

SAIS CHINA STUDIES

Student Working Paper Series

FALL/2012

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What Caused China's Trade Surplus? An Analysis into the Factors that Led to China's Phenomenal Growth in Merchandise Trade Beginning in 2000 and the Growth of the Trade Surplus Beginning in 2005¹

Abstract: Three factors led to China's overall growth in both imports and exports beginning in 2001, and caused exports to outpace imports by 2005. The first factor is China's economic reforms beginning in the mid-1990s created dramatic productivity gains. Tens of thousands of state-owned enterprises (SOEs) were sold or closed, allowing room for a vibrant industrial private sector to grow. The second factor is China's exchange rate policy of pegging the RMB to the US dollar. China's industrial reforms led to explosive growth in total trade, though imports and exports grew at roughly the same pace until 2005. At this point, exports outpaced imports, indicating the RMB was undervalued. A strong US dollar up until 2002 helped China to maintain balanced trade, though as the US dollar weakened after 2002, the RMB weakened along with it, causing exports to exceed imports. The third factor is China's growing role as the center of world processing trade. China has two trade imbalances, a deficit with East Asia and a surplus with the West. Beginning around 2000, FDI from Japan, South Korea and Taiwan established processing centers for components to be processed and assembled in China and re-exported. A significant portion of this processing trade is made up of cell phones, televisions and computers, and processing trade accounts for over half of China's exports with the world. This paper discusses these three factors' influence on the trade surplus, puts them in context and discusses future implications.

¹ This paper was presented to US International Trade Commission Office of Economics on December 12, 2011.

This paper was prepared for the course "Advanced Seminar on China and the Financial Crisis," with Pieter Bottelier.

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INTRODUCTION

From 1995 to 2011, China's total merchandise trade³ increased more than tenfold, from \$281 billion to \$3.64 trillion. Trade remained relatively balanced until 2005, when China's trade surplus tripled in one year. This paper aims to determine the causes of this incredible growth in total trade starting in 2000, averaging 22.1% annually through 2011,⁴ as well as why export growth began outpacing import growth in 2005.

This paper will analyze the effect of three factors on China's trade growth; productivity growth, China's exchange rate policy, and growth of processing trade. The first two have been well researched and documented, while the third has not. Part 1 describes how late 1990s stateowned enterprise reform led to improved allocation of labor and increased output. These reforms caused fast productivity growth in the industrial sector, increasing the supply of goods to be sold on international markets and boosting China's demand for imports. Part 2 reviews China's exchange rate policy during this era of trade growth, putting the RMB peg to the dollar in the context of China's rapidly expanding economy. Part 3 describes China's shifting role in the global supply chain. China maintains a large trade deficit with neighbors Taiwan, South Korea and Japan, while maintaining an even larger trade surplus with the US and European Union. Foreign Direct Investment (FDI) from the three developed East Asian neighbors played a role in establishing China as a processing trade center; components are imported from East Asia,

² Trade data, unless otherwise noted, is taken from IMF Direction of Trade Statistics Yearbooks. IMF corrects for inflation and exchange rate distortions. The data represents trade in goods, or merchandise trade. See Chart 21.

³ Merchandise trade only includes trade in goods (excluding services and other categories). When the term "trade" is used throughout this paper, it is in reference to merchandise trade.

⁴ Authors calculations based on IMF data. See Chart 21.

assembled in China, and exported to the developed world on a large scale. Part 4 concludes and discusses possible future scenarios for China's trade surplus.

PART 1 CHINA'S PRODUCTIVITY GROWTH

The middle of the 1990s to the early 2000s was a period of historic change for China's industrial sector. Before the introduction of reforms to the planned economy, tens of thousands of mostly uncompetitive and unprofitable state-owned enterprises (SOEs) accounted for the bulk of China's industrial output. Dramatic policy changes liberalized labor markets and removed barriers to entry for non-state firms. During the 15^{th} Party Congress in 1997, the policy initiative 抓大放小--*zhuada fangxiao*; roughly translated into "keep the big firms and dump the small firms"-- formalized the partial privatization of the industrial sector. The central government retained ownership of a few hundred of the largest state-owned enterprises with the goal to turn these into globally competitive national champions, while allowing 53,000 small and medium sized SOEs to be leased or sold if there were buyers, or bankrupted and closed if there weren't.⁵ The "keep the big firms and dump the small firms" policy opened up China's industrial sector to a period of creative destruction on an unprecedented speed and scale.

