Economic scenario of United States of America before and after 2012 U.S. Presidential Election

Sinha, Pankaj and Singhal, Anushree and Sondhi, Kriti

Faculty of Management Studies, University of Delhi

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Pankaj Sinha, Anushree Singhal and Kriti Sondhi

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Abstract

This paper examines the economic scenario of the United States, before and after the 2012 US Presidential election by analyzing various macroeconomic variables such as GDP, Public Debt, Exchange Rate, Social Benefit Spending, Trade, Budget Deficit/ Surplus, Unemployment Rate, Inflation and others. We forecast the macroeconomic variables post 2012 using ARIMA modeling and present a picture of the U.S. economy post 2012 US Presidential election. With GDP growth being the major focus, both the parties are formulating policies to promote faster economic recovery by making reforms to reduce the $1 trillion deficit and maintain a balanced budget. Democratic Candidate Barack Obama has policies in place to increase investment in healthcare and education, open up opportunities, favour middle class families, a better trained workforce, double up exports and cuts in military expenses. Whereas Republican Candidate Mitt Romney's focus is to achieve energy independence, open trade, champion small businesses and lower the tax rates along with lowering expenses. In this paper, we analyze the impact of expected outcome of 2012 U.S. presidential election on various macroeconomic variables of U.S. economy. The findings indicate that GDP is expected to grow at an average of about 2 percent and that a recession is not impending in 2013. Also going by the current policies, it is forecasted that U.S. exports and imports are expected to increase as the U.S. economy recovers. Barack Obama's policies will inflate the Budget deficit while Mitt Romney's strategy will lower the US Public Debt and Budget deficit. ARIMA models indicate that with the continuance of present government's policies, budgetary deficit is estimated to decrease to 4.55 percent of GDP in 2014 from a maximum of 10.1 percent of GDP in 2010.

Keywords: ARIMA, Box-Jenkins, U.S. economy, forecast, US 2012 presidential election

1. Introduction

The outcome of the Unites States presidential election has a significant influence on the economies worldwide. The road to the White House is a rocky and long one. With both the parties having different strategies and focus in place, the economic scenario in 2013-2014 greatly depends on the outcome of the 2012 U.S. presidential election.

The Obama government had to face challenges in the post-recessionary period and according to global economic outlook released by United Nations in 2011 (World Economic Situation and Prospects 2012), the most pressing challenges post-recession period are the ongoing job crisis and diminishing prospects for economic growth, particularly in developed countries. The recovery process is also slow due to lack of aggregate demand, stagnating incomes and high unemployment at 9 percent. The sovereign debt crisis emanating from the euro area also worsened in the second half of 2011 and aggravated the tense fiscal situation world over. The United States economy is experiencing declined business and consumer confidence, high unemployment and financial sector fragility. The two largest economies in the world – the European Union and the United States of America have their problems deeply intertwined and can proliferate to give rise to another global recession. Also in the case of developing countries, despite of strengthened economic ties, they remain vulnerable to fragile economic conditions in developed countries. Economic growth in most of the developing countries started to slow down from the second quarter of 2011 due to high capital inflows and rising global commodity prices.

Sinha (2012) discusses the factors responsible for predicting 2012 U.S. Presidential election. He highlights that except GDP growth rate, various other macro-economic factors like unemployment rate, interest rate, inflation, public debt, change in oil and gold prices, budget deficit/ surplus and exchange rate are not significant for predicting the U.S. Presidential election outcome. He has studied various other non-economic factors like scandals linked to the incumbent president and the performance of the two parties in the mid-term election.

Sharma and Mahendru (2010) discuss how various economies are coping up with the global recession. This study concludes that USA gives company specific stimulus packages while UK, India and China plan to revive economy at macro level. U.S. government has given two bailout packages which are equivalent to 3 percent of GDP over two years. Most of the investment has been made to increase the federal share of Medicaid payments and to help states avoid cutback in education sectors.

Carroll (2003) proposes that rather than relying on full understanding of all macroeconomic variables and continuously tracking them to get macro-economic forecasts, more emphasis should be given to absorb economic content of news stories probabilistically. A major assumption considered is that people derive their expectations from the news reports which are aligned with proposing unspecified expectations forming mechanism in rational expectations models.

Hendry (1997) on econometrics of macro-economic forecasting asserts that generally economies under analysis are non-stationary in nature. Econometric models being successful in forecasting depend upon effective capturing of regularities, regularities being informative about future and excluding irregularities that distort the regularities. This paper recommends methods like Box-Jenkins or DVARs when econometric models fail.

In the current scenario, the Euro-zone sovereign debt crisis has not only severely impacted the global economy but has hampered the growth prospects in the world's number one economy. The U.S. economy is tied to the global economy through various linkages like credit spreads, interest rates, bank borrowing costs, trade, exchange rates and many others. The euro-zone crisis has impacted the U.S. financial system by re-pricing risk upward, thus pushing up the cost of capital of banks and increasing the credit spreads. In simple terms, these causes the assets on balance sheets of U.S. banks look less worthy due to the direct exposure.

There are many other impacts like fall in U.S. interest rates and increase of borrowing costs due to general riskiness. Since the overall world economy is not doing well, the exporting business is adversely impacted. The stock prices also fall as an indicative of weakening of investor's confidence in the overall market scenario. Since euro-zone crisis has directly impacted the U.S. financial markets, the economic concerns emanating from it will be very crucial for American voters during the 2012 Presidential election. Who wins the Presidential election in November could likely be determined by the financial effect of euro-zone crisis. President Obama believes that U.S. should lend a helping hand to its allies which will later contribute to American financial well-being and supports the fact that Greece should be a part of the European Union. The Republican nominee Mitt Romney supports structural reforms and a fiscal consolidation as a path ahead for U.S. and as a policy for Euro-zone crisis.

Democratic Candidate Barack Obama's major focus is on investments in education, healthcare (through "Obamacare"), future energy, cut military expenses, tax cuts for the middle class and lower corporate tax for manufacturing but not for incomes greater than $200,000 and companies shipping overseas. And on the other hand Romney's focus is to achieve energy independence, open trade, champion small businesses through tax reliefs, improve people's skills, and maintain military expenses and to lower the tax rates along with lowering deductions & expenses while increasing revenue through job creation to head toward a balanced budget. He aims to increase the benefit for middle class and reduce the benefit for high income class with a long term program in place. He intends to reduce the deficit by decreasing government spending, increasing economic growth and generating more revenue through job creation.

While Obama through Obamacare aims to have the traditional medicare to be in support of people while at the same time reducing overheads in healthcare to lower the cost for the same, Mitt Romney aims at encouraging the private sector to play a greater role in healthcare (people having choices between government's medicare and private plans with no change for current and future retirees) and education (state and local level) and follow the trickle down government approach while also repealing the inefficiencies prevailing in the Federal government such as

Dodd Frank Act which lacks transparency and clean regulation and have collaborative efforts in place such as with the Middle East. This will make the healthcare expenditure and social benefit spending stable or a little lower. The US Public Debt and Budget deficit would lower down. With open trade, the exports and imports would increase. With major focus on job creation, the unemployment rate would certainly decrease by a significant amount. With tax reliefs to small businesses and middle class government's tax revenues may decrease. With such policies in place and their impacts, the GDP is expected to grow at an average of about 2 percent.

While both have policies in place to lift up the middle class, encourage free enterprises, open up trade and have better trained workforce, it is left to be seen how all these policies impact the macroeconomic variables and the U.S. economic scenario post the 2012 election. In this paper, we use the historical data of the various macroeconomic variables to incorporate the effects of the policies and reforms brought by various U.S. governments who have previously held office to predict the economic scenario that might prevail in the United States post the election using ARIMA models.

The section 2 of this paper lists the various macroeconomic variables that we consider and also discusses the sources of the data used in the paper. The section 3 illustrates the ARIMA models used and explains the Box-Jenkins methodology used to forecast the macroeconomic variables. The section 4 presents the forecasted results and analysis. The section 5 summarizes the discussion.

2. Macroeconomic Factors Considered

In this section, we discuss about the various factors considered while analyzing the economic scenario of United States. The factors are as under:

1. Real GDP Growth Rate: The quarterly Gross Domestic Product (seasonally adjusted and based on chained 2005 dollars) percent change from the preceding period, as defined by Bureau of Economic Analysis (2012).
2. Public Debt: The quarterly total public debt outstanding as percentage of nominal GDP, as reported at Treasury Direct.
3. Gold Prices: The monthly average gold price per ounce (US Dollar per Troy Ounce), as reported by World Bank.
4. Oil Prices: The monthly average domestic crude oil prices in US dollars per barrel, as reported at Inflation Data.
5. Exchange Rate: The exchange rate of $ with Euro, Brazilian Real, Indian Rupee, Russian Rouble and Chinese Yuan Renminbi, as reported at www.Oanda.com.
6. Health care: The yearly outlays for health programs as percentage of GDP, as defined by The White House (2012)
7. Social Benefit Spending: The government social benefits as percentage of nominal GDP, as defined by Bureau of Economic Analysis (2012).

8. Trade: The monthly total imports and exports of goods and services in millions of dollars (seasonally adjusted), as defined by U.S. Census Bureau, Foreign Trade Division (2012).
9. Interest Rate: The annual Federal funds effective rate as provided by Federal Reserve (2012).
10. Budget Deficit/ Surplus: The excess or deficit of budgetary receipts over the budgetary outlays as a percent of GDP, as defined by The White House (2012).
11. Unemployment Rate: Annual average unemployment rate (percent) of civilian labor force i.e. 16 years and over, as defined, by Bureau of Labor Statistics (2012a).
12. Inflation: The monthly CPI Inflation, as defined by Bureau of Labor Statistics (2012).
13. Capital Markets: The monthly average New York Stock Exchange rate, as per Bloomberg.
14. Tax Revenues: The individual, corporate and total income taxes as percentage of GDP received by the US Treasury, as per The White House (2012).

3. Methodology

The basic model used while doing the forecasting is to represent the economic data as an Auto-Regressive Integrated Moving Average (ARIMA) Model. By definition, ARIMA models are used for forecasting a time series which can be made stationary by using an appropriate mathematical transformation (like taking difference and natural log). A non-seasonal ARIMA Model is represented as "**ARIMA(p,d,q)"** where

- **p** is the number of autoregressive terms,
- **d** is the number of non-seasonal differences, and
- **q** is the number of moving average terms

Thus, an Y_t = ARIMA(1,1,1) means that the series requires first difference to make it stationary and can be modeled as ARMA(1,1) with one autoregressive term and one moving average term.

The various U.S. macroeconomic indicators have been forecasted using Box-Jenkins Methodology, determine the appropriate ARIMA model and thereby forecast. Next, we explain the Box and Jenkins methodology used to forecast the economic variables.

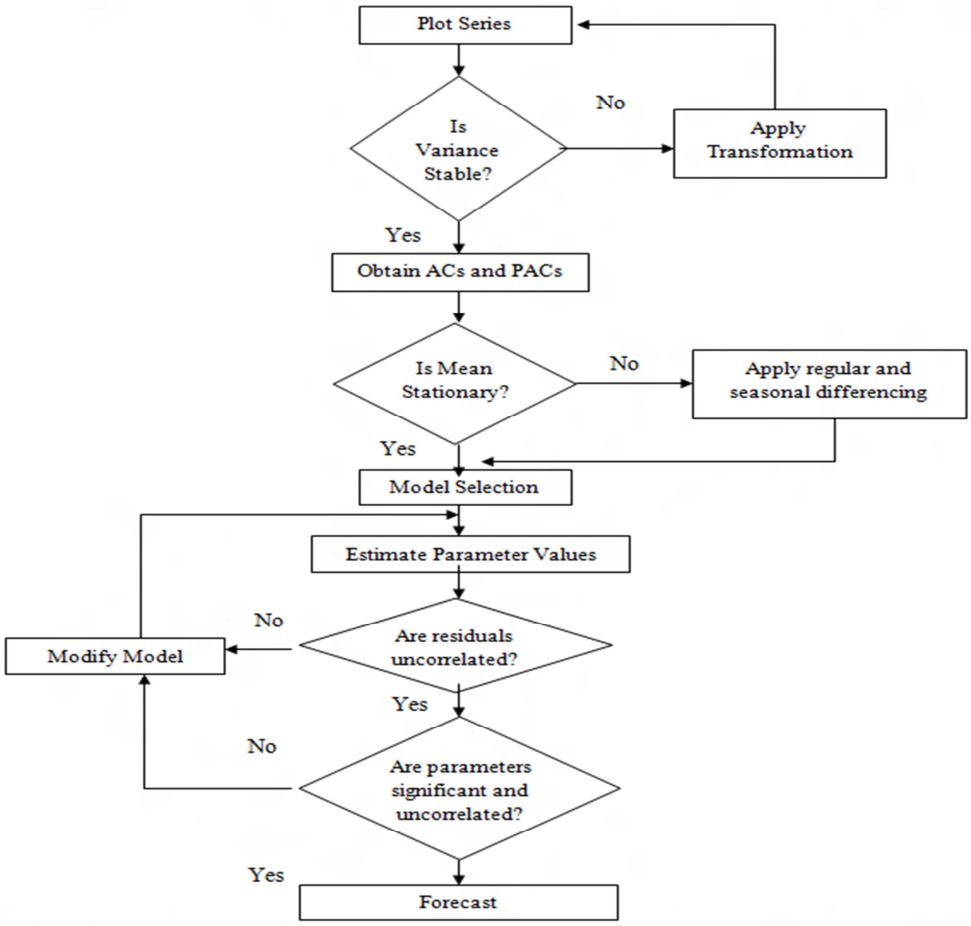

Figure 1. Flowchart describing Box and Jenkins methodology

The basic steps of the methodology are:

Stage 1: Stabilize the variance of data and make the series stationary

The first step in developing a Box–Jenkins model is to determine if the time series is stationary. The stationarity can be accessed by performing the **Augmented Dickey Fuller Unit Root test** which will show the level of differencing required to stabilize the variance and make the data stationary.

Stage 2: Identification of the model using Autocorrelation and partial autocorrelation plots

Once stationarity has been addressed, the next step is to plot the Correlograms i.e. the autocorrelation (ACF) plot and the partial autocorrelation (PACF) plot. This helps in identifying the order (i.e., the p and q) of the autoregressive and moving average terms in ARIMA(p,d,q) model.

Stage 3: Estimation of the model

After the identification of the possible models, we estimate the model. The model is valid only when all the coefficients are significant (i.e. coefficients with p value < 0.05 for confidence of 95 percent). For model selection among the finite number of models, we determine each model's Akaike Information Criterion (AIC) and Bayesian Information Criterion (BIC) or Schwarz Criterion (SBC, SBIC) is calculated. The model with the minimum value of AIC and BIC is supposedly the best model (statistically).

Stage 4: Diagnostic Testing

The next step is to do the diagnostic testing to check if the residuals of the selected model are white noise or not. We do so by plotting the correlogram (ACF graph) of the residuals of the selected ARIMA model and by using Q-statistics and Ljung–Box (LB) statistics. If the residuals are not white noise we go back to stage 2, otherwise we proceed to stage 5.

Stage 5: Forecasting

We then forecast the macroeconomic variables for future periods using the selected ARIMA model.

4. Analysis of Macroeconomic Factors and their Forecasts

5.1. GDP

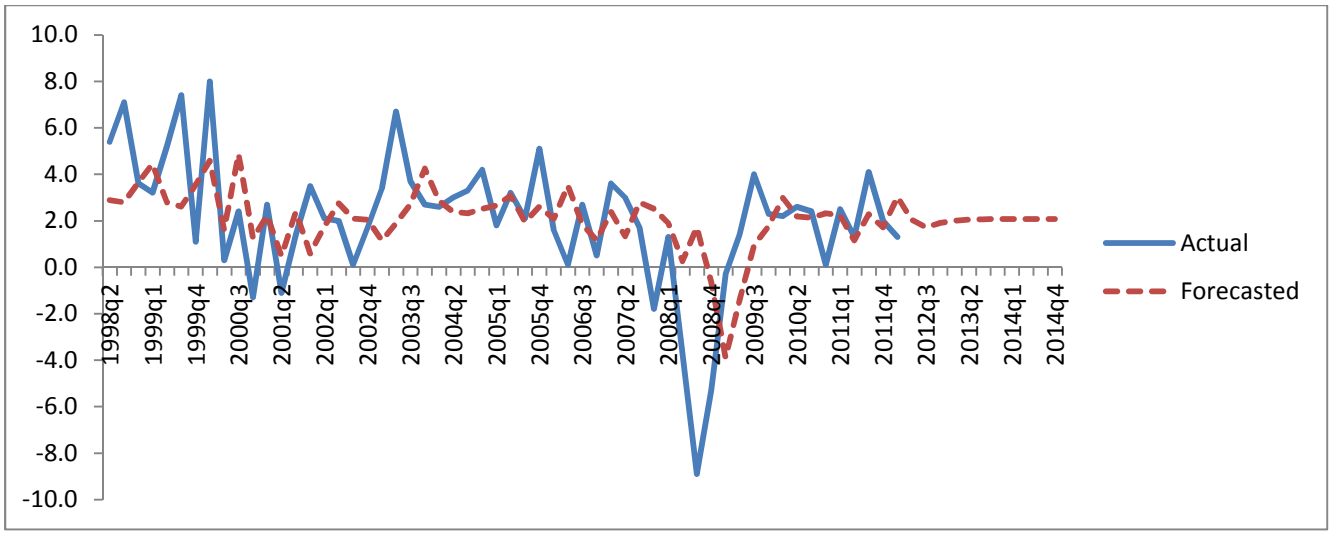

Figure 2. Forecasted Real GDP (percent change from the preceding period)

The percent change of the United States Real GDP has shown variation and having peaks in Quarter 4 in 1998 (Real GDP being 10,274.7 million USD, changing from 3.8 percent in 1998Q1 to 7.1 percent in 1998Q4) and Quarter 4 in 1999 (Real GDP being 10,770.7 million USD, changing from 3.6 percent in 1999Q1 to 7.4 percent in 1999Q4). A major shock is seen during recessionary times (2008) when the Real GDP fell by around 9 percent (2008Q4) which resulted in broad-based decline in America's economic well-being. It gradually recovered and there was an increase seen in 2009Q3 (1.4 percent) followed by 2009Q4 (4 percent). After recession till now, there has an average increase of 2.3 percent in the Real GDP and the Real GDP as per 2012Q2 stands at 13,548.5 USD. After 18 months of recession and a sluggish recovery, the value of the U.S. economy has surpassed its pre-recession level.

