Institutions and Economic Growth in BRIC Nations

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Abstract:

This paper looks at the impact of institutions on economic growth in the six largest countries in BRIC countries, Brazil, Russia, India, and China. The study will us OLS to examine the time period between the years 2002 and 2011. More specifically, it will measure the effect of institutions through a variety of measures including democracy and regulatory related variables. Through ordinary least squares regression analysis, the variables for democracy and regulation will be significant and have a positive effect on economic growth. This study will show that quality of institution does in fact support economic growth.

JEL Classification: C31, O17, O47, P51

Keywords: Economic growth, institutions, human capital

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1.0 Introduction

Throughout the world there has been wide debate on why some countries are more economically developed than others and why do some grow faster than others. One explanation to these questions is the institutions within such countries. This explanation is compared to previous views that have used technological progress as the foremost explanation to economic growth and development. New focus has been brought on the impact of institutions on economic growth and rightfully so.

Institutions refers to the basic rules and structures that guide a society. For example, the political and legal frameworks in a country are elements that effect economic development. Boettke and Fink (2011) explain that institutions provide an environment of incentives and impact the flow of information. The way institutions operate within a country has strong influence on the economic activity and efficiency in that country. Issues like corruption can cause an economy to run inefficiently while factors such as rule of law and government effectiveness seem to be significant in economic progression. To more specifically measure the effect of institutions different variables measuring democracy, rule of law, government effectiveness, and regulation will be used.

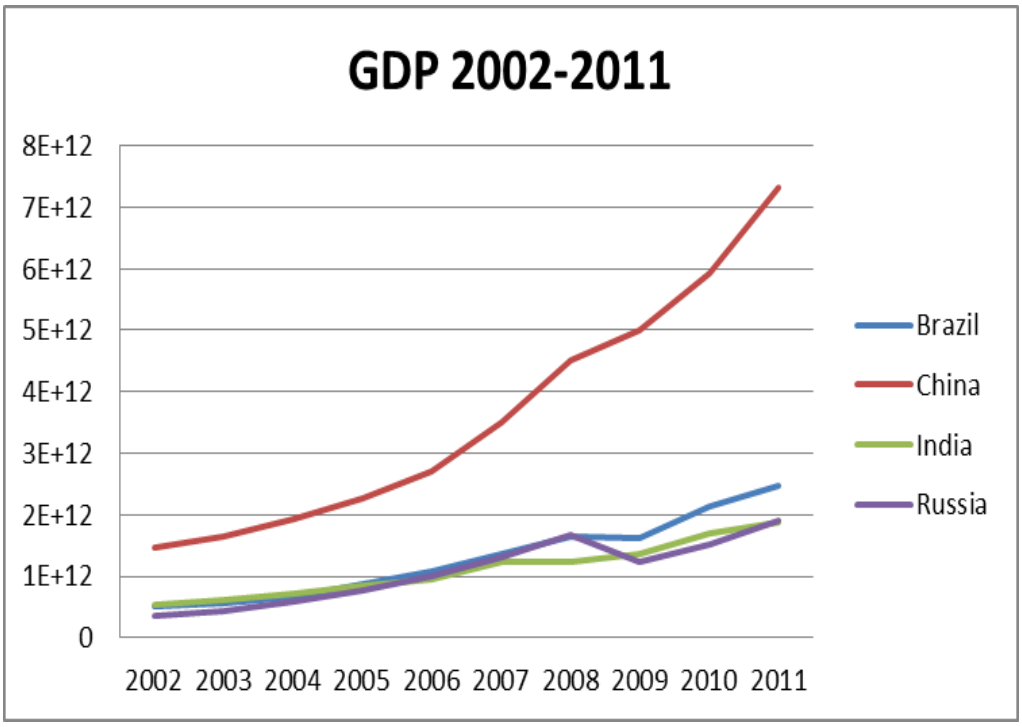
This paper will use OLS to analyze the rapidly growing BRIC countries for the years 2002-2011. The four countries, Brazil, Russia, India and China will provide a large sample for analysis on institutional effects. In the sample time period, these countries have sustained rapid

economic growth through in their own way. The variables used to measure institutions will assist in differentiating what has actually helped spur economic growth.

