

## Cross Sectional and Times Series Forecast of the U.S. Current Account Balance

Mehdi Hojjat<sup>1</sup>

### Abstract

---

*This paper uses cross sectional and times series data to forecast the U.S. current account balance and projects that the U.S. will have a surplus in that account in less than 10 years. The paper also investigates the effects of bilateral and multilateral trade agreements on the U.S. current account balances. In contrast to the common belief that trade agreements provide export opportunities for the U.S. companies, hence improves the U.S. trade balances that are part of the U.S. current account balance, this paper shows that trade agreements deteriorates both of these accounts.*

---

**Key Words:** Current Account Balance, Multilateral Trade Agreements, U.S. Trade Deficit, Balance of Payments, Trade with China, Cross Sectional Analysis of Trade Data.

### 1. Introduction to the Current Account

The current accounts are divided into the following four sub-accounts.<sup>2</sup>

- **Merchandise trade** consists of all raw materials and manufactured exported minus those that are imported. The difference is a **Balance on Merchandise Trade**.
- **Services** include tourism, transportation, entertainments, engineering and business services, such as law, management consulting and accounting. Fees from overseas amusement parks, such as Euro Disney, patents and copyrights on new technology, software, books, music and movies also are recorded in the service category. The difference between those receipts and payments makes the **Balance on Service**.
- **Income receipts** include income derived from ownership of assets, such as dividends on holdings of stock and interest on securities. Again, the differences between what we received from foreigners and what we pay them in these categories is called **Balance on Service**.
- **Unilateral transfers** represent one-way transfers of assets, such as worker remittances from abroad and direct foreign aid. In the case of aid or gifts, a debit is assigned to the capital account of the donor nation. Because of the double entry nature of the BOP accounting, if U.S. provided gifts or humanitarian assistance, the entry is negative in this sub-account, and it values are entered as a positive number in Merchandise trade as export.

In Summary, the current account is comprised of:

- Exports of goods and services such as transfers under U.S. military agency sales contracts, passenger fares, and U.S. Government miscellaneous services.
- Income receipts.
- Compensation of employees.
- Imports of goods and services such as direct defense expenditures, royalties, and license fees.

---

<sup>1</sup> Neumann University, Aston, PA 19014

<sup>2</sup> Federal Reserve Bank of New York (2009). Retrieved from <http://www.newyorkfed.org/aboutthefed/fedpoint/fed40.html>

- Income payments on foreign-owned assets in the United States.
- U.S. Government grants.
- U.S. Government pensions.
- Private remittances.

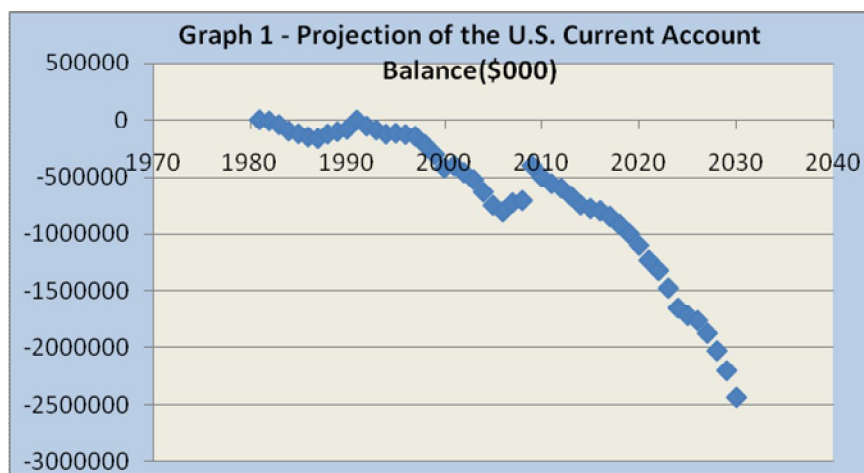
As Table 1 shows, in 2009 the United States had a deficit in goods of \$517 billion but a surplus in services of \$138 billion, and Income of \$ 70 billion. Adding Unilateral Transfers to these sum will results in a \$ - 392. Therefore, in 2009, the U.S. had a deficit in her Current Account in 2009. U.S. had never had a surplus in its Current Account in the past 40 years.