As per the recent trends, a credit-creation process is taking place with the banks' lending, people borrowing and recovering house prices. The policy makers agree to provide additional accommodation to promote stronger economic recovery and improvement in labor market conditions. Thus, one can be optimistic and expect the U.S economy to grow at around 2 percent after the US presidential election.

5.2. Unemployment Rate

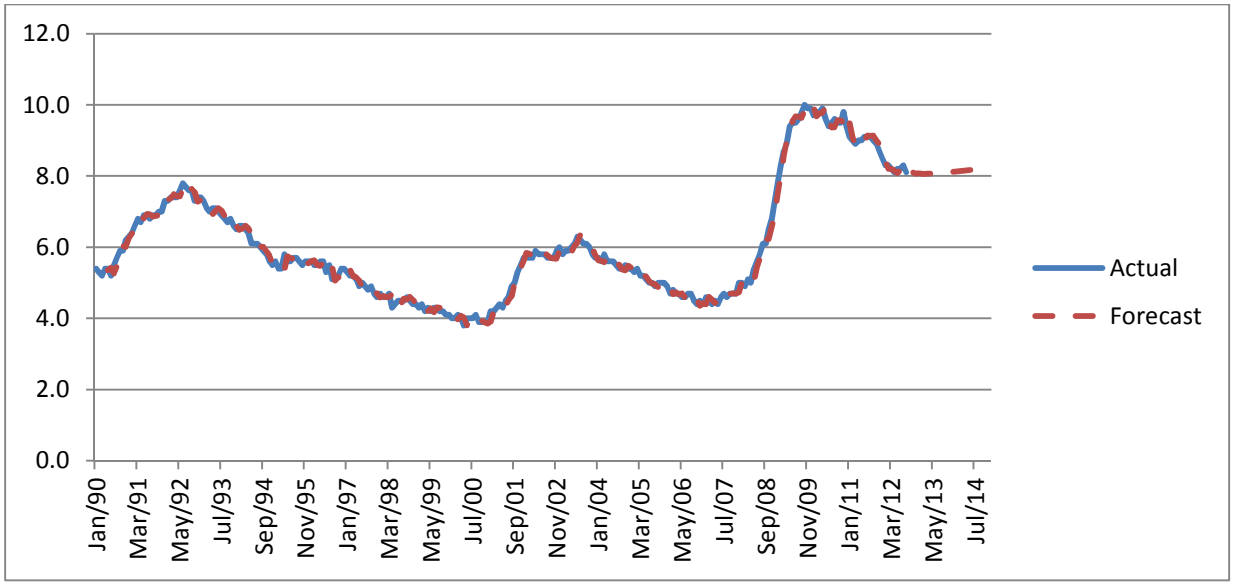

Figure 3. Forecasted Unemployment Rate

The unemployment rate is defined as the number of people actively looking for a job as a percentage of the labour force. This data includes people aged 16 years and above.

In US, unemployment rate stands at 8.1 percent in August, 2012. From 1948 to 2012, US unemployment was at an average of 5.8 percent and reached an all time high of 10.8 percent in November, 1982. In December 2007, unemployment rate was 5.0 percent and had been below

this for the past 30 months. However, this rate rose to 9.5 percent by the end of recession. During and between recessions, men's unemployment rates were lower than women's for many years.

According to the ARIMA model employed for forecasting unemployment rate, average deviation between actual and forecasted values for existent data is 0.019. This model predicts that rate will decline to 8.06 percent by April 2013 and will be approximately 8.23 percent by December 2014. There will marginal changes in unemployment rates in the next 2-3 years however, major policy changes under the ruling government will positively or negatively impact the data.

While Obama's strategy does not majorly focus on job creation, Mitt Romney's key idea is to lower the tax rates along with lowering deductions & expenses while increasing revenue through job creation to head toward a balanced budget. Thus under Obama's government, the unemployment rate would remain the same or might marginally increase but under Romney's government, the unemployment rate will see a fall as job creation is the key pillar of his strategy.

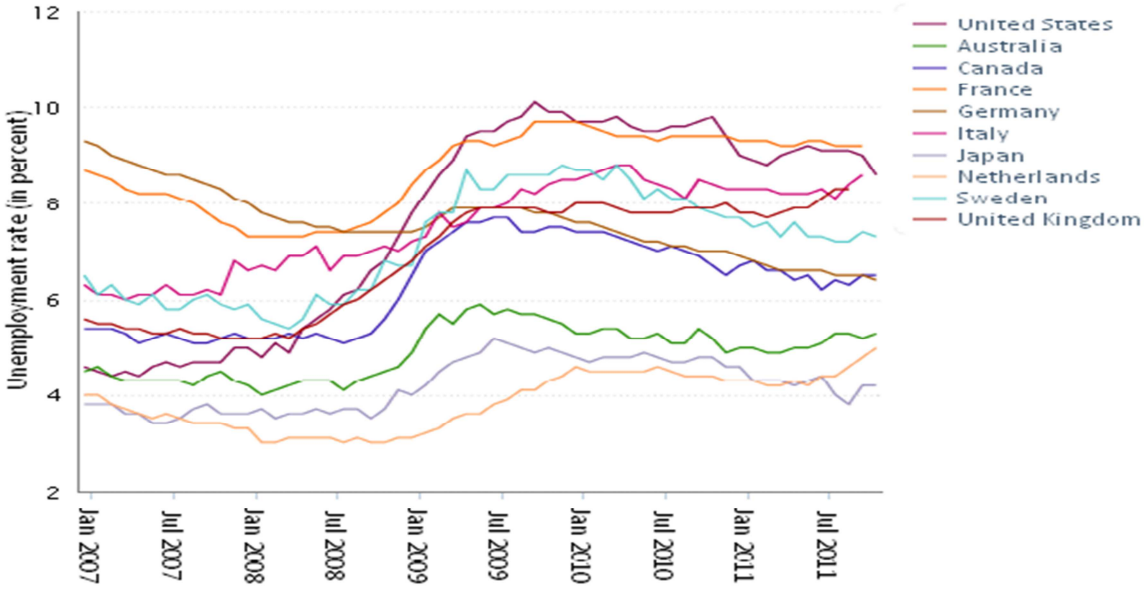

Figure 4. Unemployment rates adjusted to U.S. concepts, 10 countries, seasonally adjusted (U.S. Bureau of Labor Statistics)

Before the start of the 2007 recession, US unemployment rate was lower than most other countries and lower than fewer other countries. However, this rate was higher than most of other countries by the end of recession.

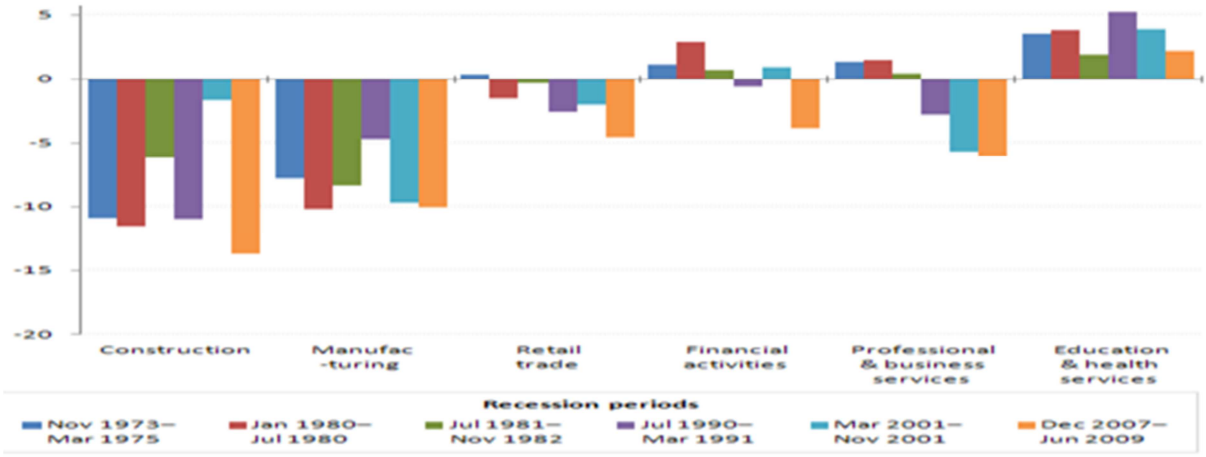

Figure 5. Percent change in employment during recessions, at annual rate, selected industries, 1973-2009 (Current Employment Statistics, Bureau of Labour Statistics)

In U.S., employment in goods producing industries was most severely impacted as compared to that in other sectors during the recessionary period. Financial activities also experienced a decline of 3.9 percent in employment. However in education and health services, employment increased.

5.3. Public Debt

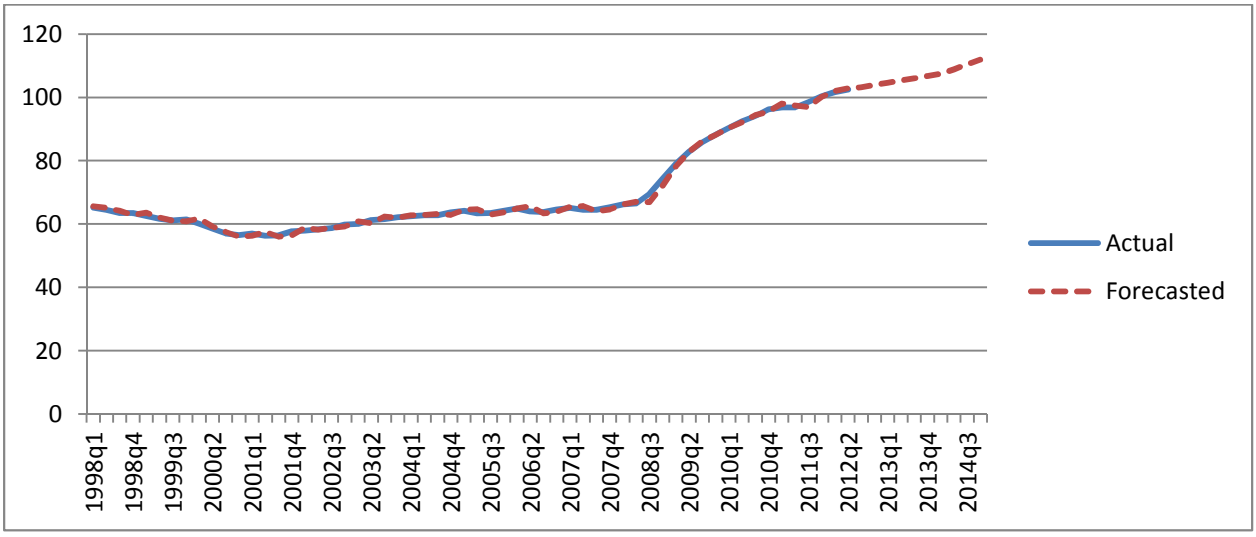

Figure 6. Forecasted Public Debt as percent of nominal GDP

The US total outstanding public debt as percentage of nominal GDP has grown from 64.57 percent in 1998 to 100.394 percent in 2011. The change in debt position can be attributed to tax cuts and lower than expected economic growth. The Congressional Budget Office attributes 72 percent to spending increase (in Medicare & Medicaid, defense, income security such as

unemployment benefits, social security etc.) and legislated tax cuts (individual income taxes, payroll taxes, corporate income taxes etc.) and 27 percent to economic and technical factors. The major increase (about 56 percent) has been during the years 2009-2011.

Obama is seen by the American public as the one who will maintain the US social safety net i.e. preserve Medicare & Medicaid, defense, income security such as unemployment benefits, social security etc. which unemployed people and poor need to survive. If major tax increases and deep spending cuts are done then the debt would shrink. However, they have been repeatedly proven to be unpalatable and the lawmakers remain paralyzed trying to figure out the action to be taken the long term without harming the economy now. Also, with factors such as increasing aging population which needs higher spending on healthcare and higher interest payments on the debt, the public debt is further set to grow. As per selected ARIMA model, public debt will have an average value of 106.82 percent and lie in the interval 103 percent to 110 percent over September 2012 - December 2014.

Whereas under Romney's government, the debt might fall with the strategy to maintain a balanced budget and decrease the debt by lowering the expenditure in healthcare and education sector by delegating the responsibilities at the state and local level.

5.4. Gold Prices

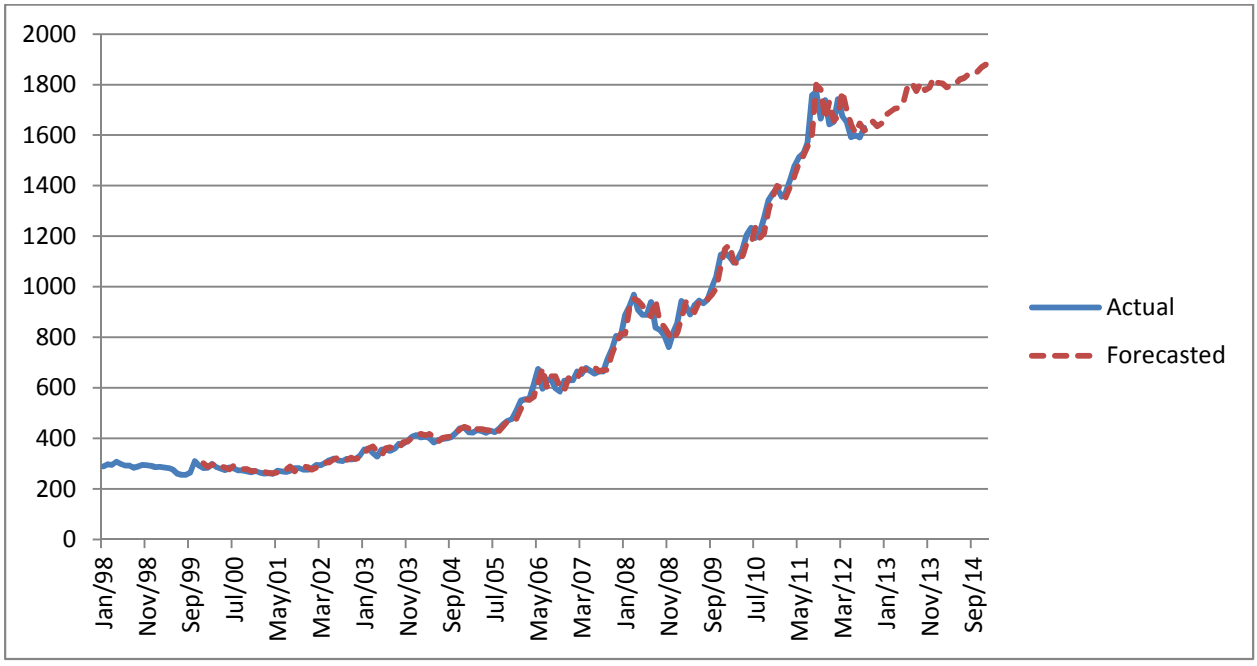

Figure 7. Monthly average gold price per ounce (US Dollar per Troy Ounce)

Currently the gold prices are entirely market driven and are based on supply and demand. The gold prices have sharply increased from 294.24 USD per oz. in 1998 to 1571 USD per oz. in

2011 i.e. by approximately 5 times. It has been shooting up to new price records driven by ever increasing demand for investment in a safe haven. The gold price increase through investment is fueled by inflation of fiat currency which explains the sharp increase during recessionary times.

Overall, the decline in the US Dollar will inflate prices in the stock market and commodities and we can expect a steady increase in gold prices. If the current economic mood prevails, the price of gold will go up as per selected ARIMA modeling with an average price of 1766 USD per oz and will lie within the range of 1630.024 USD per oz to 1878.716 USD per oz over September 2012 – December 2014 period.