The Conference Board, an American not-for-profit organization, was granted access to Chinese firm-level data from this period and conducted a study on the change in productivity and labor movements. Charts 2-5 on the following pages portray how these reforms led to enormous productivity increases in China's manufacturing sector.⁶

⁵Li Kui-Wai, *The Two Decades of China's Economic Reform Compared* (City University of Hong Kong, 2001)

⁶ Haiyang Deng, John Haltiwanger, Robert McGuckin, and Jianyi Xu, *China's Productivity Boom* (The Conference Board, 2007)



In 1995, SOEs and collective firms, two types of government ownership, accounted for 90.4% of industrial employment. By 2003, this share had decreased to 48%. Joint-stock enterprises, private industrial firms, and foreign-invested enterprises soaked up the workers laid off by the shrinking SOE sector. Joint-stock enterprises⁸ experienced an increase in employment share from 5.1% to 29.5%. Large and medium sized domestic private industrial firms, which didn't exist in the mid-1990s, accounted for 4.9% of industrial employment by 2003.⁹

⁸ A joint-stock enterprise is a firm that has some private ownership while retaining some level of government

⁷Charts 2-5 are compiled from 23,000 Chinese medium and large-sized firms' data on production, employment, and capital and labor quality from 1995 to 2003. The Conference Board was granted access to this data.

ownership as well. (See Deng, Haltiwanger, McGuckin, and Xu, "China's Productivity Boom" pg. 7 for explanation of firm ownership structures.)

⁹ Deng, Haltiwanger, McGuckin, and Xu, *Productivity Boom*, 18.



Labor market reforms meant SOEs were allowed to lay off redundant and unproductive workers. Unprofitable SOEs were sold or leased by the tens of thousands. This large scale economic restructuring meant that six in ten SOE workers were laid off between 1998 and 2004.¹⁰ On average, one in four jobs in the industrial sector were created or destroyed every year during this period. SOEs and collective firms shed 20.2 million jobs from 1995-2003. Chart 3 displays the incredible churning of the labor market, as workers moved from SOEs to private enterprises. There was also plenty of movement within government firms, as both SOEs and collective enterprises experienced job creation rates of 9.1% and 11.6% per year. Job destruction

collective enterprises experienced job creation rates of 9.1% and 11.6% per year. Job destruction rates averaged 18.6% and 15.2% for SOEs and collective enterprises, signifying massive turnover and decreases in total employment.¹¹

¹⁰ "Reform of State-owned Enterprises in China." China Labour Bulletin, December 19, 2007. Last updated December 14, 2007. <u>http://www.clb.org.hk/en/node/100153</u>

¹¹ Deng, Haltiwanger, McGuckin, and Xu, *Productivity Boom*, 13.





As workers moved out of relatively unproductive government firms, labor productivity in the industrial sector grew at the astounding rate of 20.4% annually from 1995-2003. Joint ventures (JVs) receiving FDI experienced the quickest productivity gains during this period. JVs were perfectly positioned to combine new technologies and managerial best practices provided by foreign companies with knowledge of local markets from domestic managers. SOE productivity per worker increased three times over, though it started from a low base.¹²



As depicted in Chart 5, China's industrial sector output experienced great change from 1995-2003. SOEs' and collectives' output fell from 76% to 28% in this period, and non-state firms rose in prominence. The economic restructuring laid the foundation for China's fast increase in trade beginning in 2000. These changes, independent of China's exchange rate policy.

