Demographics on Crime: A Look at the U.S.A.

Nicolas Eceizabarrena[a]

Abstract:

This study aims to identify how change in social indicators and demographics affect crime, more specifically, the number of aggravated assaults. As policy makers attempt to reduce crime to improve social conditions, changes to social indicator and demographic variables would allow quantifying these changes. This study uses a cross-sectional data set for the fifty states in the United States of America for the 2005 period.

JEL Classification: J00

Keywords: Labor, Demographics, crime, police expenditure

[a] May 2014 Graduate (Finance/Economics), Bryant University, 1150 Douglas Pike, Smithfield, RI02917. Phone: (401) 601-7191. Email::neceizab@bryant.edu

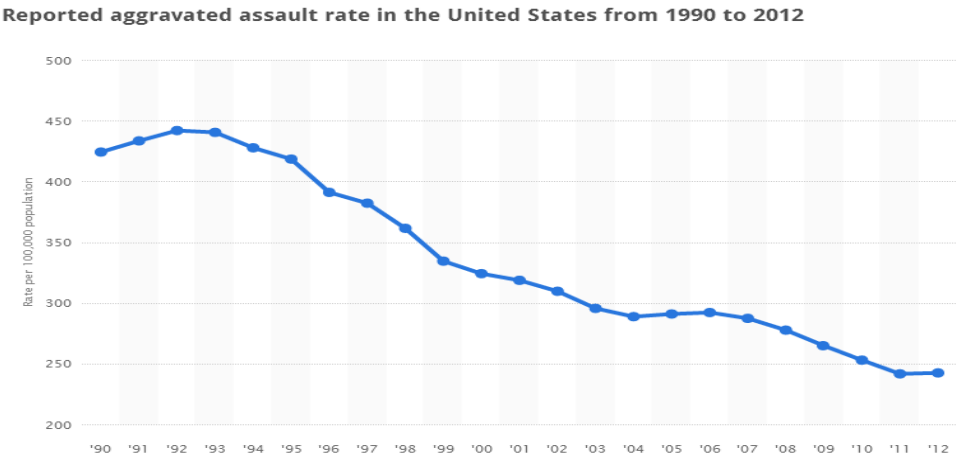
1. INTRODUCTION

This study aims to identify patterns in crime across the fifty states in the United States of America (U.S.). The U.S. is known to be one of the most prosperous countries in the world if not the most. The U.S. is the most developed nation in the world this might be due to the high level of innovation that arises in the country; the U.S. registers more patents annually than any other country in the world. Even though the U.S. has an edge over other countries, there is still a great degree of income inequality and crime in the country as there is such a gap between social classes. This study focuses on understanding how demographics, social indicators and other measures affect crime. More specifically, this study looks at the relationship between these measures of demographics and social wellbeing with the number of aggravated assaults. The Federal Bureau of Investigation (FBI) defines aggravated assault as the following: " an unlawful attach by one person upon another for the purpose of inflicting severe or aggravated bodily injury". An attempt by policy makers to reduce crime will have a positive impact in all social classes. It is clear that focus should be placed on the lower class and attempting to improve social and economic conditions of this group is the best approach. How much does a state spend on police on a per capita basis, gun laws, the number of Bachelor degrees awarded per year and unemployment rate are the measure of social indicators considered in this study while the demographic indicators are population size and density. This study differs from others in that a dummy variable that returns 1 if state legislation does not allow concealed gun carry is included in the model. It is clear that in order to effectively reduce crime other things should be taken in consideration even though they would not show to be significant in the regression.

2. TREND

Although this study uses a cross-sectional data set for the fifty states of the U.S. during the 2005 period, understanding what happened in the past is vital to conduct a proper analysis of the data. When looking at how the variables included in this study have changed over time, we can see that they have a significant relationship with each other. Graphs on the demographics variables did not offer much significant input to the discussion as both population size and density have increased over time and any irregularities over time are not significant to this cross-sectional study for the 2005 period. Figure 1 portrays a consistent decrease in the number of reported aggravated assaults in the United States from 1990 to 2012; an increase during periods of severe economic recession like the one experienced in 2008 was expected but is not the case. It is important to point out that the chart in picture 1 already controls for increases in the population size.

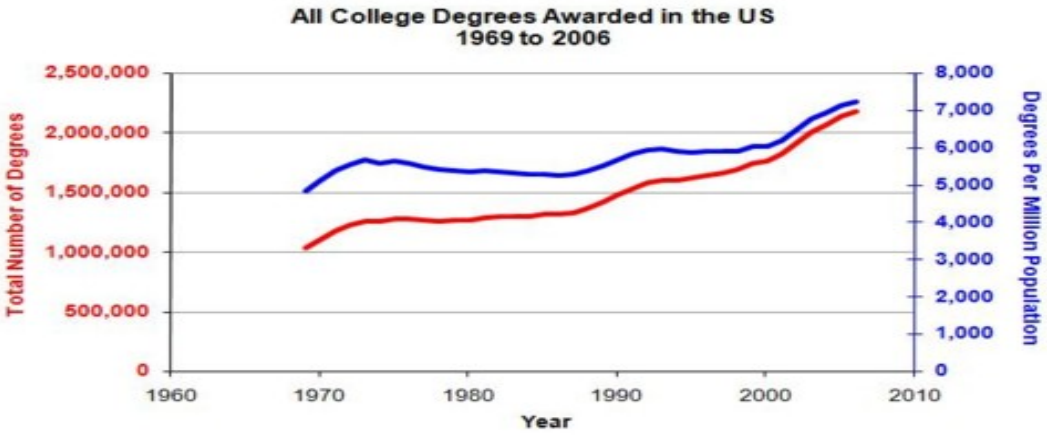
Picture 1:



Picture 2 depicts how over time more people are awarded more superior education degrees. We can see a strong negative relationship between the number of aggravated assaults and the number of Bachelor degrees awarded over time, it is

possible that this is due to other influences and that these two factors are just trending in the same direction, although, it is safe to establish such relationship.

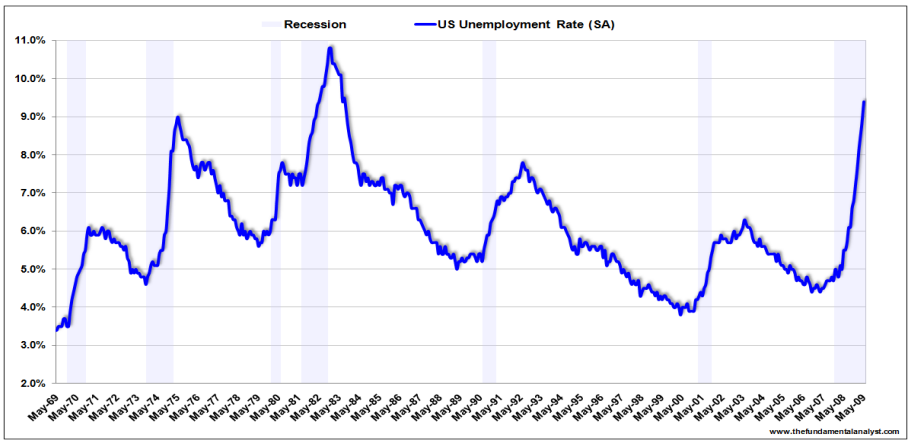
Picture 2:



Picture 3 illustrates the trend in unemployment rate from 1969 to 2009. It is very important to note that the trend in unemployment rate is highly subject to the cyclicality of GDP growth. The chart shades those period of economic contraction and we can see how the unemployment rate increases during such times. The chart shows a high of 11% after the 1982 recession when the Federal Reserve used contractionary monetary policy to control for high inflation. The lowest unemployment rate in the last decade was a rate of 4.5% during the 2006-2007 period before the 2008 global economic crisis. The recession destructed millions of jobs and the unemployment rate reached the 9.5% rate. Since then, the government has implemented various policies to lower this rate and have it trend towards a more natural level of unemployment. It is safe to argue that the “natural” rate of unemployment of approximately 3% is no longer an accurate measure of “full

employment" and this number should be revised upwards due to radical changes in technology that led to the destruction of millions of automated jobs.

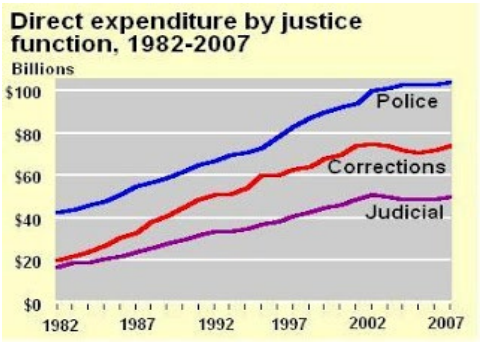
Picture 3:



Source: Bureau of labor statistics

Picture 4 can bring valuable insight to the discussion as we can see that police expenditure is higher and has grown at a higher pace over time relative to other justice functions such as judicial and correctional expenditures. During those periods where police expenditure saw an increase above the average rate, aggravated assaults diminished at a faster pace as well. The 1996 and 2001 time periods show a good illustration of this fact.

Picture 4:



3. LITERATURE REVIEW

(Land & Felson, 1976) focused on social and demographic indicators to explain patterns in crime. They argue that their results in the area of public safety shows that this type of study is feasible and possibly fruitful even in the present

unpolished state of affairs with respect to the collection of crime statistics. They believe this study is important for three reasons: first, social and demographic indicators are the subject of attention by observers of the society and one of the few systematic sources of information about social life. Second, large portions of the variances of these indicators are systematically related to other indices of social conditions. Third, social indicators are important indices of real social changes.

On his work titled “Reexamining Criminal Behavior: The Importance of Omitted Variable Bias” (Mustard, 2003) points out the biggest flaw of models used to predict patterns in crime. He points out that most studies suffer from omitted variable bias because they fail to control for conviction rates and sentence lengths. The reason why these two variables are not included in the model most of the time is because of data availability constraints.

(Kelly, 2000) focuses on income inequality to explain crime and its costs vs. the tendency observed in current economic literature to analyze its costs on the long-run by looking at measures such as economic growth. The study completed by Kelly shows that it is not possible to reject the hypothesis that inequality causes violent crime for one data set.

Another study titled Patterns in Criminal Aggravated Assault (Pittman & Handy, 1964) points out how other studies usually use homicide as a measure of crime. The line separating an aggravated assault from homicide is very thin and even a delayed ambulance can make the difference. The study emphasizes the difference in results when using homicide or aggravated assaults as a measure of crime. As a result the study conducted here will focus on aggravated assaults to expand the literature in this topic which is less existent.

On their study titled “Crime, Deterrence, and Right-to-Carry Concealed Handungs”, John R. Lott, Jr. and David B. Mustard, use a longitudinal data set for U.S. Counties from 1977 to 1992 and found that allowing citizens to carry concealed weapons deters violent crimes. They also found a substitution effect for crimes as a result; delinquents substitute murder, rape and aggravated assaults into property crimes involving stealth and where the probabilities of contact between the criminal and the victim are minimal. They also found that “concealed handguns also have their greatest deterrence effect in the highest crime counties”. These findings although not consistent with the pre-assumptions made in this study, they make sense.

In his study “ All crime in the end is the crime of the community”, Adjogatse points out that “Historically, the typical response to a rise in crime rates was an increase in police numbers, though, more recently authorities have sought to resolve the underlying problems that stimulate criminal behavior (Adjogatse, 2000). Several demographic and socio-economic indicators were found to be significant in this study. One of the findings of this study suggest that social organization provides effective explanation of crime rates and points to income inequality as a major component of crime rates; other measures of inequality such as education inequality also play a major role in explaining trends in crime rates.

4.0 DATA AND EMPIRICAL METHODOLOGY

4.1 Data

This study uses a cross-sectional data set from 2005 for the fifty states in the United States of America. Data was extracted from www.statemaster.com which derives their data from other governmental sites. Data for the independent variable (aggravated assault) was obtained from the Bureau of Justice Statistics. Data for the

number of bachelor degrees awarded was extracted from the National Center for Educational statistics. Data on population size was obtained from the 2005 U.S. Census Bureau. Data on police expenditure per capita was obtained from the 2005 Census of Governments. Summary statistics for the data are provided in Table 1 and a correlation matrix is provided in Table 2.

Table 1: Summary statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
LogAA	50	5.639509	.6330955	3.850147	6.638568
LogPop	50	1.119087	1.017892	-.7896581	3.393165
bachelorsd~e	50	21667.54	21906.1	1148	100484
policeexpe~a	50	261.7	93.75745	118	600

Table 2: Correlation Matrix

	lagrav	lpop	bachel~e	police~a
lagrav	1.0000			
lpop	0.5684	1.0000		
bachelorsd~e	0.4162	0.8536	1.0000	
policeexpe~a	0.4270	0.1760	0.3333	1.0000

4.2 Empirical Model

After computing all possible regressions with the available data, the empirical model that yields the best reliable results could be written as follows:

$$\boldsymbol{Log(AA)} = \propto + \boldsymbol{B1Log(Pop.)} + \boldsymbol{B2(BD)} + \boldsymbol{B3(PEPC)}$$

AA is the total number of aggravated assaults, it is the independent variable of this study and we aim to identify the impact on this variable when changing the others. Other studies have looked at aggravated assault as a measure of crime because it captures the impact of a lot more criminal activities when compared to other measures. The first explanatory variable in the model (Pop) is the size of the population. It can be assumed that areas with greater number of habitants should experience a higher number of aggravated assaults, holding everything else constant. Therefore this variable had to be part of the model and has in fact been used in previous similar studies. Data on population density has not been included in the model because of concerns regarding correlation with population size. When the regression is computed independently, (POP) yields much better results. The second explanatory variable included in the model (BD) is the total number of bachelor degrees awarded per year in each state. As more people receive better education fewer crimes should be committed. When a person obtains a bachelor degree his/her chances of being employed and the salaries he/she would receive rise thus reducing the need to commit crime. The last explanatory variable (PEPC) is per capita police expenditure. It is the job of the police to protect the citizens and thus each state's policy regarding police expenditure should be studied to improve social conditions and reduce crime.