5.5. Oil Prices

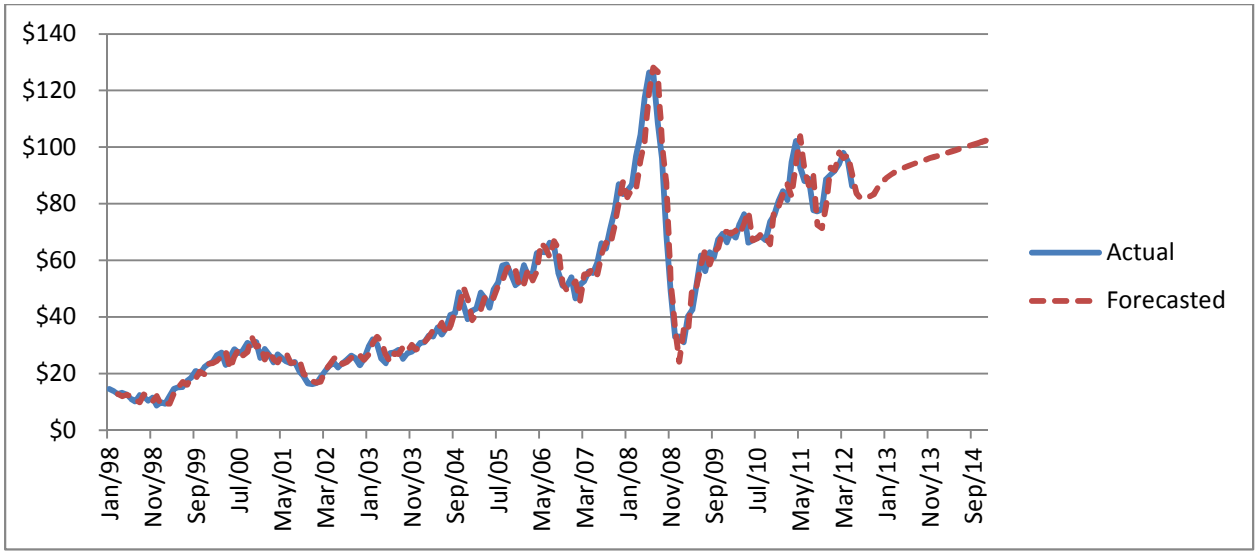

Figure 8. Monthly average domestic crude oil prices in US dollars per barrel

The oil prices (adjusted for inflation) only exceeded 20.53 USD per barrel 50 percent of the time, from 1947 to 2010. But there has been a rapid increase in the US domestic crude oil price (nominal) from 11.91 USD per barrel in 1998 to 93.02 USD per barrel in 2012 (partial). Particularly in 2008, the oil prices continued to soar. Since the spare capacity to produce oil dipped below a million barrels a day, the speculation in the crude oil futures market about oil prices became stronger. However, owing to recession and declining petroleum demand, the price fell throughout the remainder of 2008 to as low as 40 USD per barrel in December from a high of 91.48 USD per barrel. The rising demand from Asia caused the prices to rise in January 2009. A jump in prices in February 2011 was due to the unrest in Middle East and North African nations.

In the first quarter of 2012, the U.S crude oil production has been the highest in 14 years i.e. 6 million barrels per day due to growing economic activity on a global scale. This can be attributed to modern technologies in place like horizontal drilling, hydraulic fracturing etc. Also, the net

daily U.S. imports of petroleum have dropped by 50 percent to only 8 million barrels over the last 5 years which are further likely to shrink. Both the presidential candidates have a chance to hasten energy independence. Thus, the oil prices are likely to remain stable and increase slowly at an average of 93.66 USD per barrel within the range of 82 USD per barrel - 102.26 USD per barrel over September 2012-December 2014.

5.6. Health Care Expenditure

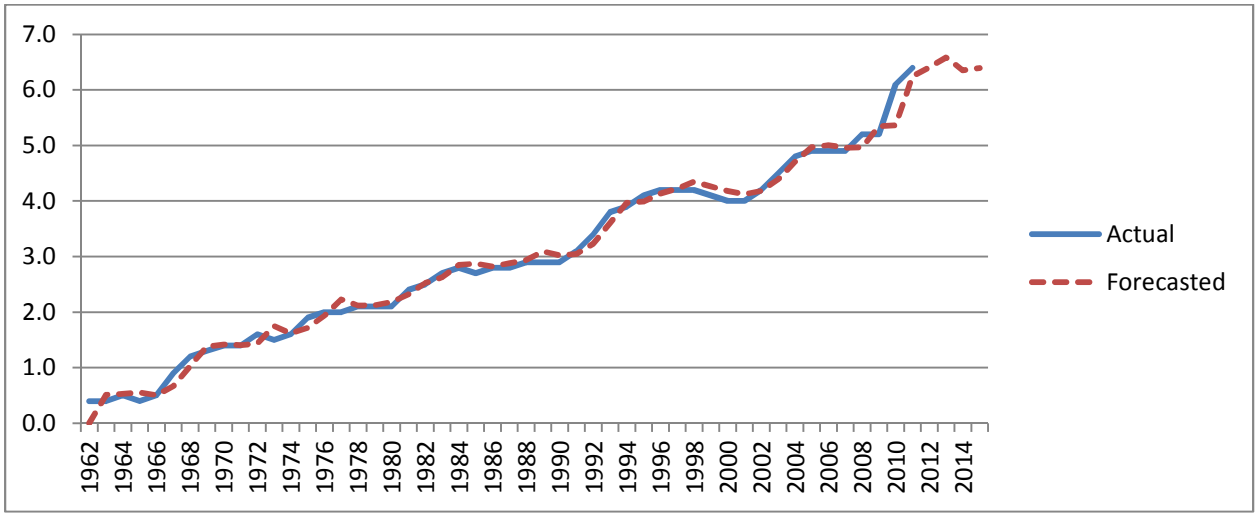

Figure 9. Annual outlays for health programs as percentage of GDP

Today the United States today spends roughly twice as much per capita on healthcare as other industrialized countries, such as the other members of the Organization for Economic Cooperation and Development (OECD).

The healthcare spending in U.S. has increased sharply over the past few decades with an increase of 44 percent in real capita terms in the last decade. Overall, the growth in healthcare spending has been more rapid than inflation.

The reasons that can be attributed are higher quality healthcare with improved technological options. It may be that the poorly functioning healthcare markets have led to inefficient spending and at the same time has put pressure on institutions that finance the same leading to increased US public debt by burdening both Federal and State budgets. This may lead to increased taxes or lowered non-health spending in future in order to decrease the fiscal deficit.

Under Obama, a modest growth in healthcare expenditure is expected till coverage expands and economy accelerates. This is reinforced by the fact that the U.S. Healthcare IT Market is forecasted to grow at a CAGR of around 22.5 percent during 2012-2014. Overall, the reforms should bring about more healthcare value and affordability. Thus, annual outlays on health

programs as percentage of GDP are expected to be around 6.51 percent on an average within the range of 6.42 percent - 6.67 percent over September 2012 – December 2014.

Under Romney's government, through encouragement to the private sector to play a greater role in healthcare and people having choices between government's medicare and private plans with no change for current and future retirees, the outlay on health programs by the Federal government might decrease.

5.7. Social Benefit Spending

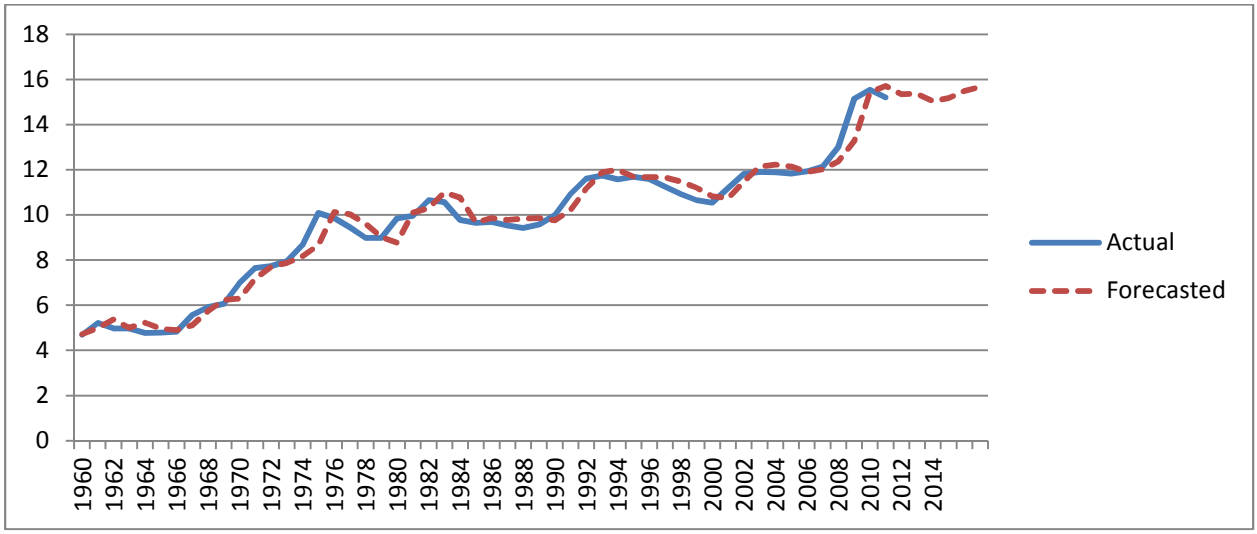

Figure 10. Government social benefits as percentage of nominal GDP

The U.S. government social benefits to individuals, Federal, State and Local government as a percentage of nominal GDP increased by 4 times from 4.62 percent in 1998 to 15.19 percent in 2011. This can be attributed to the reasons stated in the previous subsection on healthcare.

The government social benefits as percentage of nominal GDP is expected to be on an average 15.24 percent within the range of 15-16 percent post the presidential election owing to the reforms taken by the government to maintain a balanced budget and public debt as well as improvement in the quality of healthcare by investment in US Healthcare IT Market.

Medicaid being a big driver for deficit, the plan to reduce overheads up to 716 Billion USD from healthcare by no longer paying to the insurance companies and by not overpaying providers and thereby be able to reduce prescription drug cost by 600 USD and use the money for preventive care is what Obama intends to do.

On the other hand, Mitt Romney aims to lower expenses by letting government and enterprises compete i.e. not have the Federal government take over healthcare but have the private market and individual responsibility that would work the best. Thus, social benefit spending might reduce under his regime.

5.8. Trade

5.8. a. Exports

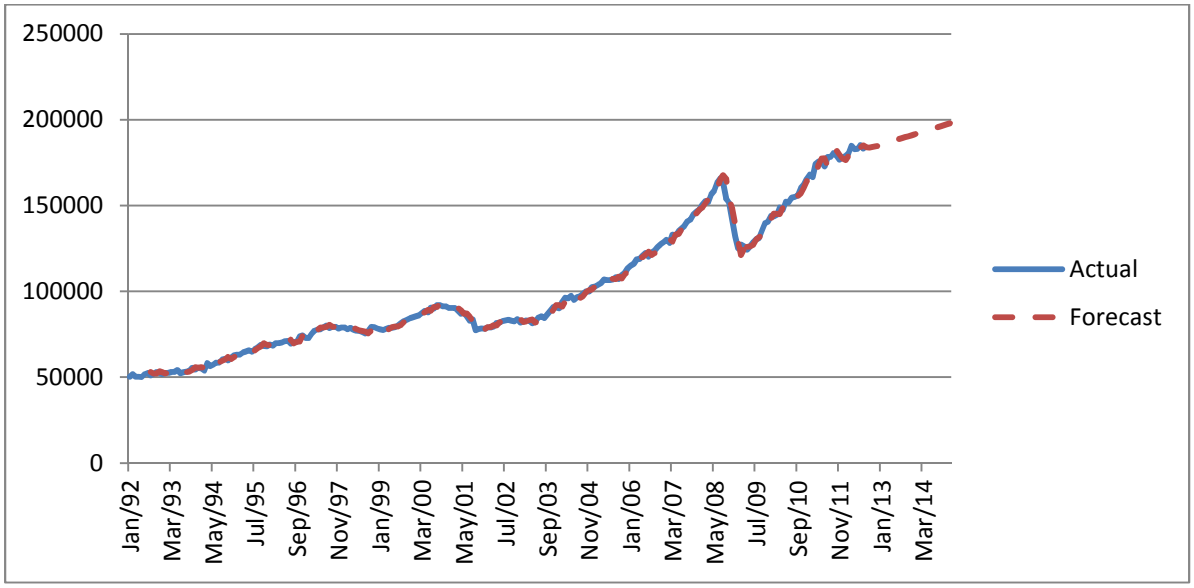

Figure 11. Monthly US Exports (in millions of dollars) and seasonally adjusted

Since 1992, U.S. exports were at an average of 100126.5 Million USD. United States majorly exports machinery and equipment, motor vehicles, food, beverages, non-auto consumer goods and aircrafts and parts. It is the world's third largest exporter. The exports reached all-time high of 185182 Million USD in June 2012.

As per selected ARIMA model, average deviation between actual and forecasted values for existent data is 1.34%. This model estimates that the current level of exports in July 2012 at 183269 Million USD will rise by 7.96 percent to 197854 Million USD in December 2014.

According to a recent BCG report, the rising U.S. exports are expected to surge and re-shoring could create up to 5 million jobs by 2020. Since 2006, U.S. exports have increased by 30 percent. According to the same BCG report, by 2015, U.S. will have an export cost advantage (electricity, labor, and natural gas) of 5-20 percent over Japan, Germany, Italy, U.K. and France. This will prompt U.S. to capture 2-4 percent of export market from the above mentioned European countries and around 3-7 percent market from Japan as well.

This is true for both the parties- republicans and democrats, as they wish to introduce more trade deals and open trade that would lead to more American products being sold overseas. Thus, exports are set to increase over 2013-2014.

5.8. b. Imports

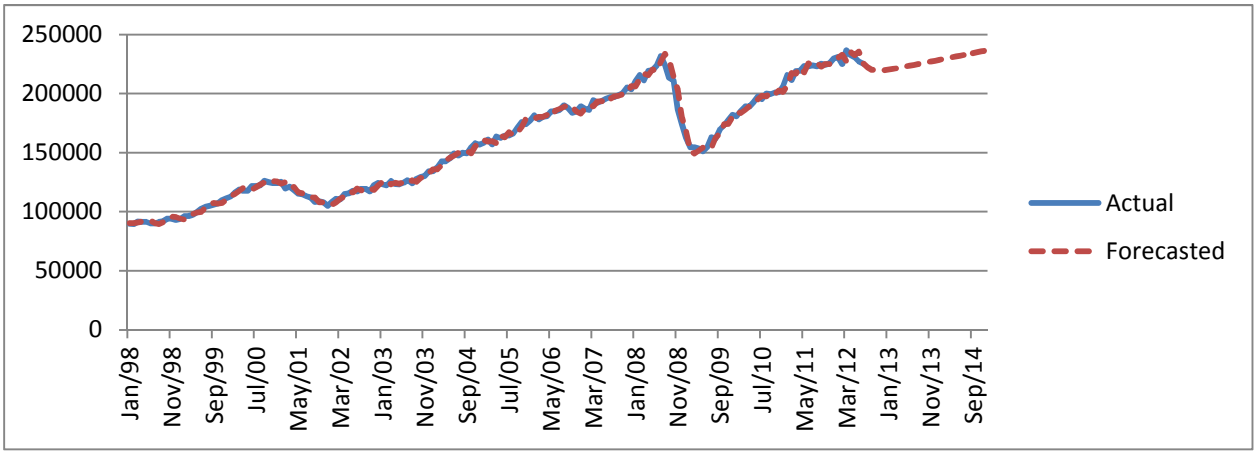

Figure 12. Monthly total imports of goods and services in millions of dollars (seasonally adjusted)

The United States is the world's second largest importer of non-auto consumer goods, fuels, non-fuel industrial supplies, production machinery and equipment, motor vehicles and parts, food etc. from European Union, China, Canada, Mexico and Japan.

From figure 12, we see that the imports have increased rapidly from 1998 (1,099,314 million USD) till 2008 (2,541,020 million USD). Owing to effects of recession and a slowing economy, the imports in 2009 fell to 1,958,099 million USD. The recovery post-recession also caused the imports to steadily increase to 2,663,247 million USD in 2011.

As per the selected ARIMA model, the U.S. monthly imports in July 2012 at 225271 million USD will rise by 4.95 percent to 236432.6 million USD. Overall, post the presidential election, the imports are expected to rise after a short fall in the beginning of 2013.

5.9. Interest Rate

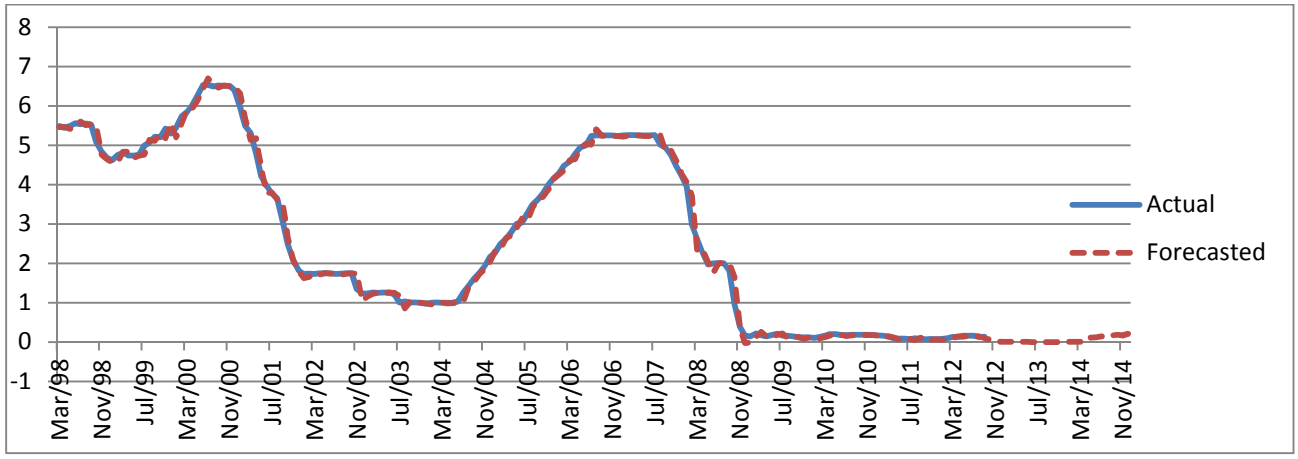

Figure 13. The annual Federal funds effective rate

The Federal Funds Rate from 1989-2000, they were significantly affected by the decline in total requirements which gave way to rising federal funds rate volatility. After several changes made by the Fed to the framework, a decline from 6.5 percent in December 2000 to 1.8 percent in December 2001 was followed by a reduction in the volatility from 2001 to midyear 2005. This could be attributed to increased number of large banking institution and decreased number of days to adjusted reserve supply through open market operations. The federal funds rate further started increasing from the second half of 2005 (3.05 percent) till the end of 2007 (4.29 percent) hovering around 5.25 percent in 2006. It started declining sharply as effects of recession poured in even being negative in December 2008 – January 2009 from a high of 4.06 percent in January 2008 to -0.00884 percent in January 2009.