¹² Haiyang Deng, John Haltiwanger, Robert McGuckin, Jianyi Xu, Reallocation, Restructuring and Productivity Growth in China (The Conference Board Technical Working Paper, 2007) 50-66

increased China's demand for imports and its capacity and competitiveness for supplying exports. Trade grew an average of 24.1% annually from 1999-2004,¹³ while the trade surplus remained small and stable. As the private sector grew, productivity took off in both state-controlled and non-state firms, lifting growth and trade. The next section will cover the exchange rate regime's influence on the growth of China's trade surplus.

PART 2 CHINA'S EXCHANGE RATE POLICY

In late 2005, US Senator Chuck Schumer made the following declaration. "The Chinese manipulate their currency, and the administration should not have ducked the issue. Their refusal to acknowledge reality and take the necessary corrective actions hurts every American."¹⁴ The timing and nature of Schumer's quote is significant. By 2005 China's trade surplus was increasing rapidly, and China's exports to the US were four times larger than imports.¹⁵ China's exchange rate policy has been a sensitive political topic between China and her trade partners since. Part 2 will discuss the economic impact China's exchange rate policy had on the growth of China's trade surplus, and attempt to place its impact in context with other factors affecting China's trade.



¹³ Authors calculations based on IMF data. See Chart 21.

¹⁴ Edmund L. Andrews, "Treasury's gentle tack on Yuan draws fire." *The New York Times*, November 29, 2005 http://www.nytimes.com/2005/11/29/business/worldbusiness/29iht-yuan.html? r=0

¹⁵ US imports from China amounted to \$204.9 billion and US exports to China amounted to \$48.7 billion. See Chart 21.

Despite rapid growth in total trade beginning in 2000 due in part to fast productivity increases, China's trade surplus remained steady until 2005. So what happened to make the trade surplus more than triple from 2004 to 2005¹⁶, then continue to increase an average of 44.5% annually from 2006-2008?¹⁷ The undervalued RMB is part of the story.



China's exchange rate policy of keeping within a tight range of 8.28 RMB/USD lasted from 1995 to 2005. Throughout the mid-1990s until 2000-2001, the US dollar appreciated against most world currencies, causing the RMB to appreciate as well. This contributed to China maintaining relatively balanced total trade during this era, as China's productivity gains were somewhat offset by an appreciating currency. In 2002, the US Federal Reserve began implementing relatively loose monetary policy, causing the dollar to depreciate. The RMB remained pegged until 2005 during this period of dollar depreciation, causing the RMB to also depreciate at a time of exploding productivity and trade growth. This tipped the scale in favor of exports.¹⁹

¹⁶ China's trade surplus went from \$32 billion in 2004 to \$103 billion in 2005. See Chart 21.

¹⁷ Author's calculations using IMF data. See Chart 21.

¹⁸ US Federal Reserve FRED database

¹⁹ Nick Lardy and Morris Goldstein, *The Future of China's Exchange Rate Policy* (The Peterson Institute, 2009)



Looking at US and EU trade with China pictured in Charts 8-9, exports begin to accelerate at a much faster pace than imports in 2003, an indication that the RMB was becoming undervalued around this time in respect to these currencies. The Eurozone may have been even more affected by an undervalued RMB than the US. As the dollar depreciated against the Euro, the RMB also depreciated because of the peg, exacerbating the China-EU trade surplus. After the RMB began appreciating against the dollar in 2005, the RMB/Euro rate did not see the same rate

²⁰Chart 8 and Chart 9. IMF Direction of Trade Statistics Yearbook. See Chart 21.

of appreciation as the RMB/USD, as the Euro appreciated against the dollar along with the RMB. 21

While China's exchange rate policy had an effect on the size of the trade surplus with the West, the story is more complicated than an undervalued RMB. In this period, East Asian countries continued moving their supply chains to China. South Korea, Japan, and Taiwan began using China as a processing center for exports to the developed world. Part 3 will explore how FDI from these three countries points to China's new role as a processing trade center.

PART 3 GROWTH OF PROCESSING TRADE

During the 2000s China developed two trade imbalances, a trade deficit with East Asia and a trade surplus with the West. Chart 10 shows the scale of these imbalances.



China's combined trade surplus with EU and US in 2010 was 8.9 times bigger than it was in 2001. In the same time period, China's combined deficit with the three developed East Asian countries grew 6.8 times larger.²³ The individual trade figures for these three countries are on the following page.