**Table 1 - The U.S. Balance on Current Account, 2009**  
(billions of dollars)

Merchandise Trade Balance	-517
Balance on Services	+138
Balance on Income	+ 70
Balance on Merchandise, Services, and Income	- 309
Unilateral transfers	- 83
Balance on Current Account	-392

*Source:* U.S. Department of Commerce, *Bureau of Economic Statistics, estimated based on the first nine month of statistics by the author.*

Since 2009, U.S. economy has substantially improved. Its current account has improved and its capital account indicates a growing appetite by foreigners to invest in the United States. However, if 2009 would have continued for a few more years, those fears and anxiety would have become a nightmarish reality. The following graph projects the U.S. current account balance if the 2009 crisis would have continued.



In the next section we examine the inflection point on the U.S. current account balance.

## **1. Recent Trends in the U.S. Current Account Balance**

In 1998, Daniel Griswold from Cato Institute<sup>3</sup> wrote an article about the U.S. trade deficit. He wrote that article two years after the 1996 Asian financial turmoil. As he was projecting deeper and deeper deficit for the U.S. current account balance, one of the main points of the article was the following: the U.S. trade deficit has no relationship with the U.S. unemployment rate.

Is this point is still valid in recent years we are observing inflection points in all trade data that makes many of the previous trade analysis erroneous.

In 2014, five years after the global financial crisis, I am broadening Griswold's research from a mere trade balance to the U.S. current account balance to come up with a rather different conclusion.

Let's first examine the most recent data and analysis of the current account.

One of the most volatile economic consequences of the global financial crisis was a decline in the U.S. trade deficit in 2009 and a subsequent improvement in the U.S. current account balance. After 2009, creation of new natural gas industry not only significantly reduced the U.S. import of energy products but also created thousands well-paying jobs in this industry.

At the same time, a rising demand for U.S. exports to the emerging markets such as BRICK countries (Brazil, Russia, India, China and Korea) means higher demand for the U.S. dollar which maintains its value as the most important reserve currency in the world. In this chapter, we will examine recent data on the U.S. current account to see it divergence from old declining pattern then we will forecast its future trend.

## **2. Recent Current Account Data**

The U.S. current-account deficit—the combined balances on trade in goods and services, income, and net unilateral current transfers—decreased to \$98.9 billion (preliminary) in the second quarter from \$104.9 billion (revised) in the first quarter. The decrease in the current account deficit was accounted for by a decrease in the deficit on goods, an increase in the surplus on income, and an increase in the surplus on services. These changes were partly offset by an increase in net outflows of unilateral current transfers, such as government grants, government pensions and other transfers, and private remittances.

### **2.1. A Goods and Services**

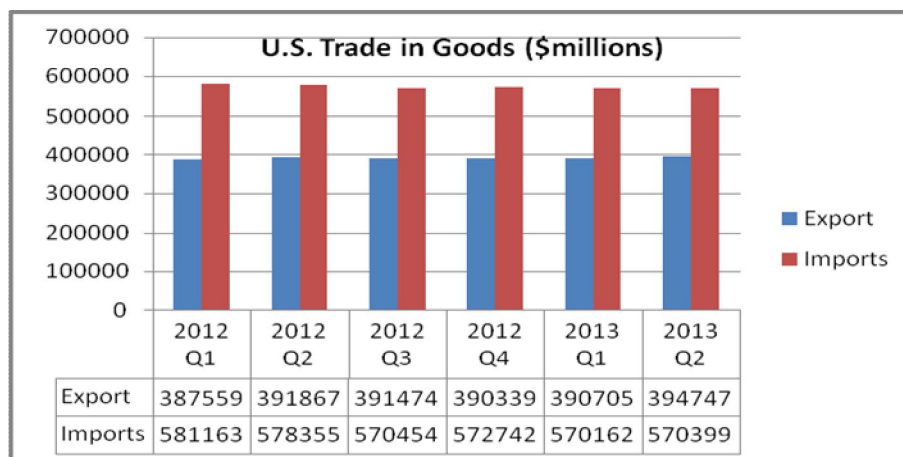
The deficit on goods and services decreased to \$117.8 billion in the second quarter from \$122.6 billion in the first.