The Federal Open Market Committee (FOMC) of the Federal Reserve System (Fed) set a target for federal funds rate at a range of 0 to 0.25 percent since its December 16, 2008 meeting. Since then the federal funds rate has been between 0.05 percent and 0.25 percent with an average of 0.13 percent. So, the federal funds rate has been kept at a low level for a long period and with sometimes negative real GDP growth along with a very high unemployment rate. With the current economic mood, the rates would remain stable and hover around 0.2 percent.

However, over the long term, the FOMC may have to take a reverse course and start to increase interest rates in a phased manner.

5.10. Inflation Rate

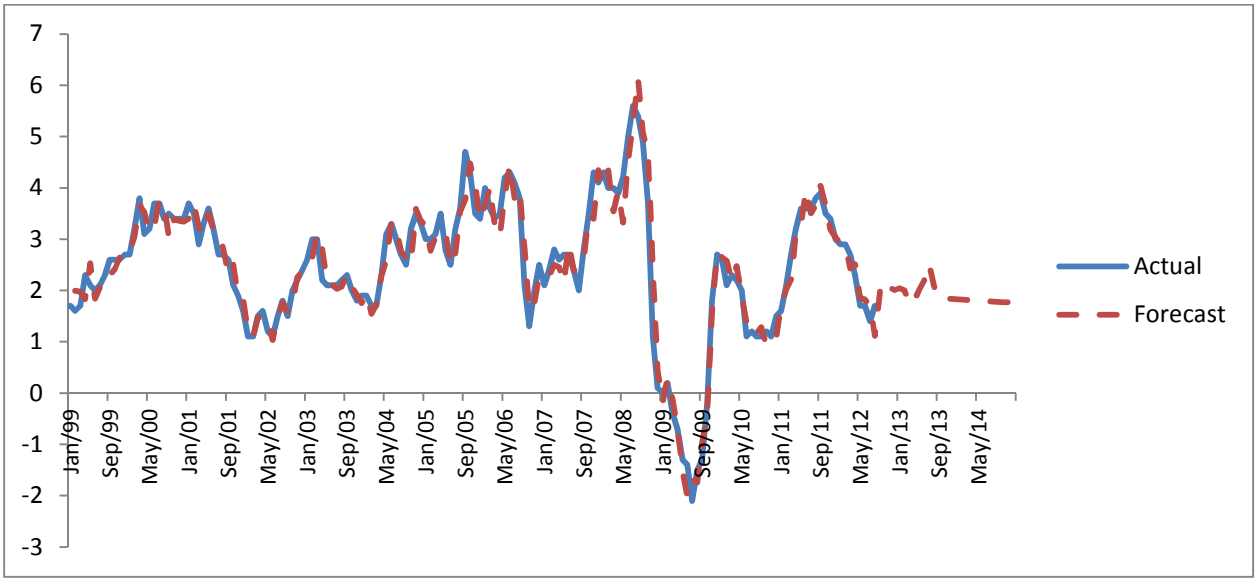

Figure 14. Forecasted Inflation as annual change in CPI in percent

Inflation rate refers to increase in prices measured against a standard level of purchasing power. CPI measures the change in price level of goods and services purchased by consumer households. Historically, U.S. inflation rate is at an average of 3.4 percent from 1914 to 2012 and reached its highest level of 23.7 percent in June 1920.

U.S. also experienced deflation during the period January 2009 to October 2009 and reached a value of -2.01 percent in June 2009.

A sample from January 1999 to August 2012 was analyzed. As per selected ARIMA model, a maximum of 2.51 percent inflation will be observed in July 2013 with an average of 1.91 percent inflation in the forecast period September 2012 to December 2014. The inflation is expected to rise in the first two quarters of next financial year 2013-2014 but will decline eventually. According to forecasts, inflation will vary from 2.055 percent in November 2012 to approximately 1.762 percent by the end of 2014.

5.11. Exchange Rate

USD/EUR:

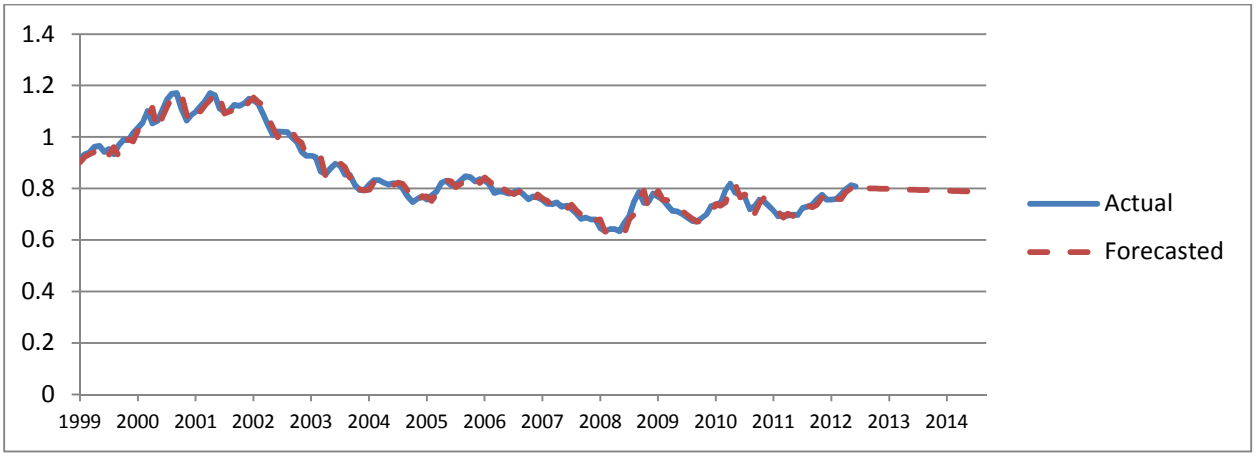

Figure 15. Forecast for monthly average exchange rate USD versus euro

The USD/EUR is affected by factors that separately influence these currencies. The interest rate differential between European Central Bank (ECB) and the Federal Reserve (Fed) will influence the pair. The U.S. dollar and the euro are two of the most important currencies in the world. The performance of U.S. dollar relative to euro is dependent on factors like currency exchange speculation, industrial performance and global economy. Dollar is negatively correlated with stocks that impact the euro. However, a weaker euro is bad for U.S. economy as it makes U.S. goods expensive in Europe and thus, cuts into the profits of U.S. corporations. Thus, American companies initiate lay-offs further fuelling the ongoing unemployment crisis, forming a vicious circle.

As per selected ARIMA model, average deviation was found out to be 1.8 percent between current data and forecasted version of current data. The average estimated exchange rate is predicted to be at 0.794 USD/EUR over a period of 2 years from September 2012 to December 2014. The range is expected to be 0.801 USD/EUR in November 2012 to 0.786 USD/EUR in December 2014.

USD/BRL:

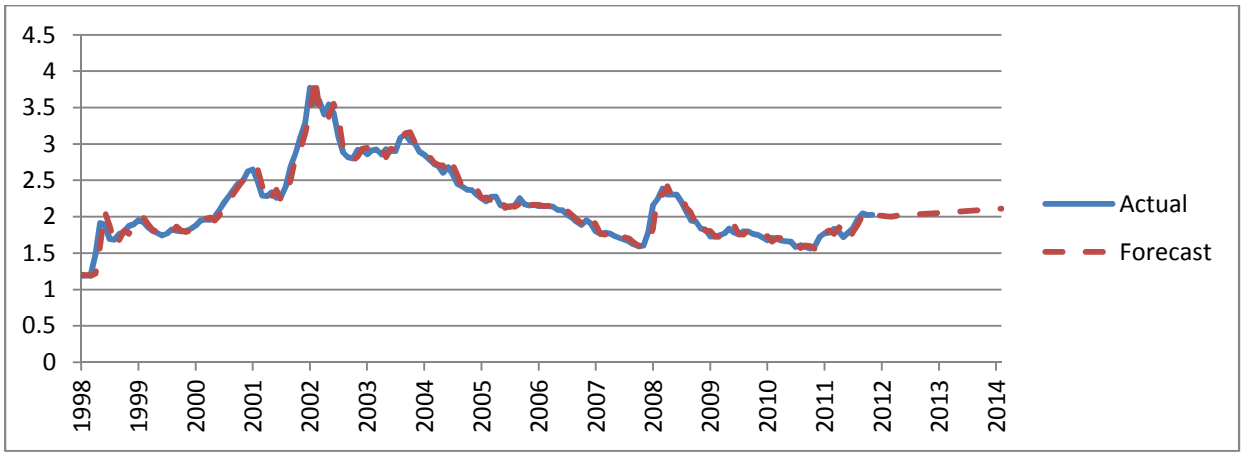

Figure 16. Forecast for monthly average exchange rate for USD versus Brazilian Real

The exchange rate of the Brazilian Real was at par with the U.S. dollar when Real was introduced in June 1994. Since then, it has fluctuated heavily and reached a minimum of R$ 4.03 per U.S. dollar. In April 2010, interest rates were increased by the Brazilian Central Bank due to which Real got strengthened while the dollar weakened. From 2010 to 2011, Brazilian Central Bank held various spot auctions to buy U.S. dollars in order to weaken Real and make their exports less costly in the world market.

As per selected ARIMA model, average deviation between actual and forecasted data has been found to be 2.72 percent. The average value for a period of August 2012 to December 2014 seems to be at 2.05. The rate seems to fluctuate between 2.012 Real per dollar in November 2012 to 2.11 Real per dollar in December 2014 thus supporting the Brazilian exports as envisioned by Brazilian Central Bank.

USD/INR:

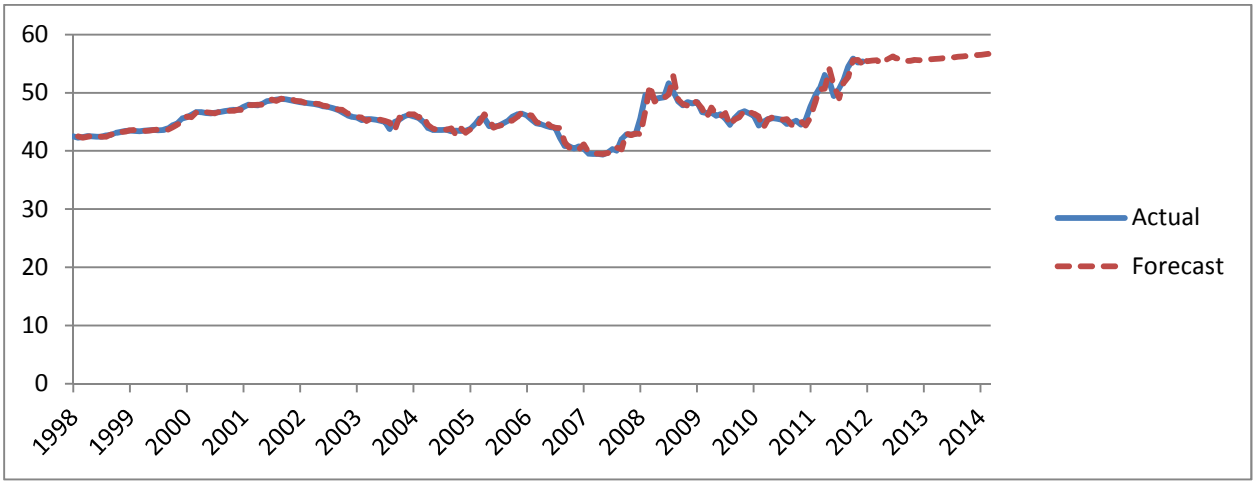

Figure 17. Forecast for monthly average exchange rate USD versus Indian Rupee

In the recent past, Indian rupee has depreciated heavily compared to U.S. dollar. Various reasons quoted by economists are gains in dollar overseas due to euro decay, disinvestment, export slowdown, growing current account deficit and huge consumer demand for oil imports. There are various other factors like the corrupt image of Indian economy which has earned hands down from FIIs and other parts of the world. The future of Indian rupee depends a lot on how Indian government introduces proper framework for bringing reforms like FDI in retail, insurance and other sectors.

As per selected ARIMA model, average deviation between actual and forecasted values is 0.95 percent. This model predicts that USD/INR exchange rate will depreciate to 56.67 by the end of 2014. Also average USD/INR rate during the forecasted period – November 2012 to December 2014 will be 55.90 with the range being 55.53 USD/INR in November 2012 to 56.67 USD/INR in December 2014. Indian Rupee rose to a six month high after the announcement of reforms like FDI in multi-retail, aviation and insurance sectors. The model also relies on the fact that unless the Indian government introduces a proper framework to implement such reforms which will to boost economic growth and will strengthen the investor's confidence; the exchange rate is bound to hover around USD/INR 52 to 57.

USD/CNY:

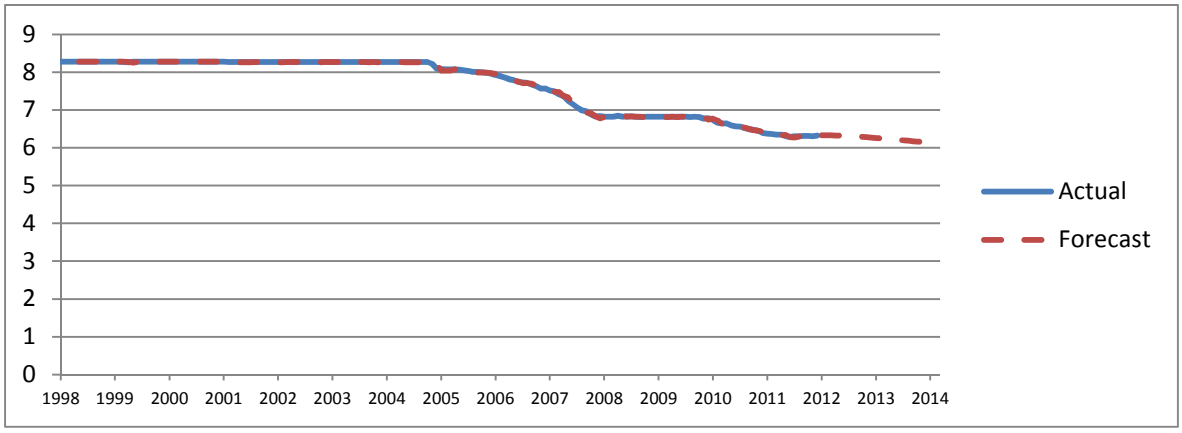

Figure 18. Forecast for monthly average exchange rate USD versus Renminbi

The Chinese government has tried to keep Chinese exports competitive by controlling the economy and pegging their currency to a basket of international currencies including fixing it against dollar. Due to these huge Forex reserves, Chinese policies have a huge impact on the dollar. Most economists and analysts predict that Renminbi may even outsmart Dollar to become the world's primary reserve currency. However, there is still a debate on the fact that Renminbi is highly undervalued and its value will appreciate by around 25 percent when left to trade freely.

As per selected ARIMA model, the average deviation between actual and forecasted values is 0.15 percent. The range will be 6.328 USD/CNR in November 2012 to 6.104 USD/CNR in December 2014. Average rate seems to be 6.24 over the future forecasted period. This model predicts that the currency exchange will appreciate further in the next 2-3 years.

USD/RUB:

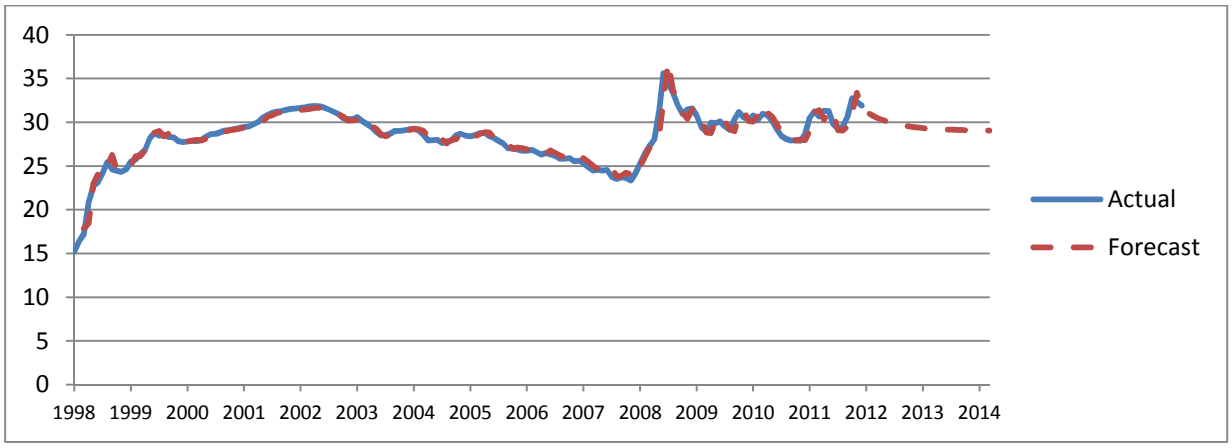

Figure 19. Forecast for monthly average exchange rate USD versus Russian Rouble

Russia is primarily an oil-exporting nation and its currency is highly impacted by changes in oil prices. Russian rouble has appreciated by almost 80 percent over a period of 1999-2008. Russia however does not trade oil much with U.S. as compared to the European countries. Thus when the oil prices rise, the nominal exchange rate of Rouble with respect to U.S. dollar will not appreciate much while the same exchange rate between Russian rouble and euro will appreciate considerably. The nominal exchange rate of Russia against U.S. dollar depreciated significantly during the period of world financial crisis.