²¹Pieter Bottelier. "China and the Financial Crisis." (lecture, Johns Hopkins SAIS, Washington DC, October 31, 2011)

²² Charts 10-13. IMF Direction of Trade Statistics Yearbooks. See Chart 21.

²³ Author's own calculations using IMF statistics.



Compared to Japan and South Korea, Taiwan-China trade is the most one-sided. Taiwanese imports to China in 2010 were nearly four times larger than Chinese exports to Taiwan.²⁴ Japan is the largest and most balanced trading partner of the three, though Japan still ran a trade surplus with China of \$47 billion in 2011.²⁵ What are the causes and the significance of China's trade deficit with East Asia? This is partly due to structural changes in trade flows, as the three developed Asian countries brought China into their supply chain. FDI from these countries in China helps to clarify the story.



Foreign Direct Investment (FDI) has played an important role in China's industrial growth. FDI has brought foreign technology, management, and expertise to China, increasing China's productivity.²⁷ In Chart 14, there are two dramatic upswings in FDI yearly inflows. In spring of 1992, Deng Xiaoping's journey to Southern China sent a clear message of the continuation of the Reform and Opening Policy of the 1980s after the Tiananmen Square riots of 1989 brought economic reforms to a halt. From 1991 to 1994, FDI inflows increased from \$4.4 billion to \$33.8 billion a year. A significant portion of the early wave of FDI came from Taiwan, Hong Kong, Macau, and Singapore, flowing into Guangdong province. Guangdong attracted 35.6% of contracted FDI to China in 1994.²⁸ With its proximity to Hong Kong and a Special

 ²⁴ Taiwan's exports to China were \$115.6 billion and Taiwan's imports from China were \$29.7 billion in 2010.
²⁵ See Chart 21

²⁶ US China Business Council Data aggregated from PRC Ministry of Commerce, PRC National Bureau of Statistics, China Statistical Yearbook 2009 <u>https://www.uschina.org/statistics/fdi_cumulative.html</u>

²⁷Kevin H. Zhang, *Foreign Direct Investment and Economic Growth in China: A Panel Data Study for 1992-2004* (Illinois State University. 2006)

²⁸ Kaisheng Zeng, *An Analysis of Southeast Asian Firms' Investment in China*, (China and World Economy Vol. 12 No. 5, 2004)

Economic Zone centered in Shenzhen, Guangdong acted as China's laboratory for foreign investment in the early 1990's.

FDI flows dipped slightly as a result of the Asian financial crisis in 1997, but returned to strong steady growth in 2001. China's WTO entry and SOE reforms are both likely reasons for the increase in FDI inflows. Chart 15 is a depiction of South Korean, Japanese, and Taiwanese FDI in China from 2000 to 2010.



The large increases of FDI from Taiwan, South Korea, and Japan began around 2000-01, the same time that China's increased trade deficit with these three countries also saw dramatic increases. This is an indication of East Asia bringing China into the global supply chain. It is likely that a significant portion of the FDI created processing centers for electronic components to be imported from East Asia, assembled in China, and exported to the West. To be sure, more analysis of the composition of China's trade with both East Asia and the West is needed. What is China importing from East Asia and what is it exporting to the West?

The US International Trade Commission (USITC) receives Chinese customs data and has produced several studies detailing the composition of China's merchandise trade. ³⁰ In 2007, processing exports accounted for 50.7% of China's total exports worldwide. Processing exports

²⁹ FDI data from

Korean Import-Export Bank <u>http://www.koreaexim.go.kr/en/fdi/stat_04.jsp</u> Japanese External Trade Organization (JETRO) <u>http://www.jetro.go.jp/en/reports/statistics/</u> Taiwan Department of Statistics, Ministry of Economic Affairs.

http://2k3dmz2.moea.gov.tw/gnweb/English/Indicator/wFrmEnIndicator.aspx#D See "D-6 Approved Indirect Mainland Investment"