#### **Goods**

The deficit on goods decreased to \$175.7 billion in the second quarter from \$179.5 billion in the first. Graph 2 shows the trend on the U.S. goods export and import.

---

<sup>3</sup> Griswold, Daniel, T. (1998), *America's Maligned and Misunderstood Trade Deficit*. Retrieved from [www.ciaonet.org](http://www.ciaonet.org)

**Graph 2 – Pattern of U.S. Export and Import of Goods**

As shown in the above graph, in the second quarter of 2013 (the latest available quarter as of this writing) goods exports increased to \$394.7 billion from \$390.7 billion. Exports in four of the six major end-use categories increased. The largest increases were in capital goods and in consumer goods. The increase in capital goods was largely due to an increase in civilian aircraft, engines, and parts. This rising trend of export has its origination in 2009 after the global financial crisis.

In the second quarter of 2013, goods imports decreased to \$570.4 billion from \$578.3 billion a year earlier. Increases in five of the six major end-use categories were nearly offset by a substantial decrease in industrial supplies and materials. The largest increase was in automotive vehicles, parts, and engines, much of that in passenger cars. The decrease in industrial supplies and materials was mostly due to a decrease in petroleum and products<sup>4</sup>.

As U.S. become more self-sufficient in production of oil and natural gas, the U.S. imports in this category will decrease. Large found in oil reserve by Pioneer Natural Resources Company (stock symbol: PXD) in Texas will make U.S. the largest producer of oil in the world. In November 2013, U.S. production of oil exceeded it import and the U.S. became the largest producer of oil in the world.<sup>5</sup>

Also, production of natural gas by freckling technology has produced an ambulance of this energy to the point that the price of one thermal square foot (TSF) of natural gas in US is 25 percent of the world price, \$15 versus \$3.75.

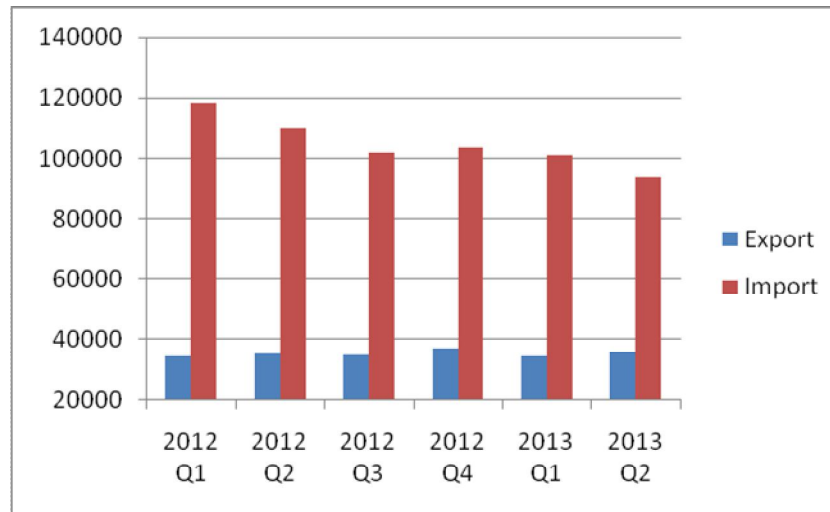
This new trend means that U.S. is no longer importer of Liquefied Natural Gas (LNG) from such countries as Qatar or Nigeria. Furthermore, the terminals there existed for imports of LNG as been turn into export terminal and within two years U.S. will become a major exporter of natural gas. Cheniere Energy, Inc (Stock Symbol: LNG) is investing on LNG plant in Louisiana and other firms are investing in the Chesapeake region of Maryland.

The cost of liquefaction of natural gas is about \$3 per TSF, adding \$3 for its transportation cost, brings the U.S. cost of natural gas to \$9.75 which is well below the current world price of natural gas.

As shown in Graph 3, this new trend in the U.S. energy production, import and export is gradually changing the outlook for the U.S. balance on goods and the current account. The data suggest 4 percent per quarter or 16 percent annual decrease in imports of petroleum.

<sup>4</sup> Bureau of Economic Analysis, Release Date: September 19, 2013. Retrieved from [Table 2a](#).

<sup>5</sup> CNBC reported from a source in the U.S. Oil Petroleum Institute on November 13, 2013.