As per selected ARIMA model, average deviation between actual and forecasted values is 1.41 percent. The range will be 30.835 USD/RUB in November 2012 to 29.058 USD/RUB in December 2014. Average rate during the forecasted period seems to be at 29.609. The exchange rate will appreciate further to 29.05 by the end of 2014.

5.12. Budget Deficit/ Surplus

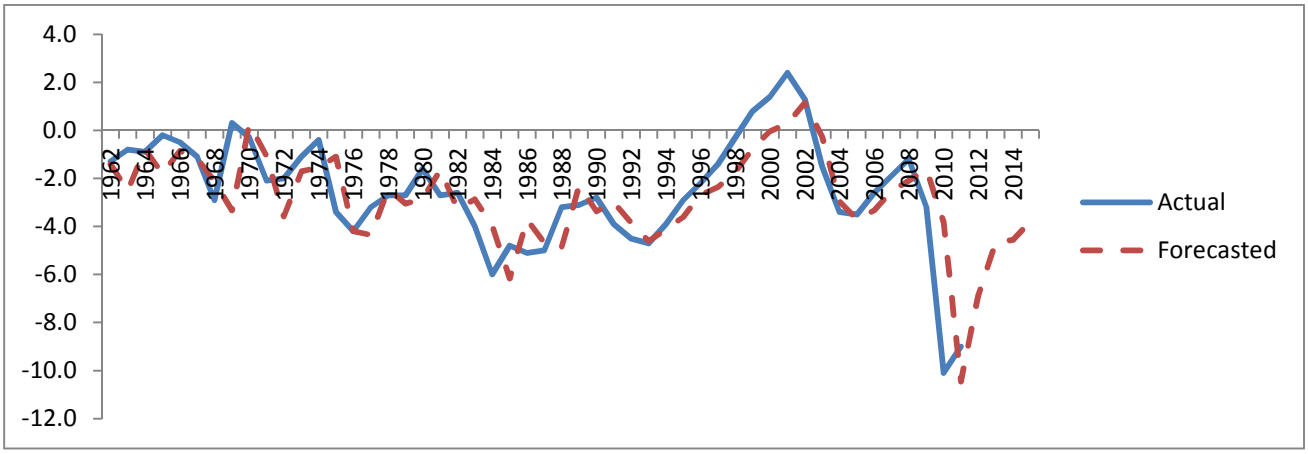

Figure 20. Deficit/ Surplus of budgetary receipts over the budgetary outlays as a percent of GDP

In the last 69 years, United States of America has posted 12 budgetary surpluses with the most recent being in 2001. Between 1920 and 1930, there was a large uninterrupted stretch of surpluses which eventually ended when the government tried to combat with the Great Depression. The major events that impacted U.S. budgetary surplus/deficit were Great Depression, World War II, Korean War, Vietnam War, Oil Embargo, Collapse of Soviet Union, Gulf War, 9/11 September, Iraq War and recent being the Global Financial Crisis.

Total deficit reached 10.1 percent of U.S. GDP in 2010 which has been highest till now. As per selected ARIMA model, annual budgetary deficit will decline to 6.88 percent in 2012, 4.66 percent in 2013 and to 4.56 percent in 2014. Since 2008, in order to counter the negative effects of economy, lawmakers have passed approximately $2 Trillion in spending increases and tax cuts.

Under Obama's government, the budget deficit may increase due to investments in healthcare ("Obamacare"), education etc. but no source of revenue whereas Mitt Romney's key focus is to maintain a balanced budget and decrease the debt by lowering the expenditure in healthcare and education sector by delegating the responsibilities at the state and local level and increase revenues through job creation.

5.13. Capital Markets

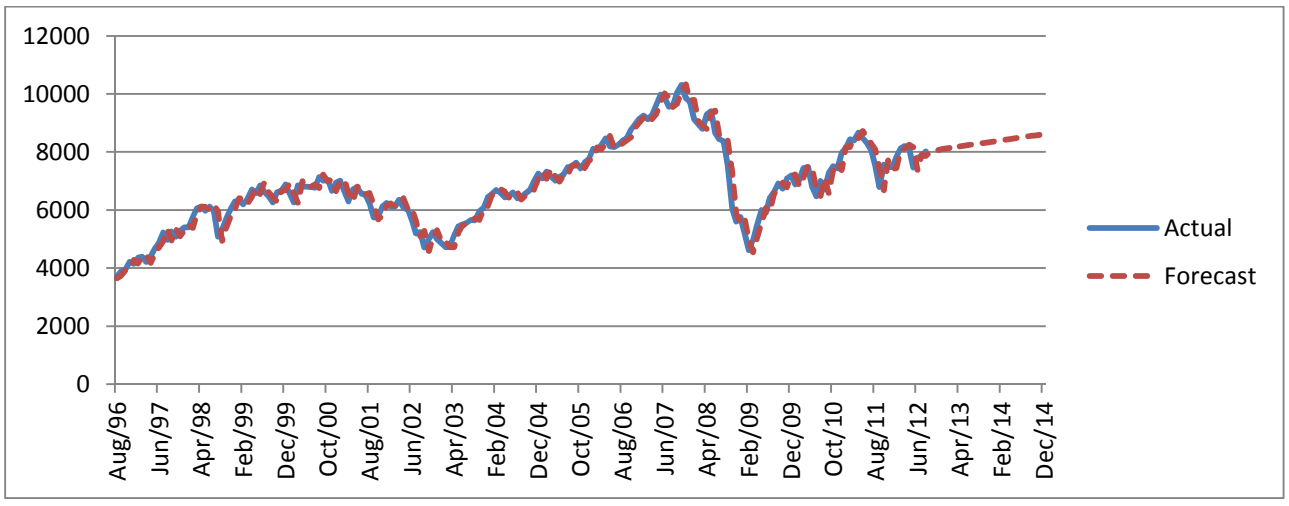

Figure 21. NYSE Composite Index

NYSE Composite Index covers all the common stocks listed on NYSE including ADRs, foreign listings and real estate investment trusts. This index covers more than 2000 stocks and uses free-float market capitalization. It is a highly globally diversified index representing 38 countries and around 64 percent U.S. stocks constituting it. This index represents the broad spectrum of U.S. economy.

During September 2012, this index generated a 4.61 percent return and in the last year, it has generated a 23 percent return. In a scenario of declining global economic activity, U.S. stocks continued to rally in September. S&P 500 index also rose by 2.5 percent triggered by the bond buying plans by ECB and U.S. Federal reserve and stimulus from Chinese government.

As per selected ARIMA model, the range of NYSE composite index will be from 8070.676 in November 2012 to 8614.781 in December 2014.

Moving ahead, in 2013, U.S. stocks will serve as an attractive investment over other areas of investment. The major challenges ahead are the euro-zone crisis, fiscal cliff in November after presidential election and slow growth in China. Despite of these hurdles, U.S. stocks have performed well in the first three quarters in the year. It is expected that steps taken to curb euro-zone crisis will culminate into positive results and the new U.S. government will take serious steps to bring back the U.S. economy on a normality path by addressing the monumental fiscal issues. Also Chinese economy will recover to a better growth rate under the new leadership.

5.14. Tax Revenues

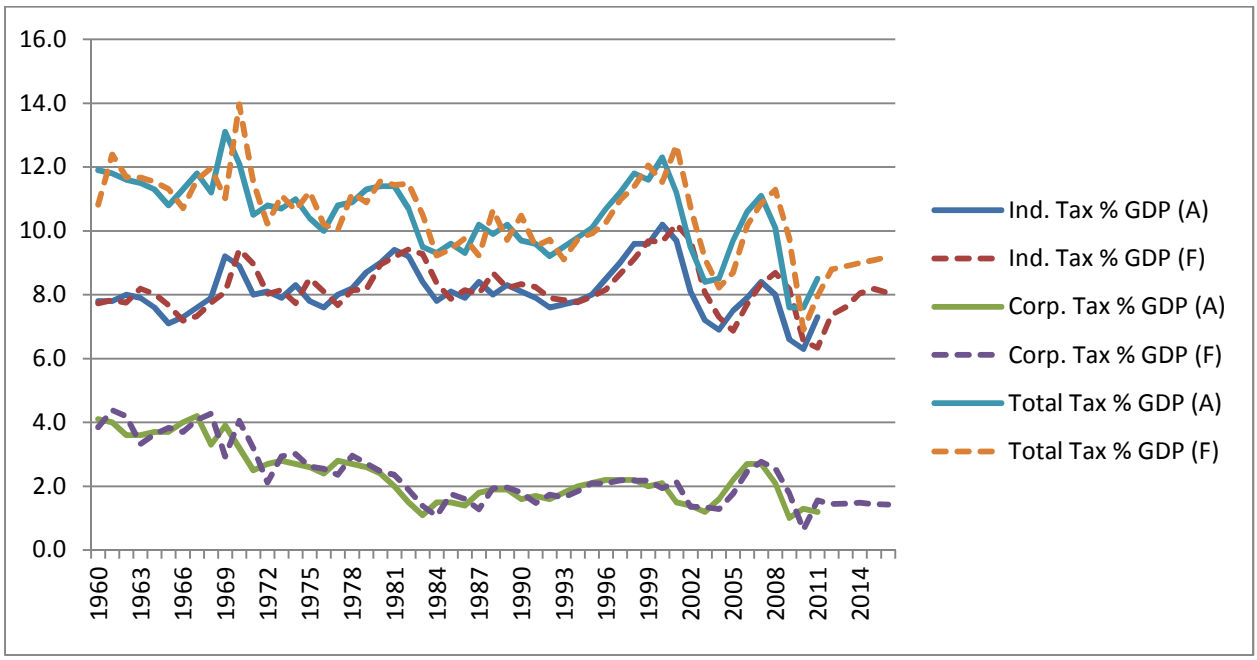

Figure 22. Government Tax Revenues (Individual and Corporate taxes) as a percentage of GDP

Individual Income tax has been historically the highest contributor to the U.S. total tax revenues. In 2010, $2.2 Trillion was collected as Tax revenue which makes up to 14.9 percent of GDP. Since the creation of Medicare, payroll taxes have increased from 1.6 percent of GDP in 1950 to

6 percent and above since 1980. Revenue from corporate income tax has declined to 1.3 percent of GDP in 2010.

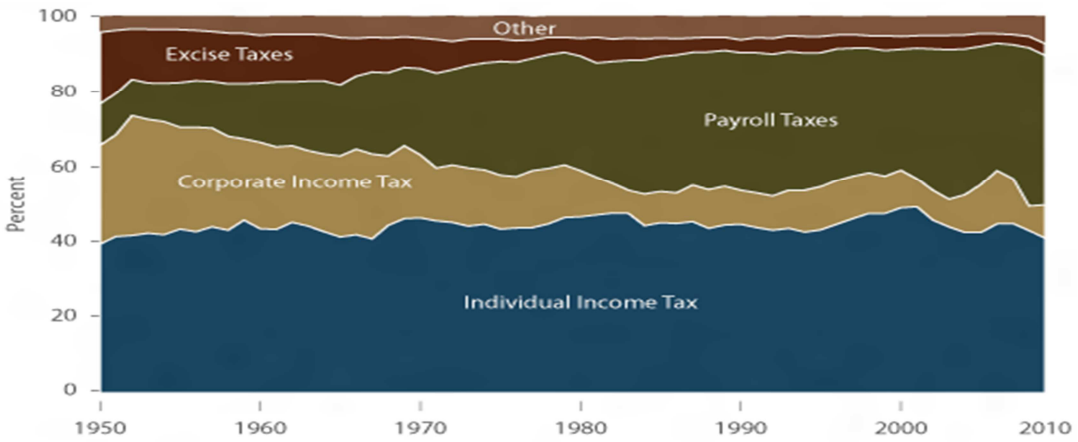

Figure 23. Sources of Federal Revenue, Fiscal 1950-2010 (Source: Budget of the United States Government, Fiscal year 2012, Historical Tables: Table 2.1; The White House)

Figure 24. Sources of Federal Tax Revenue, Fiscal Year 2010 (Source: Budget of the United States Government, Fiscal year 2012, Historical Tables: Table 2.1; The White House)

As per selected ARIMA model, the Individual Tax revenue will be 7.37 percent of GDP in 2012 to 8.04 percent of GDP in 2014 while Corporate Tax revenue will be 1.44 percent of GDP in 2012 to 1.48 percent of GDP in 2014. The Total Tax revenue will vary from 8.79 percent of GDP in 2012 to 8.99 percent of GDP in 2014.

While Obama aims to provide tax cuts to the middle class but not for incomes greater than $200,000 and lower corporate tax for manufacturing but not for the companies shipping overseas, he may have to burden the middle class to reduce the deficit and compensate for higher expenditure in education and healthcare, Romney aims to provide tax reliefs to small businesses especially those who fall under the bucket of individual income tax (greater than corporate tax). As Romney wishes to increase the benefit for middle class and reduce the benefit for high

income class, the tax revenues would fall under Romney's administration may decrease whereas tax revenues may increase under Obama's administration.

6. Conclusion

Post 2012 Presidential election, the GDP is expected to grow at around 2 percent with credit creation process taking place. With policies to maintain a US social safety net, investments to improve quality of healthcare, increased interest payments on the debt, the US public debt is set to grow. As the US Dollar is set to decline, the prices in the stock market and commodities would inflate thus leading to rising gold prices. With better technology in place and thereby increased production of oil, the oil prices are set to remain stable. With greater focus on healthcare, the annual outlays on health programs and social benefit spending is set to grow but only limited owing to reforms that might be taken to maintain a balanced budget. With federal rate target set at 0-0.25 percent by Federal Open Market Committee (FOMC), the rate is expected to remain low in the short term and might even fall below zero with policies in place to promote faster economic recovery. However, in the longer term FOMC may have to take a reverse course and start to increase rates if the U.S. economy has to create more jobs and economic growth returns to normal. U.S. exports and imports are also expected to increase as the U.S. economy recovers in terms of employment and GDP growth. Budgetary deficit is also estimated to decrease to 4.55 percent of GDP in 2014 from a maximum of 10.1 percent of GDP in 2010.

Overall, taking each of the candidate's strategy we can say that while according to Obama's strategy, greater investment in healthcare and education may increase the US Public Debt, budget deficit, healthcare expenses, social benefit spending etc. but it will improve the quality of healthcare and education to people in the long term. The exports would double and investment in education and training programs may bring down the unemployment rate (which has been over 8 percent for the last 43 months). The tax cuts may lower the government's tax revenues. Whereas Mitt Romney's strategy will make the healthcare expenditure and social benefit spending stable or a little lower. The US Public Debt and Budget deficit would lower. With open trade, the exports and imports would increase. With major focus on job creation, the unemployment rate would certainly decrease by a significant amount. With tax reliefs to small businesses and middle class government's tax revenues may decrease.

With such policies in place and their impacts, the GDP is expected to grow at an average of about 2 percent. The findings also indicate that a recession is not impending in 2013.

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Appendix I: Results of ARIMA modeling

Dependent Variable: GDPC
Method: Least Squares
Date: 10/06/12 Time: 18:37
Sample (adjusted): 1998Q2 2012Q2
Included observations: 57 after adjustments
Convergence achieved after 3 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.082028	0.628356	3.313452	0.0016
AR(1)	0.470835	0.118611	3.969583	0.0002

R-squared	0.222698	Mean dependent var	2.121053
Adjusted R-squared	0.208565	S.D. dependent var	2.820571
S.E. of regression	2.509253	Akaike info criterion	4.712305
Sum squared resid	346.2994	Schwarz criterion	4.783991
Log likelihood	-132.3007	Hannan-Quinn criter.	4.740165
F-statistic	15.75759	Durbin-Watson stat	2.227941
Prob(F-statistic)	0.000211		

Inverted AR Roots	.47

Table 1: Real GDP Growth Rate

Dependent Variable: D(PDEBT)
Method: Least Squares
Date: 10/06/12 Time: 20:50
Sample (adjusted): 1998Q1 2012Q2
Included observations: 58 after adjustments
Convergence achieved after 3 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.682972	0.524483	1.302182	0.1982
AR(1)	0.784746	0.082472	9.515284	0.0000

R-squared	0.617853	Mean dependent var	0.638191
Adjusted R-squared	0.611029	S.D. dependent var	1.377399
S.E. of regression	0.859049	Akaike info criterion	2.567893
Sum squared resid	41.32606	Schwarz criterion	2.638943
Log likelihood	-72.46890	Hannan-Quinn criter.	2.595568
F-statistic	90.54063	Durbin-Watson stat	1.953948
Prob(F-statistic)	0.000000		

Inverted AR Roots	.78

Table 2: Public Debt as a percent GDP

Dependent Variable: D(OP)
Method: Least Squares
Date: 10/07/12 Time: 11:00
Sample (adjusted): 1998M03 2012M05
Included observations: 171 after adjustments
Convergence achieved after 11 iterations
MA Backcast: 1997M09 1998M02

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.474702	0.097569	4.865297	0.0000
AR(1)	0.693907	0.088695	7.823526	0.0000
MA(1)	-0.557142	0.082257	-6.773223	0.0000
MA(6)	-0.400732	0.059760	-6.705677	0.0000

R-squared	0.232179	Mean dependent var	0.423918
Adjusted R-squared	0.218385	S.D. dependent var	5.328383
S.E. of regression	4.710769	Akaike info criterion	5.960693
Sum squared resid	3705.954	Schwarz criterion	6.034182
Log likelihood	-505.6393	Hannan-Quinn criter.	5.990512
F-statistic	16.83283	Durbin-Watson stat	1.848258
Prob(F-statistic)	0.000000		

Inverted AR Roots	.69			
Inverted MA Roots	.99	.53-.72i	.53+.72i	-.35-.73i
	-.35+.73i	-.79		