³⁰Alexander B. Hammer, *The Dynamic Structure of US-China Trade, 1995-2004,* (US International Trade Commission Office of Economics Working Paper, July 2006)

were an even larger proportion of US trade, accounting for 62.5% of total exports to US.³¹ Here is where FDI fits into the picture. 86.2% of processing exports from China to the US came from foreign invested enterprises.³² To put this into perspective, of the \$233.2 billion³³ of goods China exported to US in 2007, \$125.6 billion³⁴ came from foreign invested enterprises processing imported components. Cell phones, televisions, and laptops are included in this total.³⁵





Processing trade made up over half of China's total trade in 2007. This figure for the United States is much higher, however.

³¹ Judith Dean, Mary Lovely, and Jesse Mora. *Decomposing China-US-Japan Trade; Vertical Specialization*, Ownership, and Organization Form, (China, Japan, and the United States Deeper Integration Conference, 2009)

³² Dean, Lovely, and Mora. *Decomposing*, 24.

³³ See Chart 21

³⁴ Author's calculations using IMF trade data and Dean, Lovely, and Mora, *Decomposing* data on FIEs and processing trade ³⁵ Alexander Hammer, interview by David Fenton. US International Trade Commission. December 12, 2011

³⁶ Charts 16 and 17 using data from Dean, Lovely, and Mora, *Decomposing*, 25.



The role of FDI in increasing China's trade surplus can be seen in Chart 17, as foreigninvested enterprises (FIEs) make up a significant proportion of China's processing trade, which accounted for over half of total trade in 2007. Foreign invested enterprises importing components and exporting finished goods have been a driver of China's trade growth. What are these goods being processed? To answer this, composition of trade statistics need to be analyzed.

Charts 18-21 depict the trade composition between China and Japan, ASEAN, US, and EU in 2007.³⁷ By comparing China's deficit with Japan and ASEAN to China's surplus with US and EU, clues of the size and scope of the processing trade appear.

	•	Japan					
SITC	Description	Exports	Imports	Balance			
77	Electrical machinery	11,666	37,027	(25,362)			
76	Telecommunications and sound recording	7,762	5,581	2,182			
75	Office and processing machines	10,085	3,911	6,173			
84	Articles of apparel and clothing	16,499	128	16,371			
87	Professional instruments	2,122	7,884	(5,762)			
74	General industrial machinery	3,896	5,896	(2,000)			
89	Miscellaneous manufactured articles, n.e.s.	4,401	1,915	2,486			
67	Iron and steel	2,122	7,702	(5,580)			
28	Metalliferous ores and metal scrap	115	1,974	(1,859)			
65	Textile yarn and related products	3,152	3,154	(2)			

Chart 18 Components of China's Trade with Japan in 2007

China ran a \$25.4 billion trade deficit in "electrical machinery" with Japan in 2007, with imports of "electrical machinery" amounting to over \$37 billion. Electronic parts to be processed in China are included in this trade category.

³⁷ Charts 18-21 taken directly from Dean, Lovely, and Mora, *Decomposing*, 24.

		ASEAN						
SITO	Description	Exports	Imports	Balance				
77	Electrical machinery	12,473	42,520	(30,047)				
76	Telecommunications and sound recording	9,796	3,699	6,098				
75	Office and processing machines	8,678	14,019	(5,342)				
84	Articles of apparel and clothing	5,032	98	4,935				
87	Professional instruments	2,405	867	1,538				
74	General industrial machinery	4,080	1,858	2,222				
89	Miscellaneous manufactured articles, n.e.s.	2,381	1,890	491				
67	Iron and steel	7,964	231	7,732				
28	Metalliferous ores and metal scrap	5	4,537	(4,532)				
65	Textile yarn and related products	5,839	703	5,136				

Chart 19 Components of China's Trade with ASEAN in 2007

China's \$42.5 billion of electrical machinery imports from ASEAN far exceeds exports. Between ASEAN and Japan, China imported \$79.5 billion worth of electrical machinery in 2007. This includes parts for mobile phones, televisions, and computers to be processed and assembled in China and re-exported.

