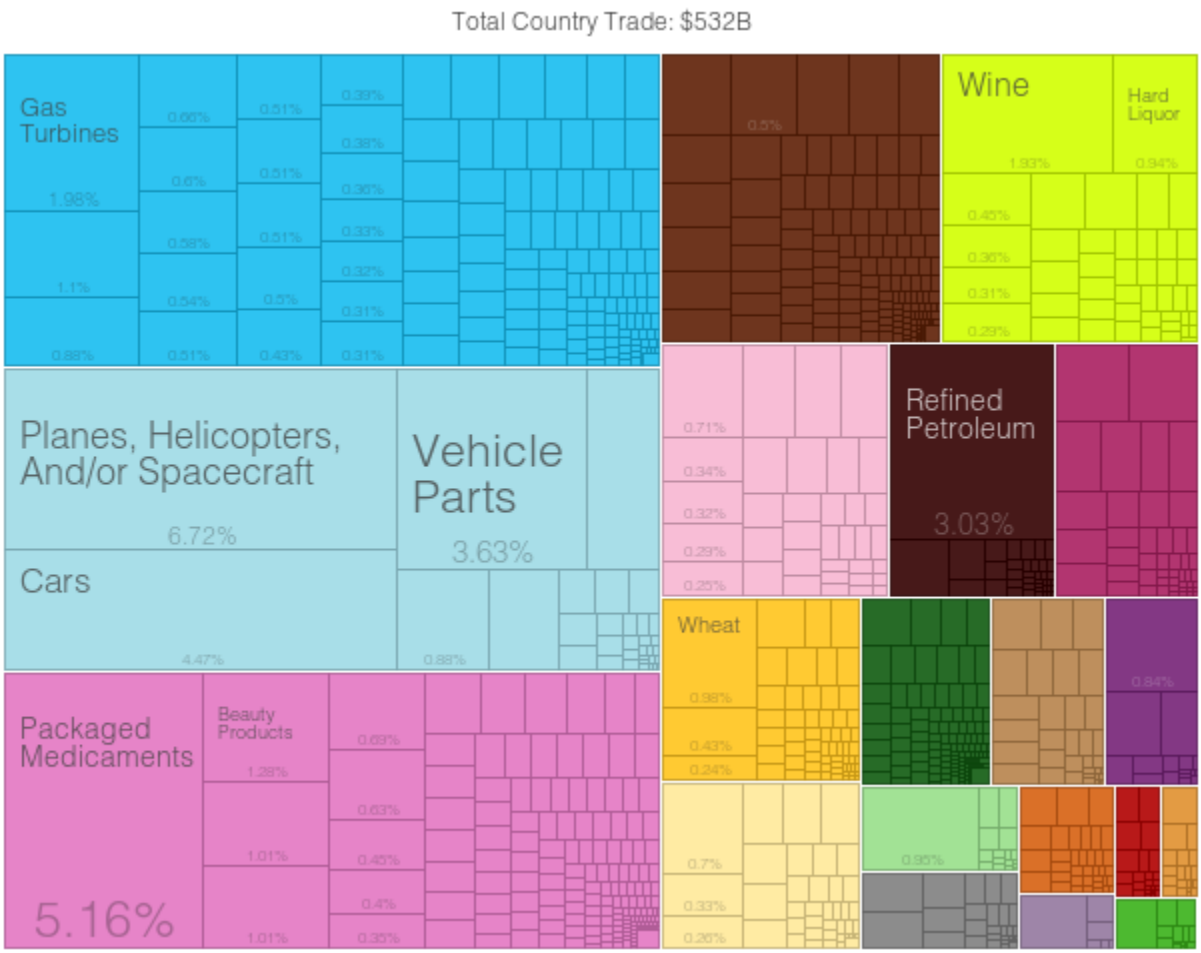
Source: Euromonitor International from trade sources/national statistics

Description: The plot shows the percentage change in the consumption pattern for different consumables in Greece. Note the huge negative change noticed in consumption.