5.0 EMPIRICAL RESULTS

The empirical results of the estimation are presented below. The explanatory variables explain 47.3% of the variances in the data (adj. R^2 = .4734) and all variables are significant with a 95% level of confidence. It is important to note that not all results are as expected. The coefficient on police expenditure per capita is positive which implies that aggravated assault and police expenditure per capita are positively correlated. This is not what was expected but it actually makes sense, because areas that experience higher levels of aggravated assault, will expend more money to prevent them. The results can be interpreted as follows. A 1% increase in the population will lead to a .58% increase in the total number of aggravated assaults, holding everything else constant (Ceteris Paribus). When one thousand additional bachelor degrees are awarded, the total number of aggravated assaults should decrease by 1.6%, ceteris paribus. A unit increase in police expenditure per capital will lead to a .29% increase in the total number of aggravated assaults.

Source	SS	df	MS		
Model	9.93077405	3	3.31025802	Number of obs =	50
Residual	9.70890904	46	.21106324	F(3, 46) =	15.68
				Prob > F =	0.0000
Total	19.6396831	49	.400809859	R-squared =	0.5056
				Adj R-squared =	0.4734
				Root MSE =	.45942

lagrav	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
lpop	.598422	.1269133	4.72	0.000	.3429589	.8538852
bachelorsdegree	-.000016	6.16e-06	-2.59	0.013	-.0000284	-3.57e-06
policeexpenditurepercapita	.0029832	.0007613	3.92	0.000	.0014508	.0045156
_cons	4.535022	.2072395	21.88	0.000	4.11787	4.952173

6. CONCLUSION

As policy makers attempt to reduce crime, this study aimed to quantify how changes in education, size of the population and police expenditure will affect crime, more specifically the number of aggravated assaults. Results are somewhat encouraging and it is clear that policymakers should incentivize the completion of a bachelor´s degree. It also clear that many other factors play a role in explaining the level of crime and that is why this study can only explain 47.34% of the variations in the data. Other variables should have been included to create a better picture perhaps understanding what percent of the population in a given state is living under the poverty line would be a good place to start. This study aimed to distinguish itself from others by including a dummy variable that returned 1 if the state´s legislation did not allow concealed gun carry. However, inclusion of such variable distorted results and has thus not been included in the model although it is should be considered an important subject in crime policy making. As previously mentioned, the results on the variable police expenditure per capita are not as expected and while they make sense, perhaps a time lag should have been applied to better serve the purpose of this study. With that said, further studies should implement a Panel data set even though data availability is limited.

References:

1. Land, K., & Felson, M. (1976). *A general framework for building dynamic macro social indicator models: Including an analysis of changes in crime rates and police expenditure*. (Master's thesis), Available from Jstor. Retrieved from http://www.jstor.org/stable/2777340

2. Mustard, D. (2003). *Reexamining criminal behaviour: The importance of omitted variable bias*. Manuscript submitted for publication, Available from Jstor. Retrieved from http://www.jstor.org/stable/3211634

3. Kelly, M. (2000). *Inequality and crime*. (Master's thesis), Available from Jstor. Retrieved from http://www.jstor.org/stable/2646649

4. Pittman, D., & Handy, W. (1964). *Patterns in criminal aggravated assault*. (Master's thesis), Available from Jstor. Retrieved from http://www.jstor.org/stable/1140897

5. Lott, Jr, J., & Mustard, D. (1996). *Crime, deterrence, and right-to-carry concealed handguns*. (Master's thesis), Available from University of Chicago Law & Economics Working Papers. (41)Retrieved from http://www.law.chicago.edu/lawecon/index.html

6. Adjogatse, K. (2010). *All crime in the end is the crime of the community*. (Master's thesis, University of Warwick, Coventry, Coventry, United Kingdom)Retrieved from

http://www2.warwick.ac.uk/fac/soc/economics/current/modules/ec331/raeprojects/0717106-ec331_research_in_applied_economics_-_project.pdf

Demographics on Crime: A Look at the U.S.

Nicolas Eceizabarrena
Bryant University
neceizab@bryant.edu

Introduction

- Thus study aims to identify how changes in social indicators affect crime, more specifically, the number of aggravated assaults
- The FBI defines aggravated assault as “an unlawful attack by one person upon another for the purpose of inflicting severe or aggravated bodily injury”
- Previous research in this topics are in an agreement for the most part that social indicators are measures of social conditions.

Introduction

- An analysis of public policies at the state level could yield significant conclusions, now changes can be quantified.
- How much does a state spend on police on a per capita basis and education inequality are the measures of social indicators considered in this study while the demographic indicator used is population size.
- Research suggests that as policymakers attempt to reduce crime in order to improve social conditions, incentivizing changes to these social indicators should be considered.

Literature Review

- The Study completed by (Kelly, 2000) showed that it is not possible to reject the hypothesis that inequality causes violent crime for one data set
- (Pittman & Handy, 1964) pointed out how other studies use homicide as a measure of crime. This study took a different turn and focuses on aggravated assaults.
- (Adjogatse, 2000) found that income inequality is a major component of crime rates. This study focused on education inequality instead which he also found to be heavily correlated.
- (Lott & Mustard, 1998) found a substitution effect for crimes and that delinquents are substituting murder, rape and aggravated assaults by stealth crimes. Due to concealed gun carry legislation

Trend

- An increase in aggravated assaults during period of economic crisis has not been recorded by the data.
- There is a strong negative relationship between the number of aggravated assaults and the number of Bachelor degrees awarded over time.
- Police expenditure is higher and has grown at a higher pace over time relative to other justice functions such as judicial and correctional expenditures.
- During those periods where police expenditure saw an increase above the average rate, aggravated assaults diminished at a faster pace as well.

Data Sources

- This study will use a cross-sectional data set for the 50 states in the U.S. during 2005
- Data for aggravated assault was obtained from the **Bureau of Justice Statistics**
- Data for the number of bachelor degrees awarded was extracted from the **National Center for Educational statistics**.
- Data on population size was obtained from **the 2005 U.S. Census Bureau.**
- Data on police expenditure per capita was obtained from the **2005 Census of Governments.**

Summary Statistics & Correlations

Variable	Obs	Mean	Std. Dev.	Min	Max
LogAA	50	5.639509	.6330955	3.850147	6.638568
LogPop	50	1.119087	1.017892	-.7896581	3.393165
bachelorsd~e	50	21667.54	21906.1	1148	100484
policeexpe~a	50	261.7	93.75745	118	600

Summary Stats

Correlation Matrix

	lagrav	lpop	bachel~e	police~a
lagrav	1.0000			
lpop	0.5684	1.0000		
bachelorsd~e	0.4162	0.8536	1.0000	
policeexpe~a	0.4270	0.1760	0.3333	1.0000

Specification of the Model

After computing all possible regressions with the available data, the empirical model that yields the best reliable results could be written as follows:

$$\boldsymbol{Log(AA) = \propto\ + B1 Log(Pop.) + B2(BD) + B3(PEPC)}$$

Dependent Variable:

(Y) = Number of Aggravated assaults (total cases 2005)

Independent Variables:

- \- (BD) = Number of Bachelor degrees awarded per year
- \+ (PE) = Police expenditure per capita
- \+ (POP) = Population size (in millions)

Empirical Results

- The explanatory variables explain 47.3% of the variances in the data (adj. R^2 = .4734) and all variables are significant with a 95% level of confidence.
- When holding everything else constant (Ceteris Paribus):
  - A 1% increase in the population will lead to a .58% increase in the total number of aggravated assaults
  - When one thousand additional bachelor degrees are awarded, the total number of aggravated assaults should decrease by 1.6%, ceteris paribus.
  - A unit increase in police expenditure per capital will lead to a .29% increase in the total number of aggravated assaults.