Charts 20-21 are China's trade with the US and EU. Note China's \$62.3 billion surplus with the EU and US in "telecommunications and sound recording", \$73.7 billion combined surplus in "office and processing machines", and \$32.3 billion combined surplus in "misc. manufactured articles".

	• • • • • • • • • • • • • • • • • • •		US			
SITC	Description	Exports	Imports	Balance		
77	Electrical machinery	19,054	10,836	8,218		
76	Telecommunications and sound recording	36,847	1,435	35,412		
75	Office and processing machines	38,165	2,152	36,013		
84	Articles of apparel and clothing	18,737	20	18,717		
87	Professional instruments	3,664	3,591	73		
74	General industrial machinery	8,718	3,517	5,201		
89	Miscellaneous manufactured articles, n.e.s.	21,610	1,175	20,435		
67	Iron and steel	4,454	754	3,700		
28	Metalliferous ores and metal scrap	6	3,156	(3,150)		
65	Textile varn and related products	6,075	547	5,528		

Chart 20 Components of China's Trade with the US in 2007

		EU15						
SITO	Description	Exports	Imports	Balance				
77	Electrical machinery	21,044	14,246	6,798				
76	Telecommunications and sound recording	29,646	2,786	26,860				
75	Office and processing machines	39,165	<mark>1,485</mark>	<mark>37,679</mark>				
84	Articles of apparel and clothing	19,954	333	19,622				
87	Professional instruments	3,241	4,566	(1,325)				
74	General industrial machinery	9,064	12,526	(3,462)				
89	Miscellaneous manufactured articles, n.e.s.	13,095	1,195	11,901				
67	Iron and steel	9,039	3,706	5,333				
28	Metalliferous ores and metal scrap	451	3,679	(3,227)				
65	Textile yarn and related products	6,348	1,075	5,273				

Chart 21 Components of China's Trade with the EU in 2007

These 2007 trade composition statistics offer a glimpse of the scale and direction of China's processing trade, as imported components from Asia are assembled and exported to US and EU.

LIMITATIONS

China saw a large increase in FDI flows starting in the early 2000s from Japan, South Korea, and Taiwan, continuing until present. China developed a large trade deficit with these three developed Asian countries during this period, and a significant proportion of China's imports from them included electronic machinery. At the same time, China developed a large trade surplus with the US and EU. Well over half of the exports to US and EU consisted of processing trade, which included products like cell phones, televisions, and computers assembled and processed from imports. By 2007, over 84% of China's processing exports were from foreign invested enterprises, pointing to the importance of the large amounts of FDI that flowed into China's industrial sector. All of this was made possible by China's industrial reforms.

This analysis relies too heavily on snapshots from point-in-time studies. A solid connection between the FDI increases and the FIEs heavily involved in China's processing trade needs to be made. What are these FIEs, when were they established, and what do they produce? Further study is necessary to get a complete picture of how the growth of China's processing trade has driven the increase in China's trade surplus in the 2000s.

PART 4 CONCLUSION

Part 1 detailed China's productivity growth from economic reforms and reallocation of labor and resources. China's industrial sector became more efficient and productive beginning around 1995. During this period China imported the world's most advanced technologies, management, and business practices while cutting loose tens of thousands of SOEs. China's

export and manufacturing sector grew in productive capacity at a time when demand from the developed world was strong and peaking. These economic efficiency gains as SOEs were dismantled and private enterprise growth cannot be repeated on the same scale. Labor productivity grew 5.3 times from 1995 to 2003.³⁸ Wages did not grow at a comparable rate, giving China's tradable goods sector a competitive edge. In 2003, labor shortages began to arise, leading to wage increases. From 2003 to 2008, wages in the manufacturing sector increased on average 10.5% annually, and 10.2% for migrant workers. In 2010, the real wage of migrant workers increased 19%.³⁹ The wage increases are driven by demographic changes in China, as well as reflective of productivity growth in China's manufacturing sector. These increases in wages will put negative pressure on China's trade surplus/GDP ratio in the future.