**Graph 3 – U.S. Trade in Petroleum Products (\$millions)**

The rapid increase in U.S. natural gas output can be attributed to the extraction of the commodity from shale formations. Natural gas as well as crude oil have contributed to the U.S. producing 14 percent more of its own energy now vs. 2005, according to data from the Energy Information Agency.<sup>6</sup>

Thanks to hydraulic fracturing, or fracking, and the ability to drill horizontally, oil and gas production in the U.S. has skyrocketed. Fracking is a drilling technique that blasts millions of gallons of water and chemicals to fracture rock formations deep beneath the surface and release petroleum.

Assuming the Department of Energy would issue export permits, by 2015, U.S. will start exporting natural gas from Louisiana, Texas and Maryland LNG terminals. Since 2011, four such projects have been approved. The most recent decision was made in September 2013, when Dominion Resources (stock symbol: D) received approval for the Cove Point terminal on the Maryland shore of Chesapeake Bay. To date, the DOE has authorized 6.37 billion cubic feet of LNG from the plant to be sold overseas.<sup>7</sup>

The expected export of LNG based on \$12 per cubic feet, will have a great impact on the U.S. current account balance.

Table 2 reports the expected additional export of LNG.

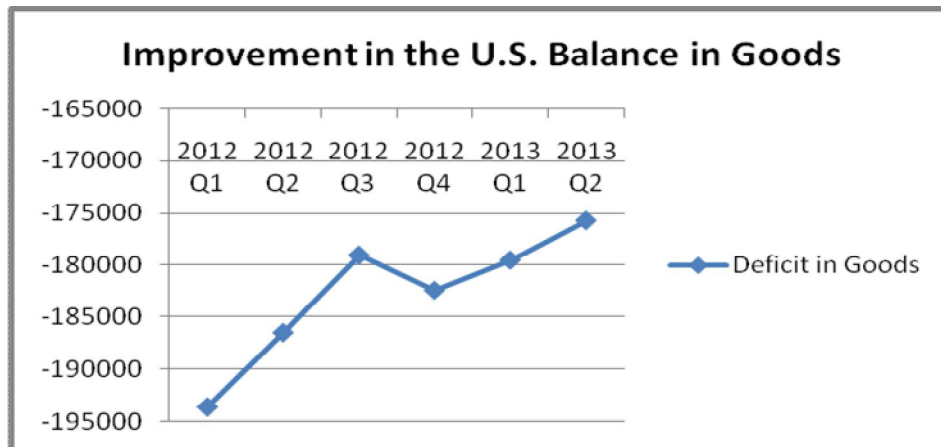
<sup>6</sup> Kashi, D (2013). US LNG Export Terminals: An Update With Map Of US LNG Facilities. International Business Times. Retrieved from <http://www.ibtimes.com/us-lng-export-terminals-update-map-us-lng-facilities-map-1424390>

<sup>7</sup> Cikanek, Z (2013) American Petroleum Institute. Retrieved from <http://www.api.org/news-and-media/news/newsitems/2013/oct-2013/api-releases-map-of-lng-sites-critical-to-us-export-goals>

**Table 2 – U.S. Projected Export of LNG**

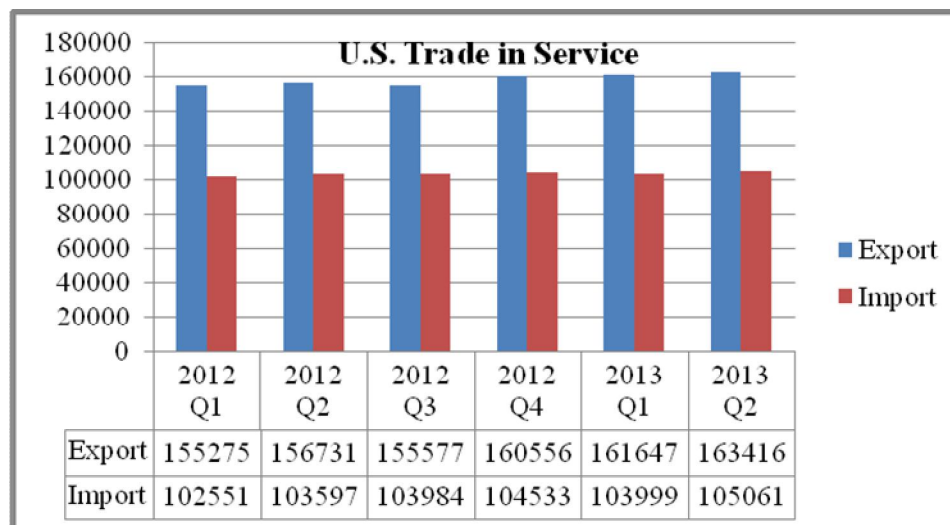
	2014	2015	2016	2017	2018	2020
Annual Export of LNG (billion CF)	1	2	3	4	5	6
Export Price per Cubic Feet	\$12	\$12	\$12	\$12	\$12	\$12
Additional Export of LNG (\$b)	\$12	\$24	\$36	\$48	\$60	\$72