Empirical Results

Source	SS	df	MS
Model	9.93077405	3	3.31025802
Residual	9.70890904	46	.21106324
Total	19.6396831	49	.400809859

Number of obs	= 50
F(3, 46)	= 15.68
Prob > F	= 0.0000
R-squared	= 0.5056
Adj R-squared	= 0.4734
Root MSE	= .45942

lagrav	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
lpop	.598422	.1269133	4.72	0.000	.3429589	.8538852
bachelorsdegree	-.000016	6.16e-06	-2.59	0.013	-.0000284	-3.57e-06
policeexpenditurepercapita	.0029832	.0007613	3.92	0.000	.0014508	.0045156
_cons	4.535022	.2072395	21.88	0.000	4.11787	4.952173

Conclusion

- As policy makers attempt to reduce crime, they should target the lower class and incentivize greater education
- Many other factors play a role in explaining the level of crime and that is why this study can only explain 47.34% of the variations in the data.
- Future research should conduct an analysis with panel data and include other variables that account for income inequality, a lag for police expenditures.
- Future studies should control for conviction and sentence lengths.

UNEMPLOYMENT IN SPAIN

Nicolas Eceizabarrena

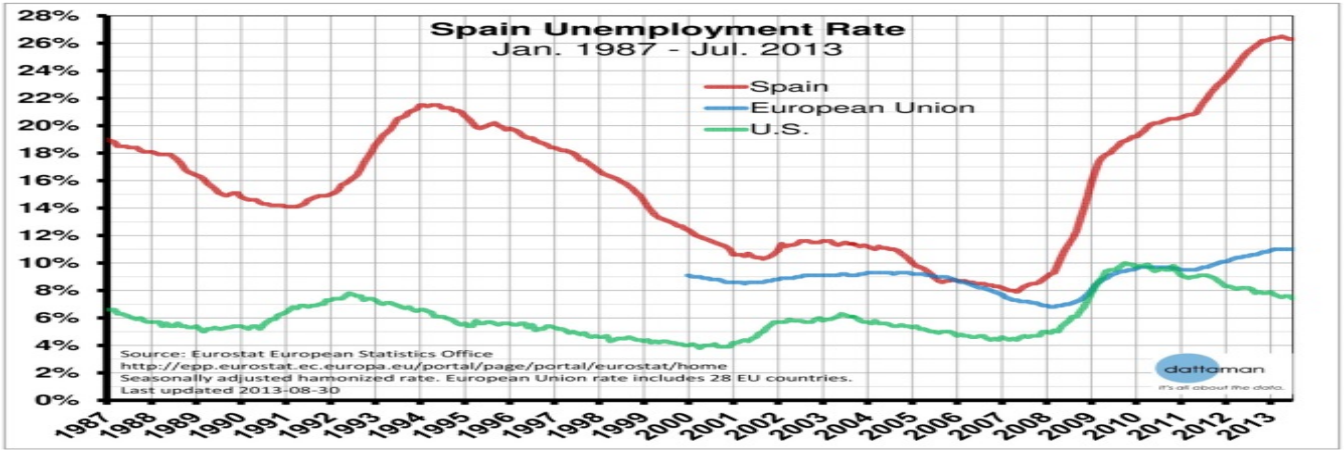
Applied Macroeconomics

Background & Demographics

Capital: Madrid
Official Language: Castellano
Government: Constitutional Monarchy
Dominant Religion: Christianity
Population: ~ 46 Million
Currency: Euro (1€ = 1.38$)
GDP: $1.4 Trillion Per Capita: $30.741
Unemployment rate: 25.6%
Less than 25 unemployment rate: 53.6%
Inflation rate: -.1%
Biggest industry: Tourism (top 3 most visited)

In Spain: bullfighting is considered an Art and a sport, soccer is the most popular and we are the world's champions. We love to eat and party (highest number of restaurants and bars in the EU) Around 44% of the world's olive oil is produced in Spain as well as ¾ of the world's Saffron.

Unemployment



- Spain suffers great levels of structural unemployment and never dipped below 8%
- OECD country with the highest unemployment rate, more than double the EU average
- Lack of protection to temporary workers, poor training
- Dual labor markets (temporary Vs. permanent contracts) 77% of total job losses during the crisis were due to temporary contracts (34% in EU)
- Large gap in severance payments 45 Vs. 8 days per year or seniority

Unemployment Benefits

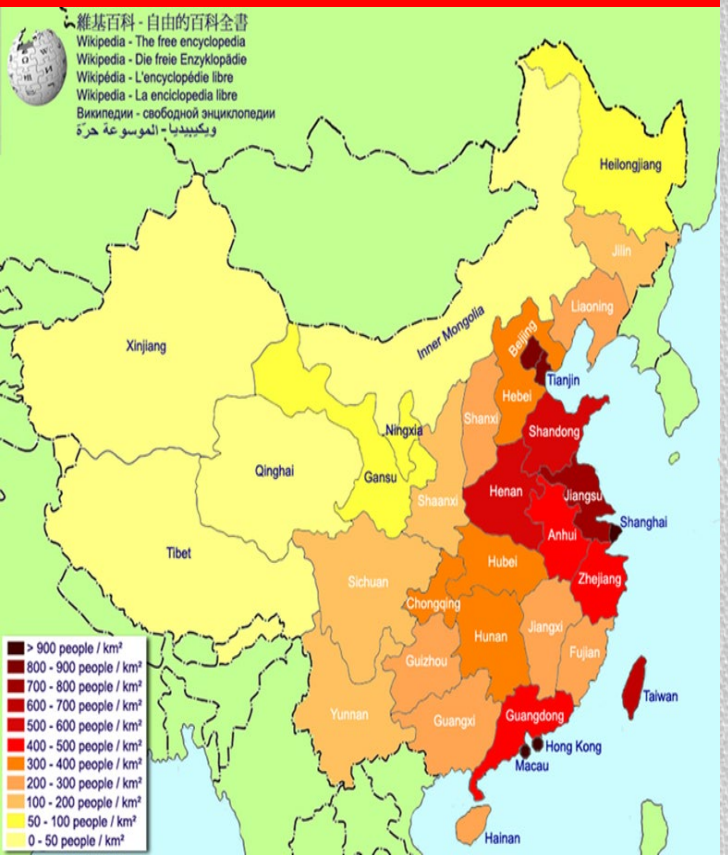
- in Spain, those who lose their jobs receive 75-80% of the final salary for a period of two years, receive 600 Euros per month for another nine months.
- With legal protection from the government, workers have little if any incentive to excel and improve their work. Their only motivation is to do well enough to get by.
- Labor unions have created a very rigid labor market, preventing employers from removing unproductive employees causing them to be wary of takings risks on new hires