Table 3: Oil Prices

Dependent Variable: D(HC)
Method: Least Squares
Date: 10/07/12 Time: 02:08
Sample (adjusted): 1967 2011
Included observations: 45 after adjustments
Convergence achieved after 3 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.121273	0.017706	6.849212	0.0000
AR(4)	-0.462500	0.191788	-2.411520	0.0202

R-squared	0.119131	Mean dependent var	0.131111
Adjusted R-squared	0.098646	S.D. dependent var	0.180683
S.E. of regression	0.171540	Akaike info criterion	-0.644572
Sum squared resid	1.265319	Schwarz criterion	-0.564276
Log likelihood	16.50287	Hannan-Quinn criter.	-0.614638
F-statistic	5.815429	Durbin-Watson stat	1.763404
Prob(F-statistic)	0.020229		

Inverted AR Roots	.58+.58i	.58+.58i	-.58-.58i	-.58-.58i

Table 4: Health care as a percentage of GDP

Dependent Variable: D(GSB)
Method: Least Squares
Date: 10/07/12 Time: 02:42
Sample (adjusted): 1941 2011
Included observations: 71 after adjustments
Convergence achieved after 5 iterations
MA Backcast: 1936 1940

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.178299	0.051811	3.441373	0.0010
MA(5)	-0.269303	0.124705	-2.159509	0.0343

R-squared	0.256357	Mean dependent var	0.180738
Adjusted R-squared	0.042681	S.D. dependent var	0.590520
S.E. of regression	0.577781	Akaike info criterion	1.768520
Sum squared resid	23.03431	Schwarz criterion	1.832258
Log likelihood	-60.78246	Hannan-Quinn criter.	1.793867
F-statistic	4.120851	Durbin-Watson stat	1.505838
Prob(F-statistic)	0.046215		

Inverted MA Roots	.77	.24+.73i	.24-.73i	-.62-.45i
	-.62+.45i			

Table 5: Social Benefit Spending

Dependent Variable: D(IMP)
Method: Least Squares
Date: 10/07/12 Time: 12:08
Sample (adjusted): 1996M05 2012M07
Included observations: 195 after adjustments
Convergence not achieved after 500 iterations
MA Backcast: 1996M02 1996M04

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	723.0021	482.3275	1.498986	0.1355
AR(3)	0.252481	0.088319	2.858735	0.0047
MA(2)	0.301628	0.062633	4.815775	0.0000
MA(3)	0.223585	0.062633	3.569752	0.0005

R-squared	0.269657	Mean dependent var	750.7744
Adjusted R-squared	0.258185	S.D. dependent var	3839.903
S.E. of regression	3307.257	Akaike info criterion	19.06593
Sum squared resid	2.09E+09	Schwarz criterion	19.13306
Log likelihood	-1854.928	Hannan-Quinn criter.	19.09311
F-statistic	23.50695	Durbin-Watson stat	1.992887
Prob(F-statistic)	0.000000		

Inverted AR Roots	.63	-.32+.55i	-.32-.55i
Inverted MA Roots	.22-.67i	.22+.67i	-.45

Table 6: Imports

Dependent Variable: D(IR)
Method: Least Squares
Date: 10/06/12 Time: 23:35
Sample (adjusted): 1998M03 2012M08
Included observations: 174 after adjustments
Convergence achieved after 3 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.030660	0.034376	-0.891908	0.3737
AR(1)	0.693179	0.054955	12.61362	0.0000

R-squared	0.480525	Mean dependent var	-0.030920
Adjusted R-squared	0.477504	S.D. dependent var	0.192472
S.E. of regression	0.139126	Akaike info criterion	-1.095445
Sum squared resid	3.329241	Schwarz criterion	-1.059134
Log likelihood	97.30374	Hannan-Quinn criter.	-1.080715
F-statistic	159.1033	Durbin-Watson stat	2.108819
Prob(F-statistic)	0.000000		

Inverted AR Roots	.69

Table 7: Interest Rate

Dependent Variable: BD
Method: Least Squares
Date: 10/07/12 Time: 13:47
Sample (adjusted): 1932 2011
Included observations: 80 after adjustments
Convergence achieved after 8 iterations
MA Backcast: 1930 1931

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-3.327498	1.293122	-2.573229	0.0120
AR(2)	0.346554	0.158830	2.181914	0.0322
MA(1)	1.035615	0.107100	9.669617	0.0000
MA(2)	0.433026	0.119705	3.617449	0.0005

R-squared	0.662308	Mean dependent var	-3.193750
Adjusted R-squared	0.648978	S.D. dependent var	5.171302
S.E. of regression	3.063845	Akaike info criterion	5.125925
Sum squared resid	713.4232	Schwarz criterion	5.245027
Log likelihood	-201.0370	Hannan-Quinn criter.	5.173676
F-statistic	49.68579	Durbin-Watson stat	1.943017
Prob(F-statistic)	0.000000		

Inverted AR Roots	.59	-.59
Inverted MA Roots	-.52-.41i	-.52+.41i

Table 8: Budget Deficit/ Surplus

Dependent Variable: D(DOLLAR)
Method: Least Squares
Date: 10/07/12 Time: 09:52
Sample (adjusted): 1999M03 2012M08
Included observations: 162 after adjustments
Convergence achieved after 3 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.000595	0.002030	-0.293135	0.7698
AR(1)	0.374813	0.077779	4.818922	0.0000
AR(2)	-0.166737	0.077854	-2.141678	0.0337

R-squared	0.129195	Mean dependent var	-0.000529
Adjusted R-squared	0.118241	S.D. dependent var	0.021791
S.E. of regression	0.020463	Akaike info criterion	-4.922087
Sum squared resid	0.066576	Schwarz criterion	-4.864910
Log likelihood	401.6891	Hannan-Quinn criter.	-4.898872
F-statistic	11.79483	Durbin-Watson stat	1.995049
Prob(F-statistic)	0.000017		

Inverted AR Roots	.19+.36i	.19-.36i

Table 9: Exchange rate USD/EUR

Dependent Variable: D(BRZ)
Method: Least Squares
Date: 10/07/12 Time: 10:03
Sample (adjusted): 1998M10 2012M08
Included observations: 167 after adjustments
Convergence achieved after 12 iterations
MA Backcast: 1998M03 1998M09

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.004366	0.010028	0.435417	0.6638
MA(1)	0.340114	0.075611	4.498201	0.0000
MA(2)	0.187754	0.074934	2.505587	0.0132
MA(7)	-0.176606	0.072409	-2.439016	0.0158

R-squared	0.166500	Mean dependent var	0.005057
Adjusted R-squared	0.151159	S.D. dependent var	0.103782
S.E. of regression	0.095617	Akaike info criterion	-1.833277
Sum squared resid	1.490238	Schwarz criterion	-1.758594
Log likelihood	157.0786	Hannan-Quinn criter.	-1.802965
F-statistic	10.85360	Durbin-Watson stat	2.014091
Prob(F-statistic)	0.000002		

Inverted MA Roots	.72	.42-.62i	.42+.62i	-.22+.79i
	-.22-.79i	-.72-.36i	-.72+.36i	

Table 10: Exchange rate USD/BRL

Dependent Variable: D(RS)
Method: Least Squares
Date: 10/09/12 Time: 22:02
Sample (adjusted): 1998M10 2012M10
Included observations: 169 after adjustments
Convergence achieved after 7 iterations
MA Backcast: 1997M09 1998M09

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.053376	0.076318	0.699385	0.4853
MA(1)	0.442789	0.066634	6.645101	0.0000
MA(6)	0.168578	0.067971	2.480161	0.0141
MA(13)	-0.273560	0.074752	-3.659551	0.0003

R-squared	0.210365	Mean dependent var	0.059649
Adjusted R-squared	0.196008	S.D. dependent var	0.818284
S.E. of regression	0.733719	Akaike info criterion	2.242003
Sum squared resid	88.82674	Schwarz criterion	2.316084
Log likelihood	-185.4493	Hannan-Quinn criter.	2.272067
F-statistic	14.65241	Durbin-Watson stat	2.139373
Prob(F-statistic)	0.000000		

Inverted MA Roots	.86	.79+.43i	.79-.43i	.49-.72i
	.49+.72i	.06-.91i	.06+.91i	-.33-.84i
	-.33+.84i	-.74-.57i	-.74+.57i	-.91-.24i
	-.91+.24i			

Table 11: Exchange rate USD/INR

Dependent Variable: D(CHIN)
Method: Least Squares
Date: 10/07/12 Time: 10:33
Sample (adjusted): 1999M01 2012M08
Included observations: 164 after adjustments
Convergence achieved after 3 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.011636	0.005962	-1.951572	0.0527
AR(1)	0.332684	0.077118	4.313989	0.0000
AR(2)	0.176064	0.080341	2.191463	0.0299
AR(3)	0.234743	0.077144	3.042913	0.0027

R-squared	0.376845	Mean dependent var	-0.011909
Adjusted R-squared	0.365161	S.D. dependent var	0.024577
S.E. of regression	0.019582	Akaike info criterion	-5.004293
Sum squared resid	0.061355	Schwarz criterion	-4.928687
Log likelihood	414.3520	Hannan-Quinn criter.	-4.973600
F-statistic	32.25266	Durbin-Watson stat	2.027387
Prob(F-statistic)	0.000000		

Inverted AR Roots	.86	-.26+.45i	-.26-.45i

Table 12: Exchange rate USD/CNY

Dependent Variable: RUS
Method: Least Squares
Date: 10/07/12 Time: 10:51
Sample (adjusted): 1998M11 2012M08
Included observations: 166 after adjustments
Convergence achieved after 3 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	29.03143	0.662463	43.82347	0.0000
AR(1)	1.346161	0.070031	19.22246	0.0000
AR(2)	-0.423424	0.066159	-6.400055	0.0000

R-squared	0.942721	Mean dependent var	28.47905
Adjusted R-squared	0.942018	S.D. dependent var	2.651003
S.E. of regression	0.638346	Akaike info criterion	1.958034
Sum squared resid	66.42013	Schwarz criterion	2.014275
Log likelihood	-159.5168	Hannan-Quinn criter.	1.980863
F-statistic	1341.360	Durbin-Watson stat	1.865388
Prob(F-statistic)	0.000000		

Inverted AR Roots	.85	.50

Table 13: Exchange rate USD/RUS

Dependent Variable: D(CPI)
Method: Least Squares
Date: 10/07/12 Time: 12:21
Sample (adjusted): 1999M04 2012M08
Included observations: 161 after adjustments
Convergence achieved after 3 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.000801	0.050487	0.015867	0.9874
AR(1)	0.465244	0.078341	5.938735	0.0000
AR(2)	-0.186679	0.078417	-2.380613	0.0185

R-squared	0.182493	Mean dependent var	-1.38E-17
Adjusted R-squared	0.172145	S.D. dependent var	0.507937
S.E. of regression	0.462154	Akaike info criterion	1.312622
Sum squared resid	33.74669	Schwarz criterion	1.370040
Log likelihood	-102.6661	Hannan-Quinn criter.	1.335936
F-statistic	17.63525	Durbin-Watson stat	1.986709
Prob(F-statistic)	0.000000		

Inverted AR Roots	.23-.36i	.23+.36i

Table 14: Inflation rate – annual change in CPI

Dependent Variable: D(DEF)
Method: Least Squares
Date: 10/07/12 Time: 12:43
Sample (adjusted): 1961 2011
Included observations: 51 after adjustments
Convergence achieved after 37 iterations
MA Backcast: 1954 1960

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.221105	0.226906	-0.974433	0.3347
MA(2)	-0.245306	0.093650	-2.619391	0.0118
MA(7)	0.372879	0.093598	3.983845	0.0002

R-squared	0.139023	Mean dependent var	-0.172549
Adjusted R-squared	0.103149	S.D. dependent var	1.547524
S.E. of regression	1.465540	Akaike info criterion	3.659347
Sum squared resid	103.0948	Schwarz criterion	3.772984
Log likelihood	-90.31335	Hannan-Quinn criter.	3.702771
F-statistic	3.875299	Durbin-Watson stat	1.884744
Prob(F-statistic)	0.027530		

Inverted MA Roots	.82-.36i	.82+.36i	.20+.81i	.20-.81i
	-.56+.65i	-.56-.65i	-.91	

Table 15: Budget deficit/surplus as a percentage of GDP

Dependent Variable: D(EXPORT)
Method: Least Squares
Date: 10/07/12 Time: 14:45
Sample (adjusted): 1992M08 2012M07
Included observations: 240 after adjustments
Convergence achieved after 3 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	536.6905	192.6015	2.786533	0.0058
AR(2)	0.259056	0.062513	4.144039	0.0000
AR(3)	0.216388	0.063478	3.408853	0.0008
AR(6)	-0.140219	0.063360	-2.213062	0.0279

R-squared	0.131319	Mean dependent var	544.7333
Adjusted R-squared	0.120277	S.D. dependent var	2114.669
S.E. of regression	1983.423	Akaike info criterion	18.03956
Sum squared resid	9.28E+08	Schwarz criterion	18.09757
Log likelihood	-2160.748	Hannan-Quinn criter.	18.06294
F-statistic	11.89213	Durbin-Watson stat	1.819340
Prob(F-statistic)	0.000000		

Inverted AR Roots	.70-.25i	.70+.25i	-.06-.66i	-.06+.66i
	-.64+.39i	-.64-.39i		

Table 16: Exports

Dependent Variable: D(GOLD)
Method: Least Squares
Date: 10/09/12 Time: 22:37
Sample (adjusted): 1999M12 2012M08
Included observations: 153 after adjustments
Convergence achieved after 9 iterations
MA Backcast: 1999M01 1999M11

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	9.068312	5.090519	1.781412	0.0769
AR(22)	0.369276	0.105288	3.507303	0.0006
MA(11)	0.187084	0.098138	1.906337	0.0485

R-squared	0.203835	Mean dependent var	8.739412
Adjusted R-squared	0.091887	S.D. dependent var	35.28390
S.E. of regression	33.62379	Akaike info criterion	9.887758
Sum squared resid	169583.9	Schwarz criterion	9.947178
Log likelihood	-753.4135	Hannan-Quinn criter.	9.911895
F-statistic	8.689982	Durbin-Watson stat	2.036863
Prob(F-statistic)	0.000269		

Inverted AR Roots	.96	.92+.27i	.92-.27i	.80+.52i
	.80-.52i	.63+.72i	.63-.72i	.40+.87i
	.40-.87i	.14+.95i	.14-.95i	-.14-.95i
	-.14+.95i	-.40+.87i	-.40-.87i	-.63+.72i
	-.63-.72i	-.80+.52i	-.80-.52i	-.92+.27i
	-.92-.27i	-.96		
Inverted MA Roots	.82+.24i	.82-.24i	.56+.65i	.56-.65i
	.12-.85i	.12+.85i	-.36-.78i	-.36+.78i
	-.72+.46i	-.72-.46i	-.86	

Table 17:Gold Prices

Dependent Variable: D(TAXI)
Method: Least Squares
Date: 10/10/12 Time: 17:52
Sample (adjusted): 1935 2011
Included observations: 77 after adjustments
Convergence achieved after 4 iterations
MA Backcast: 1930 1934

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.084511	0.079491	1.063156	0.2911
MA(5)	-0.222225	0.117299	-1.894517	0.0620

R-squared	0.248305	Mean dependent var	0.085714
Adjusted R-squared	0.035616	S.D. dependent var	0.893649
S.E. of regression	0.877591	Akaike info criterion	2.602358
Sum squared resid	57.76244	Schwarz criterion	2.663237
Log likelihood	-98.19080	Hannan-Quinn criter.	2.626709
F-statistic	3.806769	Durbin-Watson stat	1.749622
Prob(F-statistic)	0.054781		

Inverted MA Roots	.74	.23-.70i	.23+.70i	-.60+.44i
	-.60-.44i			

Table 18: Individual Income Taxes

Dependent Variable: D(TAXC)
Method: Least Squares
Date: 10/10/12 Time: 17:57
Sample (adjusted): 1938 2011
Included observations: 74 after adjustments
Convergence achieved after 3 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.003502	0.074002	0.047325	0.9624
AR(1)	0.335976	0.107545	3.124045	0.0026
AR(3)	-0.246989	0.109988	-2.245595	0.0278

R-squared	0.177772	Mean dependent var	-6.00E-18
Adjusted R-squared	0.154610	S.D. dependent var	0.630503
S.E. of regression	0.579717	Akaike info criterion	1.787141
Sum squared resid	23.86106	Schwarz criterion	1.880549
Log likelihood	-63.12422	Hannan-Quinn criter.	1.824403
F-statistic	7.675359	Durbin-Watson stat	1.970204
Prob(F-statistic)	0.000960		

Inverted AR Roots	.43+.52i	.43-.52i	-.53

Table 19: Corporate Income Taxes

Dependent Variable: D(TAXT)
Method: Least Squares
Date: 10/10/12 Time: 17:59
Sample (adjusted): 1935 2011
Included observations: 77 after adjustments
Convergence achieved after 7 iterations
MA Backcast: 1934

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.096627	0.197154	0.490111	0.6255
MA(1)	0.367699	0.107369	3.424625	0.0010

R-squared	0.119813	Mean dependent var	0.093506
Adjusted R-squared	0.108077	S.D. dependent var	1.342850
S.E. of regression	1.268210	Akaike info criterion	3.338721
Sum squared resid	120.6267	Schwarz criterion	3.399599
Log likelihood	-126.5407	Hannan-Quinn criter.	3.363071
F-statistic	10.20920	Durbin-Watson stat	1.994086
Prob(F-statistic)	0.002045		