Graph 4, shows the recent improvement in the U.S. balance of goods.

**Graph 4 – Improvement in the U.S. Trade Balance in Goods**

### 2.1. B Services

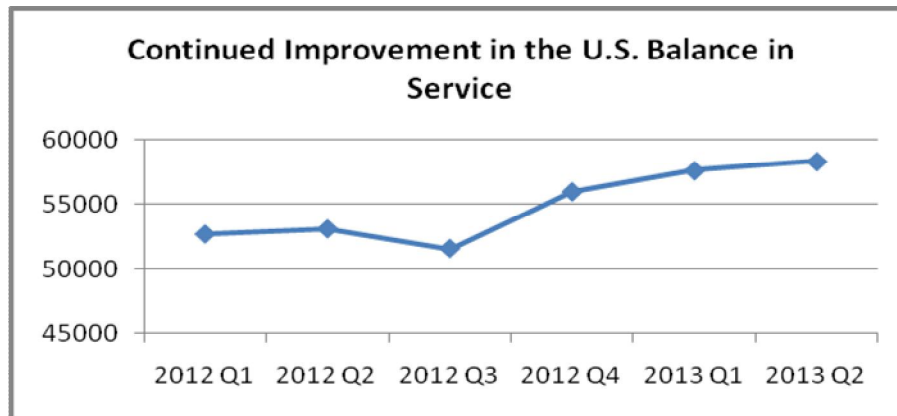
The surplus on services increased to \$57.9 billion in the second quarter of 2013 from \$56.8 billion in the first. As shown in the following graph, this increase has stated in 2012.

**Graph 5 – U.S. Trade in Services (\$millions)**

Services exports increased to \$169.2 billion from \$167.2 billion. Exports increased in five of the seven major services categories. More than half the increase was in other private services, primarily in financial services and in business, professional, and technical services.<sup>8</sup>

As shown in the Graph 6, the imports of services have remain rather flat and been stabilized around \$111 billion. In recent years, the largest increases were in travel categories as more American are now financially comfortable to travel overseas. With stable import and rising export of services, the surplus in service trade has been rising.

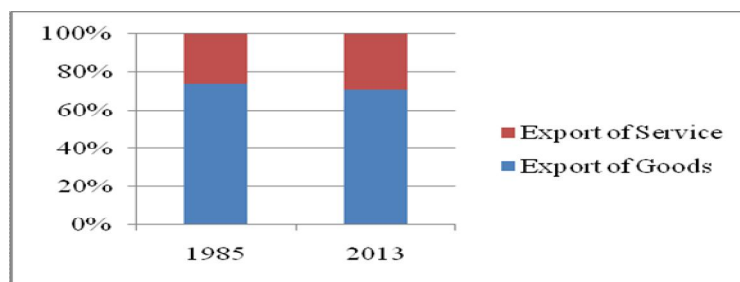
**Graph 6 – U.S. Trade in Services (\$millions)**



Share of service in total export is also on the rise. As shown in the following graph, export of service in 1995 was only 26.4%. In 2013, this share grew to become 29.5 percent. This trend is expected to continue and will play a critical role in our projection of the U.S. current account balance. Both quarterly data and annual data suggest 4 percent increase in export of service and U.S. balance on service trade, thanks mostly for the U.S. advantages in the internet technology.