The Underground Economy

- At the end of 2012 the underground economy accounted for 24.6% of GDP up from 17.8% at the time the crisis began in 2008
- 1 million construction workers lost their job after the recession
- Those who have a job are working for less.
- Spain income tax rate is among the highest in Europe. This provides an incentive to work off the books.
- Added worker effect

Suggestions

- Conduct intense structural reform
- Overhaul of the tax system
- Increase in the number of people who enforce the tax code (1 for each 1900 vs 729 in Germany)
- Invest in long-term educational infrastructure, and innovation



CHINA'S RENMINBI: "OUR CURRENCY, YOUR PROBLEM"?

Regina Castro
Nicolas Eceizabarrena

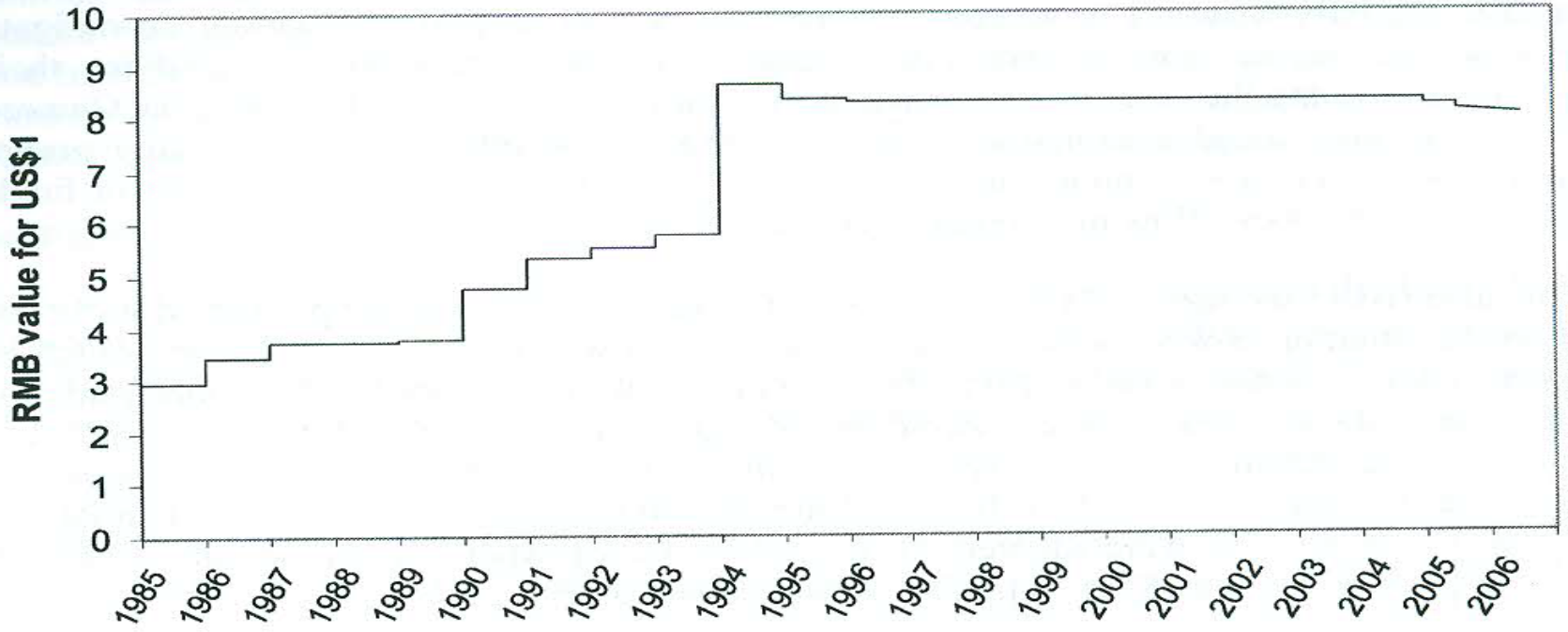
Agenda

- Introduction and History Overview of the RMB
- Interventions of the Central Bank
- Revaluation of the Renminbi
- China's Trade Partners
- Lessons from China's Neighbors
- Decisions Faced by China
- Future Outlook
- Discussion Questions

A Brief History of the Renminbi

- Since 1969, the official name of China's currency had been renminbi or RMB
- Before 1978
  - Strict central planning and economic independency
  - The renminbi was pegged to a basket of currencies
- After 1978
  - China launched "open door policy"
  - RMB was devalued several times: RMB 2.8 to the US $ in 1981, RMB 3.20 in 1985 and RMB 5.32 in 1993
  - Creation of market determined rates in "swap centers" weakened the importance of the official exchange rate.

Fluctuations in the Official Rate of the RMB



Note: Data between 1988 and 1994 should be read with caution, as the overvalued official exchange rate (represented above coexisted with market rates that represented 80% of transactions in 1993.

Sources: China Statistical Yearbook, http://www.stats.gov.cn/english/ (accessed 29 June 2007) and Currency Converter for 164 Currencies, http://www.oanda.com/convert/classic (accessed 29 June, 2007).