Inverted MA Roots	-.37

Table 20: Total Income Taxes

Appendix II: Historical data of macroeconomic variables

Table 1

Month	Gold Prices (USD per Troy Ounce)[a]	Oil Prices (USD per barrel)[b]	Imports ($ million)[c]	Exports ($ million)[d]	Interest Rate (percent)[e]	Unemployme-nt Rate (percent)[f]	Inflation (percent)[g]
Jan-98	289.100	14.560	89784.000	79008.000	N/A	4.600	1.600
Feb-98	297.490	13.710	89495.000	77931.000	N/A	4.600	1.400
Mar-98	295.940	12.750	91692.000	78812.000	5.490	4.700	1.400
Apr-98	308.290	13.150	91566.000	77626.000	5.450	4.300	1.400
May-98	299.100	12.670	91349.000	77147.000	5.490	4.400	1.700
Jun-98	292.320	11.030	90208.000	76961.000	5.560	4.500	1.700
Jul-98	292.870	10.200	90098.000	76149.000	5.540	4.500	1.700
Aug-98	284.110	12.440	91540.000	75512.000	5.550	4.500	1.600
Sep-98	288.980	11.880	91999.000	77179.000	5.510	4.600	1.500
Oct-98	295.930	10.360	94166.000	79351.000	5.070	4.500	1.500
Nov-98	294.120	11.520	94290.000	79117.000	4.830	4.400	1.500
Dec-98	291.680	8.640	93127.000	78382.000	4.680	4.400	1.600
Jan-99	287.080	9.860	93916.000	77835.000	4.630	4.300	1.700
Feb-99	287.330	9.300	96292.000	77436.000	4.760	4.400	1.600
Mar-99	285.960	12.050	96462.000	78243.000	4.810	4.200	1.700
Apr-99	282.620	14.600	97346.000	78716.000	4.740	4.300	2.300
May-99	276.440	15.170	99475.000	78782.000	4.740	4.200	2.100
Jun-99	261.310	15.240	102692.000	79070.000	4.760	4.300	2.000
Jul-99	256.080	17.430	104117.000	80019.000	4.990	4.300	2.100
Aug-99	256.690	18.550	105125.000	81508.000	5.070	4.200	2.300
Sep-99	264.740	20.940	106172.000	82718.000	5.220	4.200	2.600
Oct-99	310.720	19.930	107225.000	83410.000	5.200	4.100	2.600
Nov-99	293.180	22.260	109852.000	84286.000	5.420	4.100	2.600
Dec-99	283.070	23.330	111493.000	84983.000	5.300	4.000	2.700
Jan-00	284.320	24.110	112974.000	85556.000	5.450	4.000	2.700
Feb-00	299.860	26.540	116395.000	86055.000	5.730	4.100	3.200
Mar-00	286.390	27.440	118909.000	87277.000	5.850	4.000	3.800
Apr-00	279.690	22.990	117703.000	88643.000	6.020	3.800	3.100
May-00	275.190	26.060	117800.000	87805.000	6.270	4.000	3.200
Jun-00	285.730	28.570	121727.000	90549.000	6.530	4.000	3.700
Jul-00	281.590	27.170	121845.000	90054.000	6.540	4.000	3.700
Aug-00	274.470	28.270	122314.000	92058.000	6.500	4.100	3.400
Sep-00	273.680	30.880	126202.000	91981.000	6.520	3.900	3.500
Oct-00	270.000	30.010	125056.000	91330.000	6.510	3.900	3.400
Nov-00	266.010	31.160	124310.000	91213.000	6.510	3.900	3.400
Dec-00	271.450	25.500	124296.000	90260.000	6.400	3.900	3.400
Jan-01	265.490	28.660	125353.000	90277.000	5.980	4.200	3.700
Feb-01	261.870	26.720	119616.000	90282.000	5.490	4.200	3.500
Mar-01	263.030	23.960	121311.000	88714.000	5.310	4.300	2.900

Apr-01	260.480	26.770	118303.000	86988.000	4.800	4.400	3.300
May-01	272.360	25.440	115258.000	87482.000	4.210	4.300	3.600
Jun-01	270.230	24.270	114645.000	85265.000	3.970	4.500	3.200
Jul-01	267.530	23.580	113053.000	82967.000	3.770	4.600	2.700
Aug-01	272.390	24.080	111968.000	83730.000	3.650	4.900	2.700
Sep-01	283.420	20.820	108130.000	77286.000	3.070	5.000	2.600
Oct-01	283.060	19.040	108839.000	78114.000	2.490	5.300	2.100
Nov-01	276.160	16.450	108051.000	78439.000	2.090	5.500	1.900
Dec-01	275.850	16.210	104966.000	78180.000	1.820	5.700	1.600
Jan-02	281.510	16.650	108278.000	78966.000	1.730	5.700	1.100
Feb-02	295.500	18.880	111015.000	78910.000	1.740	5.700	1.100
Mar-02	294.060	20.970	110403.000	79613.000	1.730	5.700	1.500
Apr-02	302.680	22.830	115071.000	81500.000	1.750	5.900	1.600
May-02	314.490	23.790	115616.000	81682.000	1.750	5.800	1.200
Jun-02	321.180	22.160	117716.000	82705.000	1.750	5.800	1.100
Jul-02	313.290	23.690	117057.000	83125.000	1.730	5.800	1.500
Aug-02	310.260	24.900	119318.000	83484.000	1.740	5.700	1.800
Sep-02	319.140	26.280	119402.000	82893.000	1.750	5.700	1.500
Oct-02	316.560	25.380	117222.000	82565.000	1.750	5.700	2.000
Nov-02	319.070	22.920	122679.000	83747.000	1.340	5.900	2.200
Dec-02	331.920	25.250	124531.000	81686.000	1.240	6.000	2.400
Jan-03	356.860	29.440	123094.000	82441.000	1.240	5.800	2.600
Feb-03	358.970	32.130	122293.000	83105.000	1.260	5.900	3.000
Mar-03	340.550	30.260	126159.000	82887.000	1.250	5.900	3.000
Apr-03	328.180	25.220	123465.000	81475.000	1.260	6.000	2.200
May-03	355.680	23.610	123059.000	82320.000	1.260	6.100	2.100
Jun-03	356.350	27.230	124420.000	84804.000	1.220	6.300	2.100
Jul-03	351.020	27.390	126552.000	85509.000	1.010	6.200	2.100
Aug-03	359.770	28.330	123827.000	84374.000	1.030	6.100	2.200
Sep-03	378.950	25.140	127672.000	86364.000	1.010	6.100	2.300
Oct-03	378.920	27.070	129403.000	88601.000	1.010	6.000	2.000
Nov-03	389.910	27.660	130303.000	90974.000	1.000	5.800	1.800
Dec-03	406.950	28.830	134257.000	90664.000	0.980	5.700	1.900
Jan-04	413.790	30.870	134376.000	90160.000	1.000	5.700	1.900
Feb-04	404.880	31.030	137818.000	93854.000	1.010	5.600	1.700
Mar-04	406.670	33.480	142553.000	96392.000	1.000	5.800	1.700
Apr-04	403.260	33.080	142720.000	95847.000	1.000	5.600	2.300
May-04	383.780	36.310	145161.000	97358.000	1.000	5.600	3.100
Jun-04	392.370	33.800	149400.000	94969.000	1.030	5.600	3.300
Jul-04	398.090	36.250	147608.000	96652.000	1.260	5.500	3.000
Aug-04	400.510	40.670	149974.000	97106.000	1.430	5.400	2.700
Sep-04	405.280	41.250	149504.000	98507.000	1.610	5.400	2.500
Oct-04	420.460	48.710	154588.000	100005.000	1.760	5.500	3.200
Nov-04	439.380	44.300	158161.000	99787.000	1.930	5.400	3.500
Dec-04	442.080	39.200	156639.000	102509.000	2.160	5.400	3.300
Jan-05	424.030	42.210	158293.000	102896.000	2.280	5.300	3.000
Feb-05	423.350	42.910	160960.000	103705.000	2.500	5.400	3.000
Mar-05	433.850	48.550	157084.000	104659.000	2.630	5.200	3.100
Apr-05	429.230	46.630	163773.000	106976.000	2.790	5.200	3.500
May-05	421.870	43.270	162347.000	106512.000	3.000	5.100	2.800

Jun-05	430.660	49.560	164346.000	106613.000	3.040	5.000	2.500
Jul-05	424.480	52.130	164462.000	106917.000	3.260	5.000	3.200
Aug-05	437.930	58.070	166130.000	108293.000	3.500	4.900	3.600
Sep-05	456.050	58.560	171287.000	107096.000	3.620	5.000	4.700
Oct-05	469.900	55.120	175998.000	109570.000	3.780	5.000	4.300
Nov-05	476.670	51.180	174175.000	110795.000	4.000	5.000	3.500
Dec-05	510.100	52.310	177210.000	113410.000	4.160	4.900	3.400
Jan-06	549.860	58.300	181656.000	114984.000	4.290	4.700	4.000
Feb-06	555.000	54.650	178153.000	116033.000	4.490	4.800	3.600
Mar-06	557.090	55.420	180340.000	118771.000	4.590	4.700	3.400
Apr-06	610.650	62.500	180862.000	118913.000	4.790	4.700	3.500
May-06	675.390	62.940	184872.000	120868.000	4.940	4.600	4.200
Jun-06	596.150	62.850	185196.000	122397.000	4.990	4.600	4.300
Jul-06	633.710	66.280	186117.000	120109.000	5.240	4.700	4.100
Aug-06	632.590	64.930	189936.000	122585.000	5.250	4.700	3.800
Sep-06	598.190	55.730	187989.000	123678.000	5.250	4.500	2.100
Oct-06	585.780	50.980	183807.000	125669.000	5.250	4.400	1.300
Nov-06	627.830	50.980	184965.000	127347.000	5.250	4.500	2.000
Dec-06	629.790	54.060	189217.000	128468.000	5.240	4.400	2.500
Jan-07	631.170	46.530	187090.000	129966.000	5.250	4.600	2.100
Feb-07	664.750	51.360	186339.000	128166.000	5.260	4.500	2.400
Mar-07	654.900	52.640	194450.000	133050.000	5.260	4.400	2.800
Apr-07	679.370	56.080	192261.000	132443.000	5.250	4.500	2.600
May-07	667.310	55.430	193858.000	135046.000	5.250	4.400	2.700
Jun-07	655.660	59.250	195658.000	136561.000	5.250	4.600	2.700
Jul-07	665.380	65.960	197061.000	138018.000	5.260	4.700	2.400
Aug-07	665.410	64.230	197017.000	140908.000	5.020	4.600	2.000
Sep-07	712.650	70.940	198559.000	141752.000	4.940	4.700	2.800
Oct-07	754.600	77.560	200343.000	144743.000	4.760	4.700	3.500
Nov-07	806.250	86.920	205067.000	146427.000	4.490	4.700	4.300
Dec-07	803.200	83.460	203585.000	147480.000	4.240	5.000	4.100
Jan-08	889.600	84.700	210476.000	150436.000	3.940	5.000	4.300
Feb-08	922.300	86.640	215830.000	152571.000	2.980	4.900	4.000
Mar-08	968.430	96.870	211272.000	152035.000	2.610	5.100	4.000
Apr-08	909.710	104.310	219212.000	156571.000	2.280	5.000	3.900
May-08	888.660	117.400	219882.000	158605.000	1.980	5.400	4.200
Jun-08	889.490	126.330	223526.000	163598.000	2.000	5.600	5.000
Jul-08	939.770	126.160	231647.000	165904.000	2.010	5.800	5.600
Aug-08	839.030	108.460	224256.000	163356.000	2.000	6.100	5.400
Sep-08	829.930	96.130	213442.000	153951.000	1.810	6.100	4.900
Oct-08	806.620	68.500	211044.000	151503.000	0.970	6.500	3.700
Nov-08	760.860	49.290	186309.000	142153.000	0.390	6.800	1.100
Dec-08	816.090	32.940	174126.000	132000.000	0.160	7.300	0.100
Jan-09	858.690	33.070	162685.000	124956.000	0.150	7.800	0.000
Feb-09	943.000	31.040	154606.000	127334.000	0.220	8.300	0.200
Mar-09	924.270	40.130	154612.000	126181.000	0.180	8.700	-0.400
Apr-09	890.200	42.450	153378.000	124322.000	0.150	8.900	-0.700
May-09	928.650	51.270	150904.000	126049.000	0.180	9.400	-1.300
Jun-09	945.670	61.710	154535.000	128704.000	0.210	9.500	-1.400
Jul-09	934.230	56.160	162872.000	130454.000	0.160	9.500	-2.100

Aug-09	949.380	62.800	161982.000	130992.000	0.160	9.600	-1.500
Sep-09	996.590	60.980	169661.000	135623.000	0.150	9.800	-1.300
Oct-09	1043.160	67.430	173252.000	139683.000	0.120	10.000	-0.200
Nov-09	1127.040	69.430	177622.000	140579.000	0.120	9.900	1.800
Dec-09	1134.720	66.330	181989.000	144066.000	0.120	9.900	2.700
Jan-10	1117.960	69.850	180813.000	143735.000	0.110	9.700	2.600
Feb-10	1095.410	68.040	185319.000	144639.000	0.130	9.800	2.100
Mar-10	1113.340	72.900	189153.000	148960.000	0.160	9.800	2.300
Apr-10	1148.690	76.310	189023.000	147605.000	0.200	9.900	2.200
May-10	1205.430	66.250	192781.000	152195.000	0.200	9.600	2.000
Jun-10	1232.920	67.120	197546.000	151863.000	0.180	9.400	1.100
Jul-10	1192.970	67.910	195129.000	154711.000	0.180	9.500	1.200
Aug-10	1215.810	68.340	200053.000	154941.000	0.190	9.600	1.100
Sep-10	1270.980	67.180	199422.000	155816.000	0.190	9.500	1.100
Oct-10	1342.020	73.630	200757.000	160332.000	0.190	9.500	1.200
Nov-10	1369.890	76.000	201050.000	162190.000	0.190	9.800	1.100
Dec-10	1390.550	81.010	206176.000	165499.000	0.180	9.400	1.500
Jan-11	1356.400	84.470	215621.000	168098.000	0.170	9.100	1.600
Feb-11	1372.730	81.320	211346.000	166545.000	0.160	9.000	2.100
Mar-11	1424.000	94.720	219071.000	174169.000	0.140	8.900	2.700
Apr-11	1479.760	102.150	219218.000	175662.000	0.100	9.000	3.200
May-11	1512.600	92.920	223343.000	175673.000	0.090	9.000	3.600
Jun-11	1528.660	87.920	222988.000	172664.000	0.090	9.100	3.600
Jul-11	1572.210	88.820	223919.000	178339.000	0.070	9.100	3.600
Aug-11	1757.210	77.720	223157.000	178382.000	0.100	9.100	3.800
Sep-11	1770.950	77.310	225096.000	180629.000	0.080	9.000	3.900
Oct-11	1665.210	78.000	224445.000	178742.000	0.070	8.900	3.500
Nov-11	1738.110	88.780	225545.000	176710.000	0.080	8.700	3.400
Dec-11	1641.840	90.300	229499.000	177751.000	0.070	8.500	3.000
Jan-12	1652.210	91.710	231011.000	178802.000	0.080	8.300	2.900
Feb-12	1742.140	94.060	224855.000	180348.000	0.100	8.300	2.900
Mar-12	1673.770	98.040	236514.000	184867.000	0.130	8.200	2.700
Apr-12	1649.690	95.110	232651.000	182825.000	0.140	8.100	2.300
May-12	1591.190	86.200	230654.000	183058.000	0.160	8.200	1.700
Jun-12	1598.760	N/A	227081.000	185182.000	0.160	8.200	1.700
Jul-12	1589.900	N/A	225271.000	183269.000	0.160	8.300	1.400
Aug-12	1630.310	N/A	N/A	N/A	0.130	8.100	1.700

a: World Bank, b: Inflationdata.com, ioga.com, c: U.S. Census Bureau, Foreign Trade Division, d: U.S. Census Bureau, Foreign Trade Division, e: Federal Reserve, f: Bureau of Labor Statistics, g: Bureau of Labor Statistics

Table 2

Month	USD/EUR[a]	USD/BRL[b]	USD/RUB[c]	USD/INR[d]	USD/CNY[e]	NYSE Composite Index[f]
Jan-98	N/A	N/A	N/A	N/A	N/A	3711.270
Feb-98	N/A	N/A	N/A	N/A	N/A	3884.050
Mar-98	N/A	N/A	N/A	N/A	N/A	3959.860
Apr-98	N/A	N/A	N/A	N/A	N/A	4212.890
May-98	N/A	N/A	N/A	N/A	N/A	4148.070
Jun-98	N/A	N/A	N/A	N/A	N/A	4356.170
Jul-98	N/A	N/A	N/A	N/A	N/A	4393.490
Aug-98	N/A	N/A	N/A	N/A	N/A	4214.160
Sep-98	N/A	1.180	15.231	42.482	8.279	4408.610
Oct-98	N/A	1.188	16.388	42.303	8.278	4671.260
Nov-98	N/A	1.193	17.217	42.368	8.278	4889.720
Dec-98	0.854	1.205	20.838	42.537	8.278	5228.710
Jan-99	0.862	1.487	22.712	42.492	8.279	4974.730
Feb-99	0.893	1.913	23.071	42.458	8.278	5257.580
Mar-99	0.919	1.890	24.131	42.425	8.279	5087.440
Apr-99	0.933	1.694	25.432	42.662	8.279	5277.350
May-99	0.941	1.683	24.621	42.763	8.278	5405.190
Jun-99	0.962	1.762	24.484	43.084	8.278	5399.260
Jul-99	0.966	1.795	24.340	43.278	8.278	5754.860
Aug-99	0.942	1.874	24.612	43.425	8.277	6056.420
Sep-99	0.953	1.897	25.488	43.514	8.277	6104.960
Oct-99	0.934	1.954	25.763	43.442	8.278	5977.120
Nov-99	0.968	1.929	26.338	43.390	8.270	6119.330
Dec-99	0.989	1.853	26.828	43.465	8.262	5977.010
Jan-00	0.987	1.802	28.165	43.522	8.279	5081.730
Feb-00	1.016	1.774	28.748	43.598	8.278	5334.130
Mar-00	1.035	1.742	28.465	43.566	8.279	5745.240
Apr-00	1.056	1.767	28.588	43.621	8.279	6042.890
May-00	1.101	1.826	28.322	43.859	8.278	6299.930
Jun-00	1.053	1.808	28.257	44.404	8.277	6348.890
Jul-00	1.063	1.798	27.847	44.749	8.279	6201.070
Aug-00	1.104	1.807	27.732	45.590	8.280	6382.200
Sep-00	1.146	1.835	27.803	45.772	8.279	6706.920
Oct-00	1.169	1.876	27.870	46.239	8.279	6579.610
Nov-00	1.170	1.947	27.829	46.701	8.277	6853.150
Dec-00	1.111	1.963	28.023	46.694	8.277	6619.900
Jan-01	1.064	1.955	28.391	46.492	8.278	6474.610
Feb-01	1.084	2.003	28.625	46.455	8.277	6268.000
Mar-01	1.098	2.092	28.692	46.556	8.278	6613.550
Apr-01	1.120	2.191	28.859	46.702	8.277	6673.930
May-01	1.140	2.286	29.026	46.859	8.277	6876.100
Jun-01	1.171	2.374	29.122	46.947	8.277	6574.010
Jul-01	1.162	2.460	29.224	47.078	8.277	6266.420
Aug-01	1.110	2.507	29.348	47.072	8.277	6848.610
Sep-01	1.096	2.624	29.444	47.534	8.273	6811.170