However, interventionist policies in the hemisphere of virtual world, as exposed by Edward Sonwden, can create a protectionist policy among even our closest trading allies. This hegemony over service trade has to be respectfully maintained so it would not violate the right of sovereign nations, including our close trading allies.<sup>9</sup>

**Graph 7 – Share of Goods and Services in U.S. Exports<sup>10</sup>**



<sup>8</sup> Bureau of Economic Analysis, Release Date: September 19, 2013. Retrieved from [Table 3a](#).

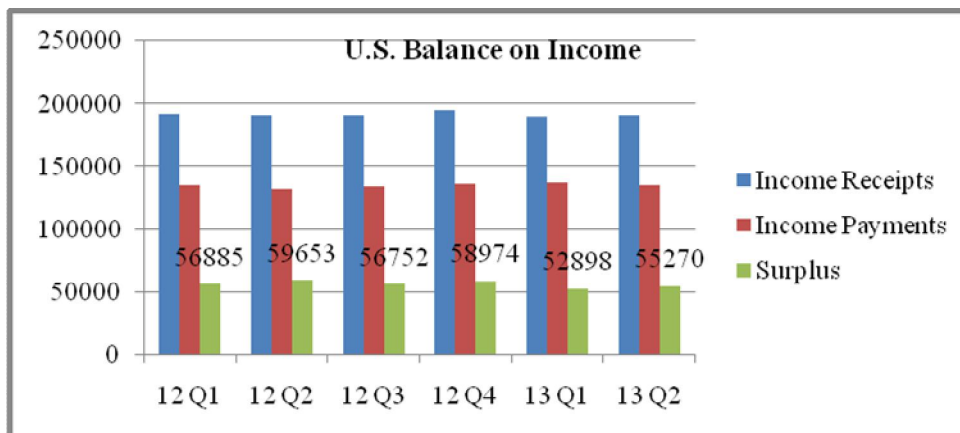
<sup>9</sup> Wall Street Journal (November 1, 2013) Earlier this week, the Wall Street Journal reported that AT&T’s plan to expand on the other side of the Atlantic was being questioned after officials from Germany and other European nations voiced concern over the relationship between the US telecom and the NSA. Retrieved from: <http://rt.com/usa/nsa-att-telecom-vodafone-098/>

<sup>10</sup> Source: Bureau of Economic Analysis (BEA) for 2013 data. BEA and Haver Analytics for 1985 data. Retrieved from Economic Review. Second Quarter 201, page 33.

## 2.2 Balance on Income

As shown in the following graph, in the second quarter of 2013, the surplus on income increased to \$53.1 billion in the second quarter from \$50.9 billion in the first.

**Graph 8 – U.S. Income Account (\$millions)**



## 2.3 Investment income

In the past several years, income receipts which consist of interest, dividends and direct investment on U.S.-owned assets abroad have been range bounds around \$190 billion per quarter.<sup>11</sup>

Income payments on foreign-owned assets in the United States have also been stable around \$135 billion per quarter. Most of the payments in this category are interest payment by U.S. government on its national debt which is nearing \$17 trillion.

### Compensation of employees

This is small and less volatile category of the U.S. income account. Receipts for compensation of U.S. residents paid by nonresidents are around \$1.7 billion per quarter and payments for compensation of foreign resident employees paid by U.S. residents are about \$3.8 billion per quarter.

## 2.4 Unilateral Current Transfers

Net unilateral current transfers to foreigners were \$34.2 billion in the second quarter of 2013, up from \$33.1 billion in the first. The increase was mostly due to an increase in net outflows of U.S. government pensions and other transfers that resulted from a decrease in fines and penalties received by the U.S. government from foreign corporations. U.S. government grants to foreigners also increased.

The U.S. current account balance consists of the above three categories.

## 1. Projections of the U.S. Current Account Balance

As shown in Graph 2.8, except for 1990, Americans have run an annual current account deficit with the rest of world in every year since 1982. That unbroken string of deficits has colored much of the trade debate in the United States in the last two decades. Indeed, the deficit was partly to blame for a wave of angst in the late 1980s over American "decline."

<sup>11</sup> Bureau of Economic Analysis, Release Date: September 19, 2013. Retrieved from [Table 4](#).