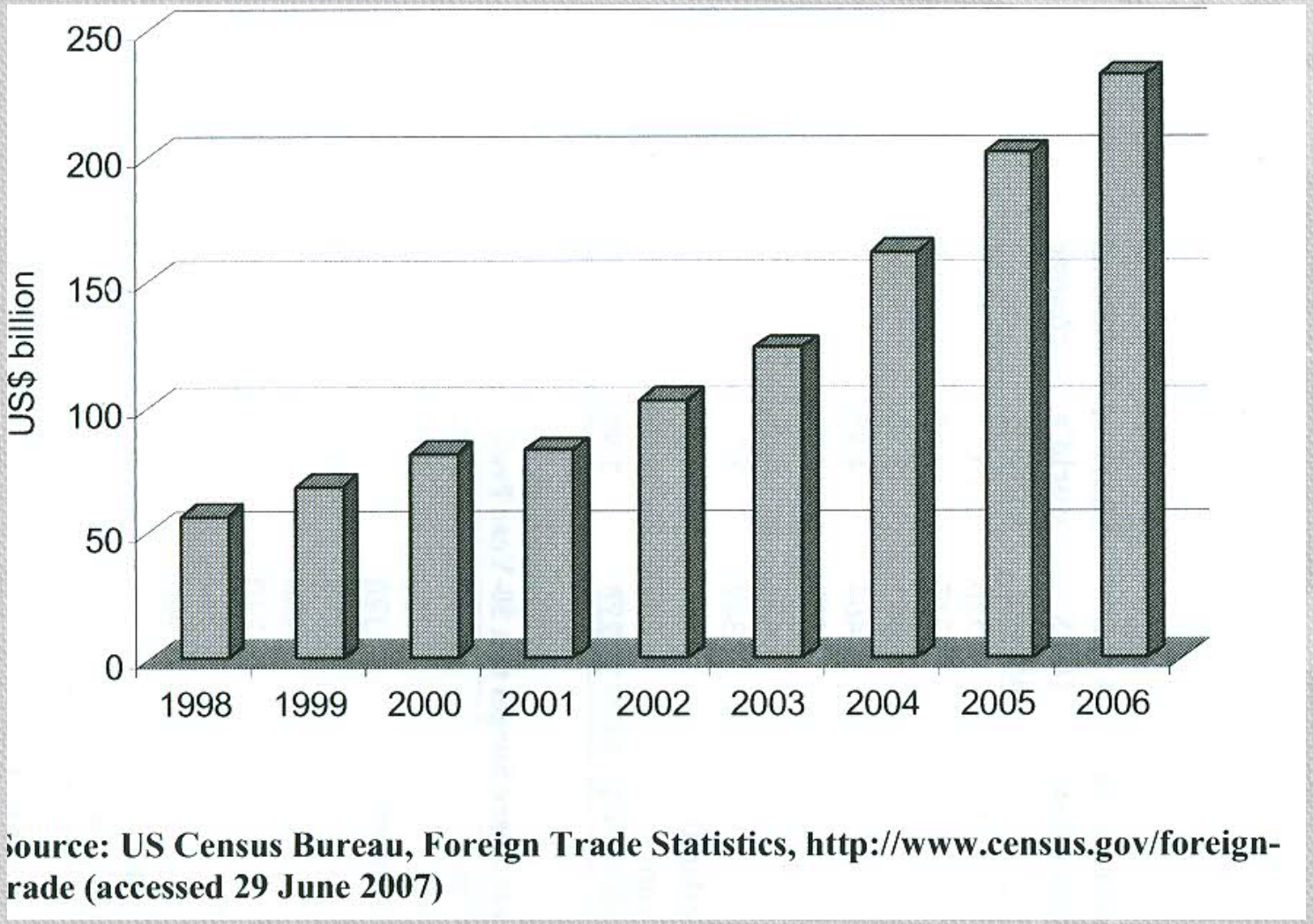
Restrictions on the Convertibility of the RMB

- The RMB was convertible for operations on the current account
  - Importers and exporters could exchange the RMB against other currencies

- Tightly control on the capital account
  - Savings abroad China
  - Portfolio investments

  - An exception to restrictions on the capital account was FDI

US Merchandise Trade Deficit with China



Source: US Census Bureau, Foreign Trade Statistics, http://www.census.gov/foreign-trade (accessed 29 June 2007)

CB's Interventions

- Limiting the amount of foreign currency in circulation.
- Pilling up in Foreign Reserves
- Increasing the money supply

Abandoning Peg to USD

- On 2005, China dropped peg to the USD and started to track a basket of currencies.
- RMB was revalued and was allowed to float within a 0.3% band against the USD.
- Led to the appreciation of other Asian Currencies
- Despite RMB's appreciation, international pressures for a more vigorous appreciation continued.

The Arguments of China's Trade Partners

- The RMB was undervalued, yet economists differed on the extent of the devaluation with models ranging from 10% to 50%.
- US encountered high trade deficit with China
  - In 2012: $315 billion
- Since 1978 China's inflow of FDI dwarfed its outward FDI.

FDI Inflow into China and Sources of FDI

Year	FDI (US$ billion)
1979–1984	3.1
1985	1.7
1989	3.4
1990	3.5
1991	4.4
1992	11.0
1993	27.5
1994	33.8
1995	37.5
1996	41.7
1997	45.3
1998	45.5
1999	40.3
2000	40.7
2001	46.9
2002	52.7
2003	53.5
2004	60.6
2005	60.3
2006	63.0

Sources:

China Statistical Yearbook, http://www.stats.gov.cn/english/ (accessed 29 June 2007).

For 2006, MOFCOM, press announcement (preliminary data).

Source of FDI in 2004	FDI (US$ million)
Hong Kong	18,998
Virgin Islands	6,730
South Korea	6,248
Japan	5,452
United States	3,941
Taiwan	3,117
Cayman Islands	2,043
Singapore	2,008
Samoa	1,129
Germany	1,058
Netherlands	811
United Kingdom	793
Australia	663
France	657
Canada	614

Source of FDI in 2005	FDI (US$ million)
Hong Kong	17,949
Virgin Islands	9,022
Japan	6,530
South Korea	5,168
United States	3,061
Singapore	2,204
Taiwan	2,152
Cayman Islands	1,948
Germany	1,530
Samoa	1,352
Netherlands	1,044
United Kingdom	965
France	615
Canada	454
Australia	401