Part 2 details the effect that China's exchange rate policy had on China's trade growth in the 2000s. In November 2012, China's nominal and real exchange rates continue to appreciate against the dollar and euro. Despite the political wrangling in the US, it isn't clear that the RMB is still undervalued. While a strong case could be made for an undervalued RMB in 2004-05, other factors are more relevant in explaining China's persistent surpluses. Favored firms and SOEs with access to subsidized loans from state-owned banks enjoy access to very cheap credit. Michael Pettis, Senior Associate at Carnegie Endowment for International Peace, calculates this credit could be 400-600 basis points below market value. This effective state subsidy to the industrial sector is more of a factor than China's exchange rate policy in promoting the export sector.40

Part 3 describes the growth of China's processing trade, as China is brought into East Asian supply chains. South Korea, Japan, and Taiwan since 2000 have increased FDI into China, and growth in imports from these countries followed the FDI. China became the global center for processing imported electronic parts and exporting finished goods by the mid-2000s. Two trade imbalances developed in the 2000s; a deficit with East Asia and a surplus with the West. This change in global supply chains and China's role in the processing trade is a reason for China's structural trade surplus with the West, and is not sensitive to nominal exchange rate movements in the short-term. In the long-term though, China may price itself out of the processing trade just as its now pricing out of low end manufacturing. Up until the present however, China's structural economic changes and dominant role in the processing trade overshadow China's exchange rate policy when judging the factors leading to China's trade surplus.

³⁸ Author's calculation using Deng, Haltiwanger, McGuckin, and Xu, Productivity Boom 20.4% labor productivity growth figure during this period. ³⁹ Cai Fang, *China's Rising Wages*, (Chinese Academy of Social Sciences, September 5, 2011)

⁴⁰ Michael Pettis, Is the RMB Undervalued or the USD Overvalued, (China Financial Markets, March 24, 2011) http://www.financialsense.com/contributors/michael-pettis/is-loan-growth-in-china-slowing

Partner Country	Trade in Goods	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Japan	Value of Exports	28.5	30.9	31.8	29.7	32.4	41.7	45.1	48.5	59.4	73.5	84.1	91.8	102.1	116.2	98.0	120.3	147.3
	Value of Imports	29.0	29.2	29.0	28.3	33.8	41.5	42.8	53.5	74.2	94.2	100.5	115.8	133.9	150.8	130.9	176.3	194.4
Korea, Republic of	Value of Exports	6.7	7.5	9.1	6.3	7.8	11.3	12.5	15.5	20.1	27.8	35.1	44.6	56.1	73.9	53.6	68.8	82.9
	Value of Imports	10.3	12.5	14.9	15.0	17.2	23.2	23.4	28.6	43.1	62.2	76.9	89.8	104.0	112.2	102.5	138.0	161.7
United	Value of Exports	24.7	26.7	32.7	38.0	42.0	52.2	54.4	70.1	92.6	125.2	163.3	203.9	233.2	252.8	221.4	283.7	324.9
States	Value of Imports	16.1	16.2	16.3	17.0	19.5	22.4	26.2	27.3	33.9	44.7	49.0	59.3	70.0	81.7	77.8	102.0	119.2
European Union	Value of Exports	20.5	21.1	25.5	30.1	32.3	41.1	44.6	52.9	79.1	108.7	145.7	189.9	245.4	293.2	236.5	311.5	356.2
	Value of Imports	21.8	20.2	19.4	20.9	25.9	30.8	36.5	39.9	55.0	70.3	73.9	90.7	111.1	132.9	127.9	168.4	211.2
World totals	Value of Exports	149.0	151.2	182.9	183.7	194.9	249.2	266.1	326.0	438.0	593.0	763.0	970.0	1,219.0	1,429.0	1,203.0	1,580.4	1,901.5
	Value of Imports	132.2	138.9	142.2	140.4	165.7	225.1	244.0	295.0	413.0	561.0	660.0	792.0	956.0	1,132.0	1,004.0	1,393.9	1,741.4

Chart 21 China's Merchandise Trade⁴¹ USD Billions

⁴¹ IMF Direction of Trade Statistics Yearbooks 2000-2011