Oct-01	1.104	2.650	29.516	47.940	8.267	6805.250
Nov-01	1.125	2.482	29.792	47.899	8.267	6798.170
Dec-01	1.121	2.290	30.028	47.834	8.267	6773.850
Jan-02	1.131	2.281	30.556	48.185	8.267	7132.300
Feb-02	1.149	2.334	30.835	48.559	8.267	7010.810
Mar-02	1.142	2.261	31.099	48.652	8.267	7042.320
Apr-02	1.129	2.276	31.200	48.830	8.267	6659.120
May-02	1.091	2.421	31.267	48.919	8.267	6945.570
Jun-02	1.047	2.694	31.422	48.884	8.267	7017.150
Jul-02	1.007	2.873	31.539	48.690	8.267	6629.090
Aug-02	1.022	3.086	31.579	48.518	8.267	6298.350
Sep-02	1.020	3.283	31.649	48.382	8.266	6712.520
Oct-02	1.019	3.774	31.710	48.275	8.267	6784.850
Nov-02	0.998	3.550	31.823	48.186	8.267	6574.320
Dec-02	0.981	3.594	31.845	48.068	8.267	6523.360
Jan-03	0.942	3.403	31.834	47.864	8.267	6215.660
Feb-03	0.928	3.546	31.671	47.663	8.268	5750.420
Mar-03	0.927	3.427	31.440	47.582	8.267	5776.850
Apr-03	0.921	3.094	31.202	47.314	8.267	6125.040
May-03	0.865	2.882	30.931	47.043	8.267	6236.390
Jun-03	0.857	2.817	30.474	46.630	8.267	6116.900
Jul-03	0.878	2.799	30.354	46.150	8.267	6117.960
Aug-03	0.896	2.921	30.355	45.866	8.267	6348.790
Sep-03	0.889	2.910	30.592	45.762	8.267	6071.220
Oct-03	0.854	2.860	30.141	45.302	8.267	6035.270
Nov-03	0.854	2.909	29.806	45.444	8.267	5636.540
Dec-03	0.813	2.923	29.425	45.475	8.267	5195.610
Jan-04	0.794	2.852	28.857	45.361	8.267	5239.810
Feb-04	0.792	2.928	28.499	45.168	8.267	4709.960
Mar-04	0.815	2.902	28.523	44.970	8.267	5000.320
Apr-04	0.832	2.902	28.678	43.758	8.266	5236.850
May-04	0.833	3.086	28.993	44.998	8.267	5000.000
Jun-04	0.823	3.130	29.022	45.367	8.267	4868.680
Jul-04	0.815	3.037	29.079	45.917	8.266	4716.070
Aug-04	0.820	3.002	29.208	46.219	8.264	4730.210
Sep-04	0.819	2.893	29.213	45.986	8.267	5131.560
Oct-04	0.799	2.850	29.075	45.693	8.266	5435.370
Nov-04	0.769	2.791	28.574	45.033	8.267	5501.380
Dec-04	0.746	2.720	27.916	43.925	8.267	5558.990
Jan-05	0.761	2.690	27.932	43.614	8.267	5660.160
Feb-05	0.769	2.604	27.970	43.583	8.267	5644.030
Mar-05	0.757	2.681	27.617	43.582	8.267	5959.010
Apr-05	0.773	2.584	27.805	43.663	8.267	6073.020
May-05	0.788	2.451	27.926	43.378	8.267	6440.300
Jun-05	0.822	2.413	28.499	43.486	8.267	6551.630
Jul-05	0.830	2.369	28.689	43.415	8.218	6692.370
Aug-05	0.813	2.366	28.466	43.483	8.092	6599.060
Sep-05	0.815	2.298	28.368	43.792	8.079	6439.420
Oct-05	0.831	2.252	28.541	44.626	8.076	6484.720
Nov-05	0.848	2.211	28.757	45.550	8.077	6602.990

Dec-05	0.844	2.275	28.799	45.552	8.071	6403.150
Jan-06	0.827	2.277	28.383	44.269	8.062	6454.220
Feb-06	0.837	2.161	28.196	44.185	8.048	6570.250
Mar-06	0.832	2.144	27.876	44.302	8.031	6692.710
Apr-06	0.817	2.131	27.596	44.779	8.005	7005.720
May-06	0.783	2.159	27.049	45.175	8.005	7250.060
Jun-06	0.789	2.257	26.985	45.890	7.999	7089.830
Jul-06	0.787	2.174	26.896	46.278	7.979	7321.230
Aug-06	0.781	2.155	26.753	46.413	7.965	7167.530
Sep-06	0.785	2.163	26.749	46.045	7.926	7008.320
Oct-06	0.792	2.145	26.861	45.362	7.893	7134.330
Nov-06	0.777	2.152	26.610	44.767	7.856	7217.780
Dec-06	0.758	2.146	26.295	44.588	7.813	7476.660
Jan-07	0.769	2.136	26.490	44.271	7.782	7496.090
Feb-07	0.765	2.093	26.326	44.098	7.743	7632.980
Mar-07	0.755	2.089	26.106	43.969	7.729	7433.120
Apr-07	0.741	2.030	25.835	42.248	7.715	7645.280
May-07	0.739	1.986	25.814	40.849	7.668	7753.950
Jun-07	0.745	1.929	25.914	40.800	7.624	8106.550
Jul-07	0.730	1.885	25.548	40.439	7.568	8060.610
Aug-07	0.734	1.954	25.619	40.775	7.565	8233.200
Sep-07	0.720	1.904	25.331	40.372	7.514	8471.430
Oct-07	0.703	1.797	24.885	39.540	7.493	8189.110
Nov-07	0.682	1.763	24.476	39.451	7.413	8169.070
Dec-07	0.687	1.782	24.577	39.469	7.363	8242.120
Jan-08	0.680	1.770	24.475	39.356	7.239	8388.560
Feb-08	0.679	1.734	24.531	39.699	7.161	8469.650
Mar-08	0.646	1.706	23.749	40.313	7.067	8774.980
Apr-08	0.634	1.686	23.512	40.011	6.992	8969.000
May-08	0.643	1.658	23.713	42.000	6.965	9139.020
Jun-08	0.642	1.617	23.633	42.811	6.891	9254.730
Jul-08	0.634	1.591	23.347	42.819	6.827	9124.540
Aug-08	0.667	1.606	24.186	42.928	6.841	9261.820
Sep-08	0.695	1.780	25.282	45.514	6.825	9627.730
Oct-08	0.749	2.158	26.398	49.608	6.824	9978.640
Nov-08	0.787	2.248	27.296	49.318	6.818	9873.020
Dec-08	0.744	2.389	28.049	48.905	6.842	9554.500
Jan-09	0.749	2.306	31.352	49.084	6.824	9596.980
Feb-09	0.780	2.305	35.600	49.186	6.826	10039.280
Mar-09	0.768	2.304	34.499	51.603	6.826	10311.610
Apr-09	0.757	2.201	33.358	50.169	6.822	9856.850
May-09	0.734	2.072	31.918	48.567	6.814	9740.320
Jun-09	0.714	1.949	30.958	47.820	6.824	9126.160
Jul-09	0.711	1.933	31.474	48.400	6.823	8962.460
Aug-09	0.701	1.837	31.567	48.138	6.823	8797.290
Sep-09	0.687	1.820	30.760	48.371	6.818	9299.600
Oct-09	0.675	1.730	29.427	46.700	6.817	9401.080
Nov-09	0.671	1.726	28.938	46.536	6.820	8660.480
Dec-09	0.685	1.748	29.975	46.559	6.818	8438.640
Jan-10	0.700	1.771	29.878	46.005	6.820	8382.080

Feb-10	0.731	1.838	30.101	46.288	6.821	7532.800
Mar-10	0.736	1.779	29.509	45.476	6.817	6061.090
Apr-10	0.744	1.757	29.135	44.467	6.816	5599.300
May-10	0.793	1.800	30.331	45.695	6.818	5757.050
Jun-10	0.819	1.798	31.154	46.525	6.811	5195.790
Jul-10	0.784	1.762	30.535	46.835	6.767	4617.030
Aug-10	0.774	1.752	30.270	46.479	6.776	4978.980
Sep-10	0.768	1.715	30.753	46.042	6.740	5513.360
Oct-10	0.720	1.676	30.280	44.360	6.660	6004.070
Nov-10	0.730	1.709	30.942	44.985	6.643	5905.150
Dec-10	0.757	1.693	30.821	45.455	6.643	6424.280
Jan-11	0.749	1.669	30.136	45.641	6.589	6643.240
Feb-11	0.733	1.664	29.232	45.514	6.567	6910.880
Mar-11	0.714	1.658	28.417	45.376	6.558	6739.450
Apr-11	0.693	1.584	28.083	44.624	6.518	7092.360
May-11	0.697	1.610	27.894	44.882	6.489	7184.960
Jun-11	0.695	1.587	27.934	45.179	6.470	6883.780
Jul-11	0.699	1.561	27.885	44.556	6.447	7035.040
Aug-11	0.697	1.594	28.670	45.281	6.386	7447.800
Sep-11	0.725	1.723	30.499	47.618	6.376	7474.400
Oct-11	0.730	1.773	31.229	49.521	6.365	6791.570
Nov-11	0.736	1.779	30.667	50.798	6.346	6469.650
Dec-11	0.758	1.833	31.305	53.068	6.349	6998.990
Jan-12	0.776	1.794	31.258	51.909	6.300	6704.150
Feb-12	0.756	1.717	29.773	49.411	6.285	7281.070
Mar-12	0.757	1.784	29.265	50.699	6.307	7513.350
Apr-12	0.759	1.848	29.435	52.184	6.302	7430.940
May-12	0.779	1.972	30.625	54.469	6.309	7964.020
Jun-12	0.798	2.045	32.747	55.848	6.313	8139.160
Jul-12	0.812	2.023	32.335	55.185	6.309	8438.550
Aug-12	0.807	2.025	31.915	55.356	6.325	8404.980

a:Oanda.com, b: Oanda.com, c: Oanda.com, d:Oanda.com, e: Oanda.com, f: Bloomberg

Table 3

	Real GDP Growth Rate (percent)[a]	**Public Debt (percent)[b]**
1998q1	3.800	65.161
1998q2	3.600	64.506
1998q3	5.400	63.530
1998q4	7.100	63.458
1999q1	3.600	62.604
1999q2	3.200	61.635
1999q3	5.200	61.132
1999q4	7.400	61.414
2000q1	1.100	60.091
2000q2	8.000	58.561

2000q3	0.300	57.032
2000q4	2.400	56.523
2001q1	-1.300	56.998
2001q2	2.700	56.338
2001q3	-1.100	56.376
2001q4	1.400	57.674
2002q1	3.500	57.900
2002q2	2.100	58.355
2002q3	2.000	58.746
2002q4	0.100	59.857
2003q1	1.700	60.006
2003q2	3.400	61.265
2003q3	6.700	61.601
2003q4	3.700	62.176
2004q1	2.700	62.472
2004q2	2.600	62.764
2004q3	3.000	62.732
2004q4	3.300	63.639
2005q1	4.200	64.146
2005q2	1.800	63.393
2005q3	3.200	63.462
2005q4	2.100	64.189
2006q1	5.100	64.886
2006q2	1.600	63.975
2006q3	0.100	63.816
2006q4	2.700	64.620
2007q1	0.500	65.147
2007q2	3.600	64.452
2007q3	3.000	64.447
2007q4	1.700	65.334
2008q1	-1.800	66.214
2008q2	1.300	66.499
2008q3	-3.700	69.541
2008q4	-8.900	74.329
2009q1	-5.300	79.017
2009q2	-0.300	82.920
2009q3	1.400	85.772
2009q4	4.000	88.239
2010q1	2.300	90.374
2010q2	2.200	92.524
2010q3	2.600	94.090
2010q4	2.400	96.221
2011q1	0.100	96.839
2011q2	2.500	96.815
2011q3	1.300	98.579
2011q4	4.100	100.394
2012q1	2.000	101.704
2012q2	1.300	102.443

a: Bureau of Economic Analysis, b: TreasuryDirect

Table 4

Year	Healthcare: Outlay for Health Programs percent of GDP (percent)[a]	Social Benefit Spending as percent of GDP (percent)[b]	Budget Deficit as percent of GDP (percent)[c]	Individual Income Taxes as percent of GDP (percent)[d]	Corporation Income Taxes as percent of GDP (percent)[e]	Total Income Taxes as percent of GDP (percent)[f]
1960	N/A	4.692	0.100	7.800	4.100	11.900
1961	N/A	5.213	-0.600	7.800	4.000	11.800
1962	0.400	4.968	-1.300	8.000	3.600	11.600
1963	0.400	4.969	-0.800	7.900	3.600	11.500
1964	0.500	4.777	-0.900	7.600	3.700	11.300
1965	0.400	4.784	-0.200	7.100	3.700	10.800
1966	0.500	4.824	-0.500	7.300	4.000	11.300
1967	0.900	5.562	-1.100	7.600	4.200	11.800
1968	1.200	5.924	-2.900	7.900	3.300	11.200
1969	1.300	6.054	0.300	9.200	3.900	13.100
1970	1.400	6.983	-0.300	8.900	3.200	12.100
1971	1.400	7.650	-2.100	8.000	2.500	10.500
1972	1.600	7.739	-2.000	8.100	2.700	10.800
1973	1.500	7.943	-1.100	7.900	2.800	10.700
1974	1.600	8.663	-0.400	8.300	2.700	11.000
1975	1.900	10.081	-3.400	7.800	2.600	10.400
1976	2.000	9.854	-4.200	7.600	2.400	10.000
1977	2.000	9.443	-3.200	8.000	2.800	10.800
1978	2.100	8.976	-2.700	8.200	2.700	10.900
1979	2.100	8.981	-2.700	8.700	2.600	11.300
1980	2.100	9.842	-1.600	9.000	2.400	11.400
1981	2.400	9.962	-2.700	9.400	2.000	11.400
1982	2.500	10.651	-2.600	9.200	1.500	10.700
1983	2.700	10.570	-4.000	8.400	1.100	9.500
1984	2.800	9.771	-6.000	7.800	1.500	9.300
1985	2.700	9.643	-4.800	8.100	1.500	9.600
1986	2.800	9.695	-5.100	7.900	1.400	9.300
1987	2.800	9.537	-5.000	8.400	1.800	10.200
1988	2.900	9.419	-3.200	8.000	1.900	9.900
1989	2.900	9.569	-3.100	8.300	1.900	10.200
1990	2.900	9.980	-2.800	8.100	1.600	9.700
1991	3.100	10.923	-3.900	7.900	1.700	9.600
1992	3.400	11.600	-4.500	7.600	1.600	9.200
1993	3.800	11.742	-4.700	7.700	1.800	9.500
1994	3.900	11.573	-3.900	7.800	2.000	9.800
1995	4.100	11.693	-2.900	8.000	2.100	10.100

1996	4.200	11.594	-2.200	8.500	2.200	10.700
1997	4.200	11.252	-1.400	9.000	2.200	11.200
1998	4.200	10.918	-0.300	9.600	2.200	11.800
1999	4.100	10.649	0.800	9.600	2.000	11.600
2000	4.000	10.543	1.400	10.200	2.100	12.300
2001	4.000	11.188	2.400	9.700	1.500	11.200
2002	4.200	11.817	1.300	8.100	1.400	9.500
2003	4.500	11.902	-1.500	7.200	1.200	8.400
2004	4.800	11.889	-3.400	6.900	1.600	8.500
2005	4.900	11.836	-3.500	7.500	2.200	9.700
2006	4.900	11.931	-2.600	7.900	2.700	10.600
2007	4.900	12.127	-1.900	8.400	2.700	11.100
2008	5.200	13.000	-1.200	8.000	2.100	10.100
2009	5.200	15.146	-3.200	6.600	1.000	7.600
2010	6.100	15.542	-10.100	6.300	1.300	7.600
2011	6.400	15.199	-9.000	7.300	1.200	8.500

a: The White House, b: Bureau of Economic Analysis, c: The White House, d: The White House, e: The White House, f: The White House