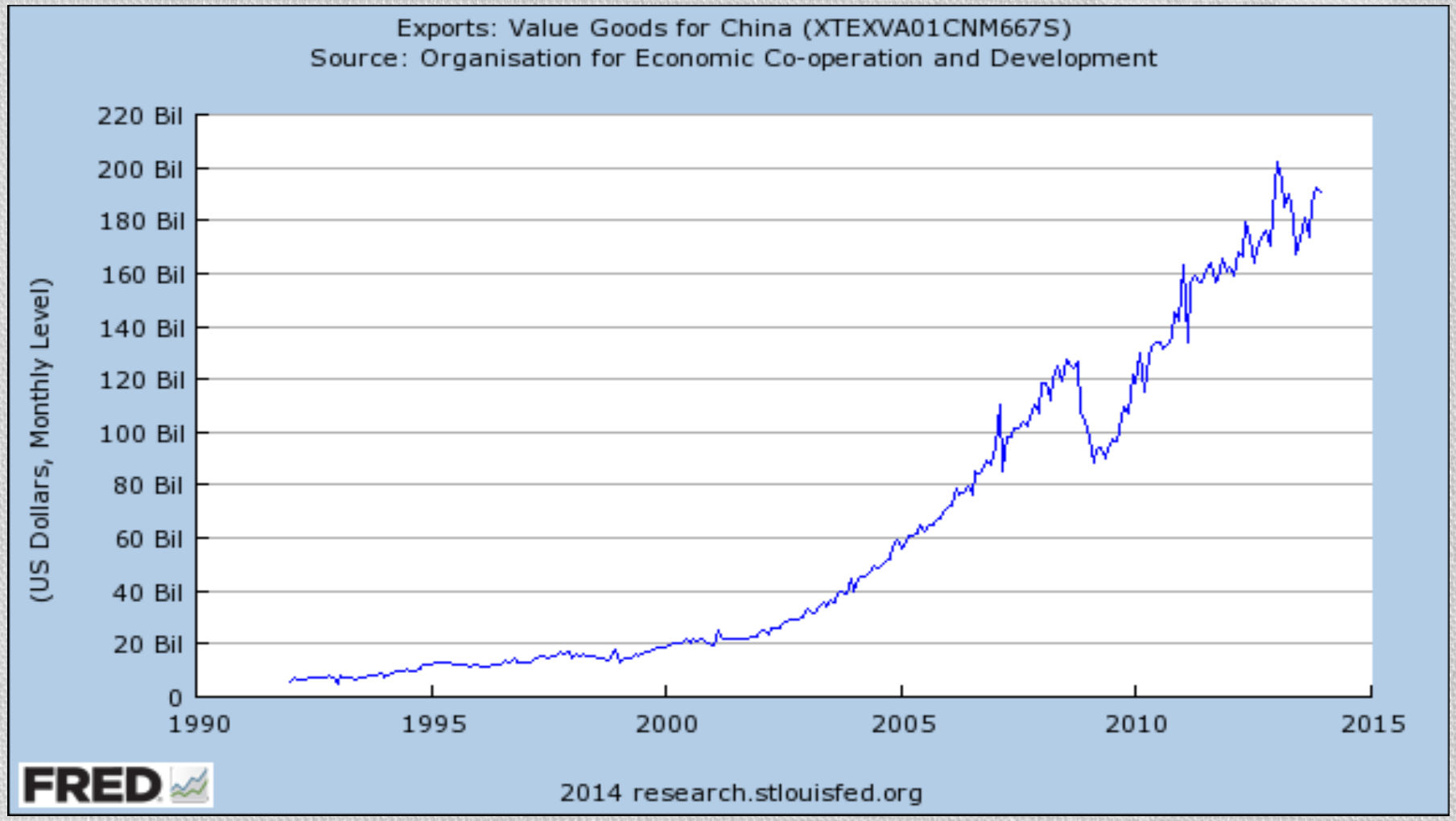
China's Response

- China argues
  - Aren't significantly undervaluing their currency
  - China had large deficits with other countries
  - PBoC's interventions benefitted the US

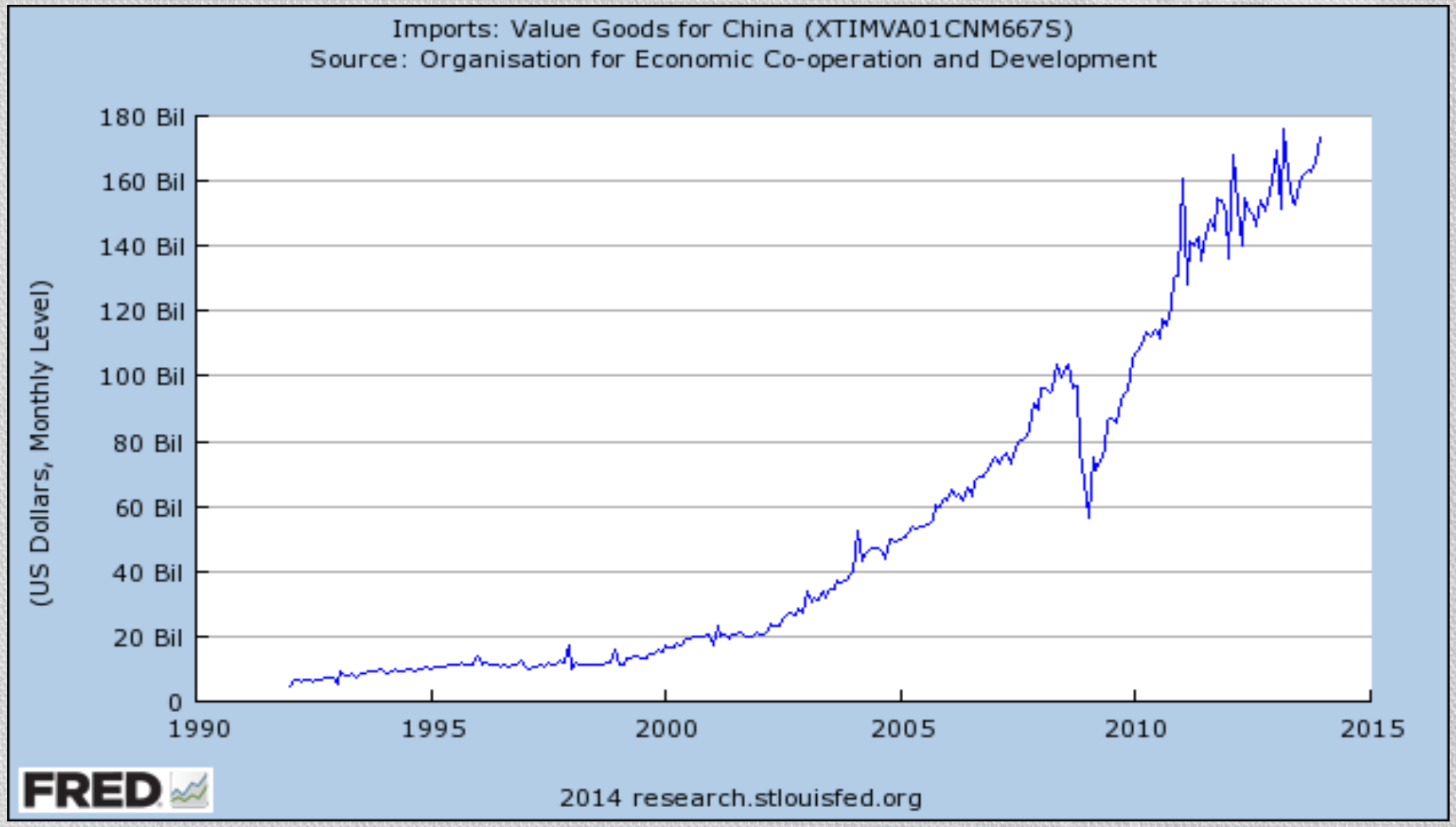
Unit in US$ billion	2005			2006		
Country or region	Exports	Imports	China's trade surplus (+)/ deficit (–)	Exports	Imports	China's trade surplus (+)/ deficit (–)
Total	762.0	660.1	101.9	969.1	791.6	177.5
North America	174.7	56.3	118.4	219.1	66.9	152.2
EU	143.7	73.6	70.1	215.4	114.9	100.5
Asia	366.4	441.5	-75.1	455.8	525.5	-69.7
ASEAN	55.4	75.0	-19.6	71.3	89.5	-18.2
Africa	18.7	21.1	-2.4	26.7	28.8	-2.1
Latin America	23.7	26.8	-3.1	36.0	34.2	1.8
Oceania	12.9	18.0	-5.1	16.0	21.3	-5.3
United States	162.9	48.7	114.2	203.5	59.2	144.3
Hong Kong	124.5	12.2	112.3	155.4	107.9	47.5
Canada	11.7	7.5	4.1	15.5	7.7	7.8
Singapore	16.6	16.5	0.1	23.2	17.7	5.5
India	8.9	9.8	-0.8	14.6	10.3	4.3
Australia	11.1	16.2	-5.1	13.6	19.3	-5.7
Brazil	4.8	10.0	-5.2	7.4	12.9	-5.5
Thailand	7.8	14.0	-6.2	9.8	18.0	-8.2
Philippines	4.7	12.9	-8.2	5.7	17.7	-11.9
Saudi Arabia	3.8	12.2	-8.4	5.1	15.1	-10.0
Malaysia	10.6	20.1	-9.5	13.5	23.6	-10.1
Japan	84.0	100.5	-16.5	91.6	115.7	-24.1
South Korea	35.1	76.8	-41.7	44.5	89.8	-45.3
Taiwan	16.5	74.7	-58.1	20.7	87.1	-66.4

Source: MOFCOM, http://english.mofcom.gov.cn/static/column/statistic/ie.html/1 (accessed 29 June, 2007).