A3. France Exports

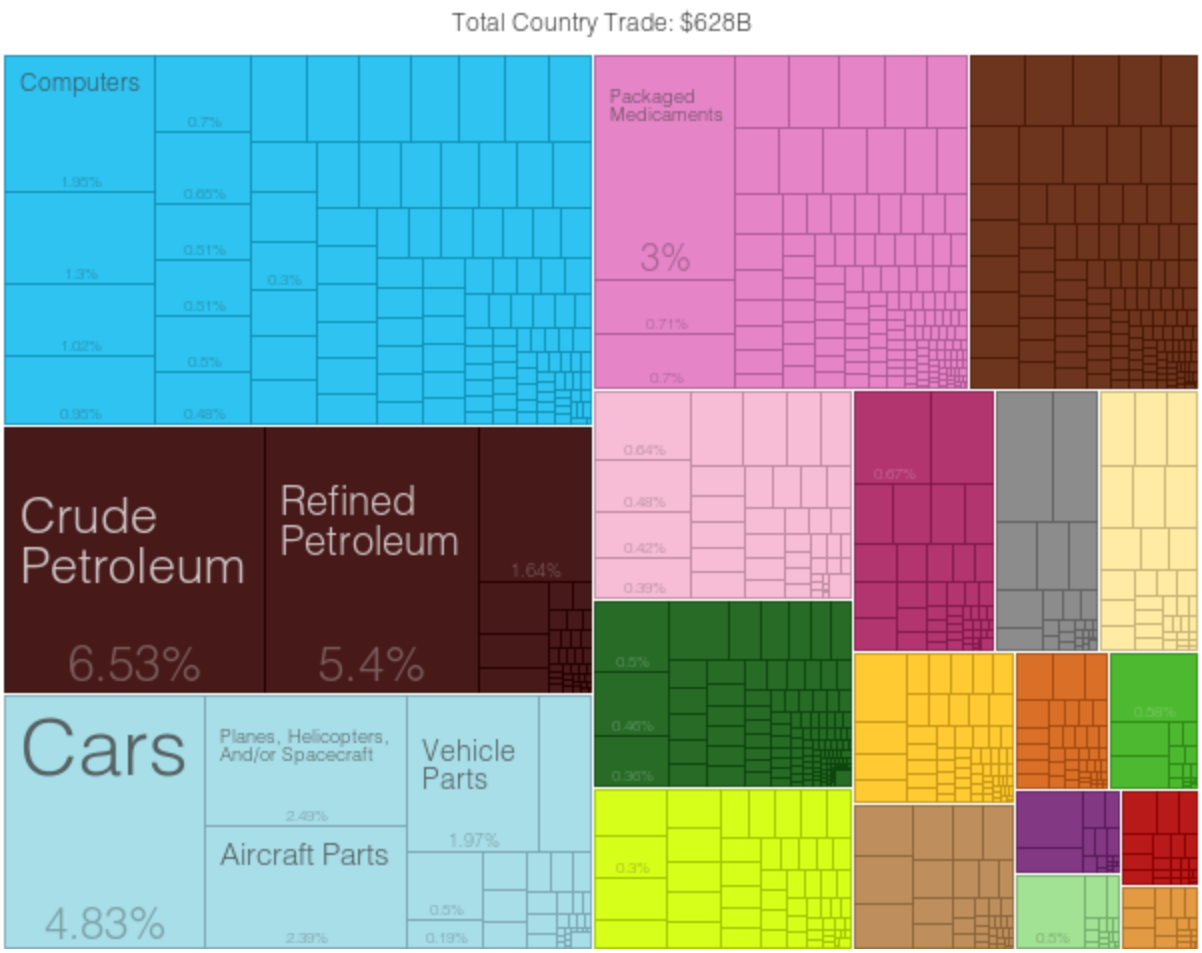


Description: Major imports of French products

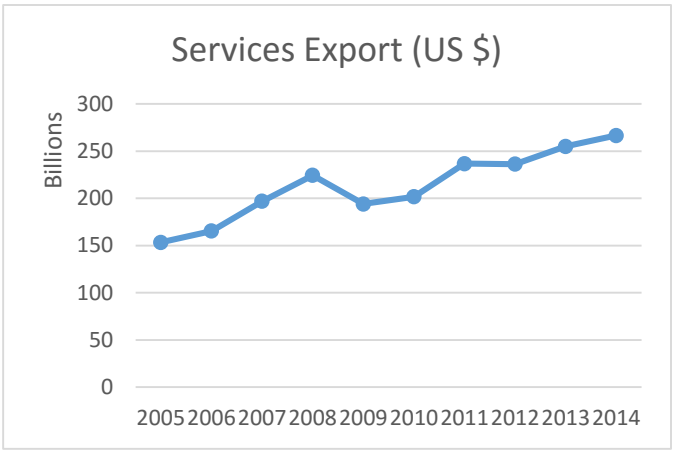


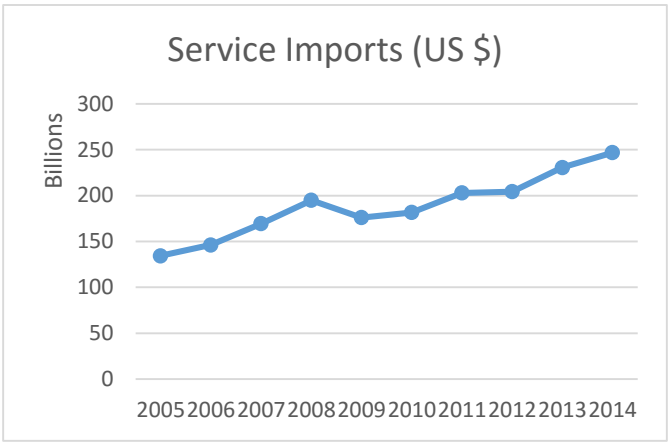
Description: The export goods composition of France[57]

[57] Observatory of Economic Complexity; https://atlas.media.mit.edu/en/explore/tree_map/hs/export/fra/all/show/2012/



Description: Import composition of France





A4. Germany Export/Import trends