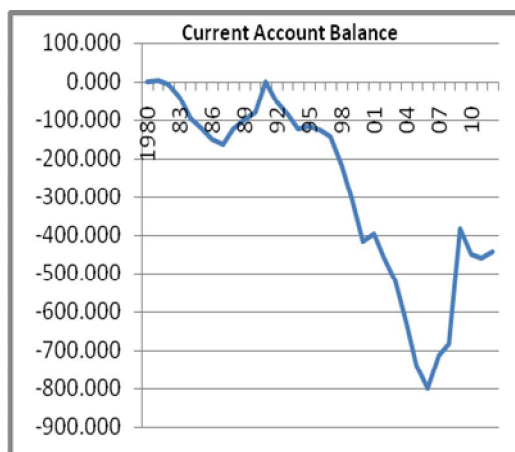


" Best-selling books such as Paul Kennedy's *The Rise and Fall of the Great Powers* and Clyde Prestowitz's *Trading Places: How We Allowed Japan to Take the Lead* caught the mood of the time.

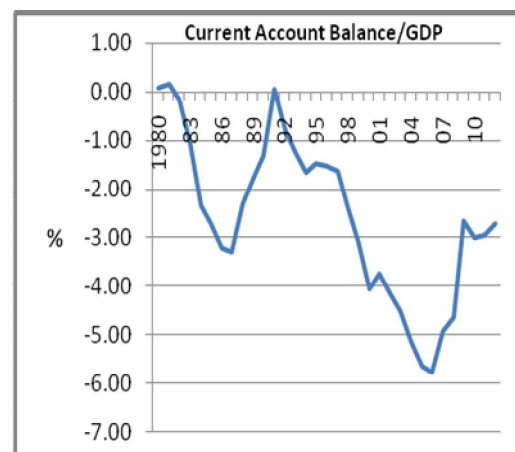
Throughout the 1980s and 1990s, current account deficit has spawned worry about "unfair" foreign trade barriers, lost jobs, and America's ability to compete in the global marketplace. However, as you read in this section none of these statements were true.

Beginning in the early 1990s, annual U.S. trade deficits reached unprecedented levels. After decades of postwar surpluses, the U.S. current account \$800 billion in 2006 and the deficit as a percentage of GDP approached the unprecedented level of 6% (see graph 10). In the aftermath of the global financial crisis, the current account deficit started to shrink. By 2009, the account trade deficit was cut in half to less than \$400 billion which shattered all doom and gloom projections in this area.

**Graph 9 – The U.S. Current Account Balance (\$Millions)<sup>12</sup>**



**Graph 10 – The U.S. Current Account Balance as Percentage of GDP<sup>13</sup>**



Researchers have identified a number of macroeconomic variables as an indicator of the U.S. export growth. For example; Jun Nie and Lisa Taylor<sup>14</sup> found that U.S. export growth depends on the economic growth in the rest of the world. Not many scholarly papers have examined the effects of growth in the service sector and petroleum production on the U.S. current account

Forecasting the U.S. current account balance in based on the following three assumptions:

- Four percent improvement of trade in service per year
- Increase in export of LNG per Table 2
- A reduction of 4 percent in imports of petroleum products

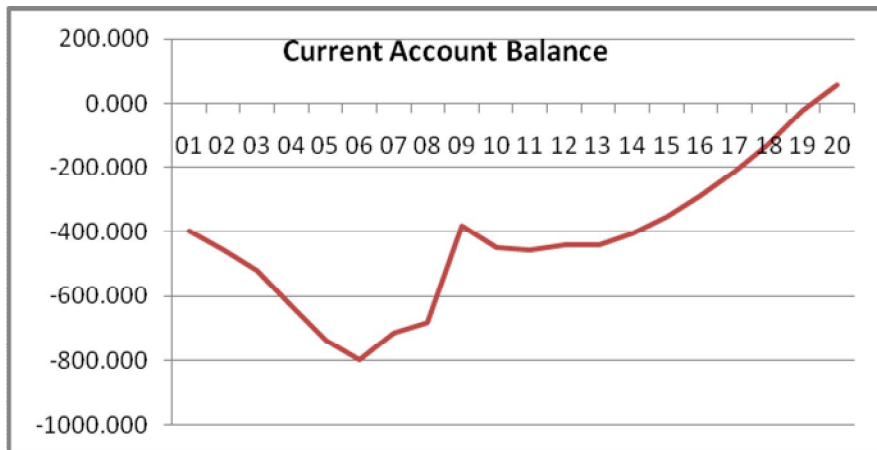
Using quarterly and annual data, we can make the following projection for the U.S. current account balance.