Chinese Exports



Chinese Imports



Lessons from China's Neighbors

- The Appreciation of the Yen
  - 1950 – 1971: The yen was fixed at ¥360 to the US$
  - Exports were increasing by 16.9% annually
  - In the early 1970s: high inflation in the US and US$ was devalued.
  - The yen was floated: exchange rate of ¥ 271 in 1973 and ¥ 227 in 1980

- 1985: The Plaza Accord
  - US$ lost half of its value against the yen and the Deutsche Mark

- 1987: Louvre Accord to stabilize the US$

  - Expansionary policy in Japan generated property and stock bubble

The Asian Crisis

- Many Asian had their currencies pegged to the US $.
- Between 1995-1997: the US $ appreciated sharply.
  - Current account deficits in East Asian countries
  - Investment inflows from developed countries
- 1997: Speculators attacked Asian currencies
  - Peg to the US $ was abandoned
  - Collapse of currencies
- During the crisis, China maintained its peg.
  - Devaluation of the RMB to avoid further instability.

The Peg of the HK Dollar to the US Dollar

- Since 1983: HK$ 7.8 to the US$ with a small fluctuation margin between HK$ 7.75 and HK$ 7.85

- Currency board system

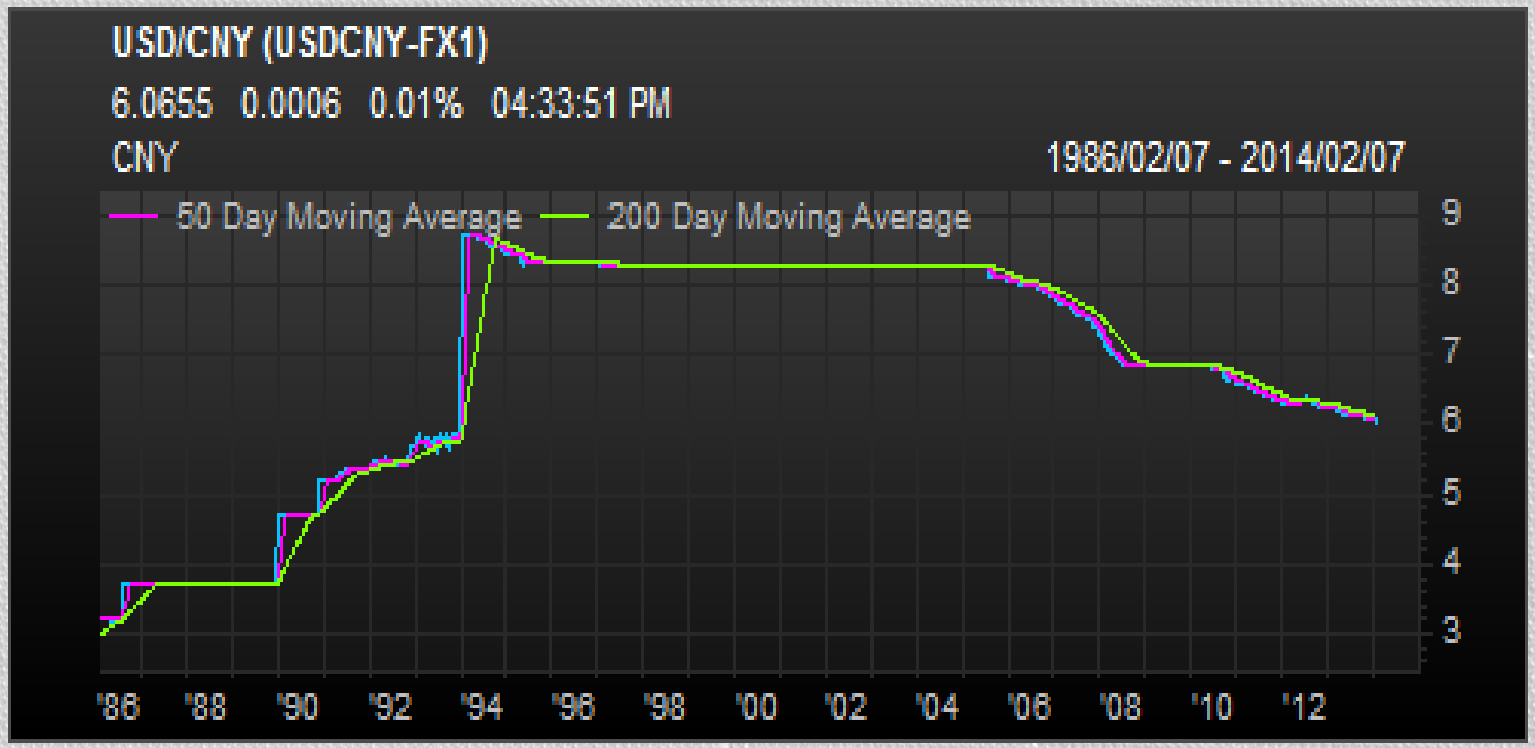
  - HK Monetary Authority had to adjust domestic interest rates to the US

  - Despite the Asian Crisis, HK refused to devalue its currency

  - Status of HK as a financial center

Facing Important Decisions

- Reevaluation of the RMB posed risks that had to be dealt with
  - International Reserves
  - Retaliation by trade partners
  - Drop in exports
- Need to reform banking sector before lifting capital controls
- “Go Abroad Policy”
- Export Tax


USD/CNY (USDCNY-FX1)
6.0655 0.0006 0.01% 04:33:51 PM
CNY
1986/02/07 - 2014/02/07
50 Day Moving Average
200 Day Moving Average
9
8
7
6
5
4
3
'86
'88
'90
'92
'94
'96
'98
'00
'02
'04
'06
'08
'10
'12

Effects of RMB's Appreciation

- An appreciation of the RMB has major implications:
  - Chinese export prices will increase while decreasing in other parts of the world
  - Allow some countries to reduce trade deficit with China
  - Loss of FDI inflow into China
  - An increase in Chinese labor cost could negatively affect a lot of companies across the globe who have operations set in China

Discussion Questions

- What are the future challenges that China must overcome in order to have their domestic policy succeed? What are the other reforms China must implement to fuel the economic growth with internal consumption?

- International pressures to have the RMB appreciate are started to pay off and thus causing China to lose its competitive edge on exports due to the stronger currency. How this is going to affect businesses around the world and prices for inputs and final products?