<sup>12</sup> Federal Reserve Economic Data. Retrieved from <http://research.stlouisfed.org/fred2>

<sup>13</sup> Federal Reserve Bank of St. Louis. Retrieved from <http://research.stlouisfed.org/fred2>

<sup>14</sup> Nir, J and Taylor L. (2013), *Economic Growth in Foreign Regions and U.S. Export Growth*. Economic Review, Federal Reserve Bank of Kansas City.

**Graph 11 – Projected U.S. Current Account Balance (\$b)**

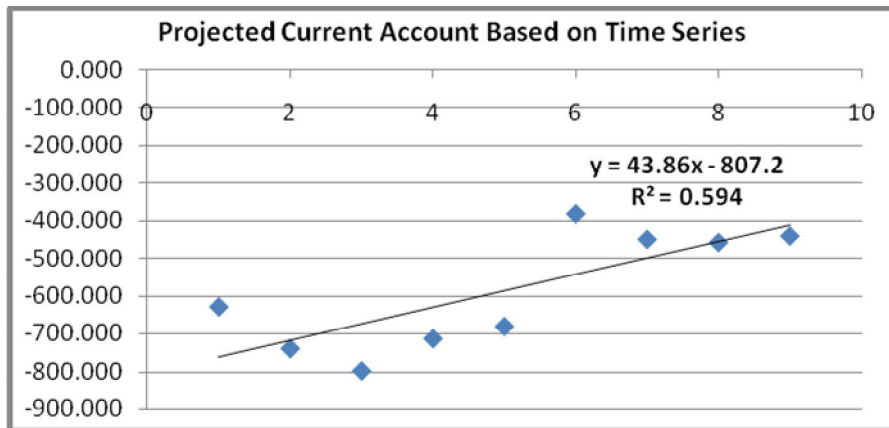


Using time series data we came up with a similar projection. The following graph shows the trend line for the current account deficit with the following equation:

$$Y = 43.86 T + 807.26$$

Using the above equation, Table 3 reports the projection of the U.S. current account deficit for 2014 through 2020.

**Graph 12 – U.S. Current Account Balance Using Time Series (2004-2013)**



**Table 3 – Projected U.S. Current Account Balance Using Time Series Data (\$b)**

2014	-193.22
2015	-149.36
2016	-105.5
2017	-61.64
2018	-17.78
2019	26.08
2020	69.94

Both projections displaying a rather robust outlook for the U.S. current account balances. Both are projecting that by 2020 U.S. will have a current account surplus. These predictions shatter many doom scenarios on overreliance of Americans on the Chinese capital to finance its deficit. U.S. could be in a position to actually finance other countries deficit.

### **Conclusion**

Recent current account data is pointing into an inflection point into the projection of the U.S. current account deficit. In this article we estimated that by 2020, U.S. will post current account surpluses thanks mostly to the improvement in the U.S. trade balance. Higher export, especially export of energy products and lower imports of energy will make this happen. The current account will also receive a boost from higher surpluses in the service and income accounts.

We also showed that unlike many previous projections, there is a positive relationship between improvement in the current account balance and improvement in the unemployment rate. Although using quarterly data might be necessary to make this relationship statistically significant.

### **References**

- Griswold, Daniel, T. (1998), *America's Malign and Misunderstood Trade Deficit*. Retrieved from [www.ciaonet.org](http://www.ciaonet.org)
- Federal Reserve Economic Data. Retrieved from <http://research.stlouisfed.org/fred2>
- Federal Reserve Bank of St. Louis. Retrieved from <http://research.stlouisfed.org/fred2>
- Nir, J and Taylor L. (2013), *Economic Growth in Foreign Regions and U.S. Export Growth*. Economic Review, Federal Reserve Bank of Kansas City.
- Bureau of the census. (2013) Retrieved from [www.export.gov](http://www.export.gov)
- U.S. Department of Commerce, BEA. (2013)