2.0 Trends

Figure 1 shows the four selected countries' GDP for the time period 2002-2011 in U.S. dollars. It is evident that the Chinese economy is by far the largest compared to its counter parts. In terms of GDP China was approximately double the size of its competitors and grew to nearly 3 times the size of the next closest nation, Brazil. It is also apparent of the effect of the 2008 financial crisis on these countries' economies as it took its toll on the entire world.

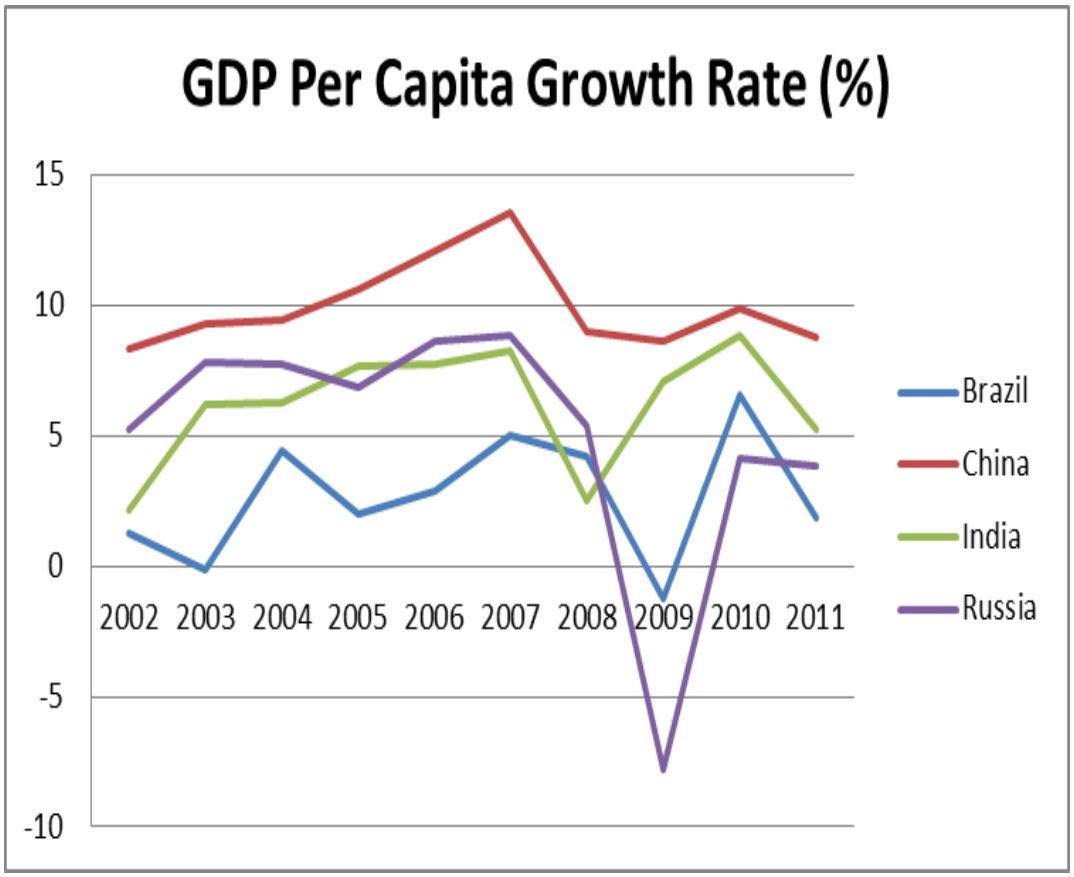
Figure 1: GDP 2002-2011



Source: the World Bank

Figure 2 displays GDP per capita growth rates (in percentages) for the four selected countries. It can be seen that China sustained significant growth rates throughout the period analyzed. All countries show comparable declines in growth rate around the time of the 2008 crisis. It is also evident that Russia suffered the worst from the crisis.

Figure 2: GDP Per Capita Growth Rate 2002-2011



Source: the World Bank

3.0 Literature Review

In the past, numerous papers have analyzed the effect of institutions on economic growth while using data across a large number of countries. In comparison, this paper will only use OLS for the years 2002-2011 to measure the effect of institutions in the BRIC nations. These other papers have also used several other variables in addition to institution related variables to attempt to gather some insight into the effects they have on economic growth.

Rodrik et al. (2002) examined the effects of institutions, integration of trade, and geography on economic growth. The variables used to measure these factors included openness of trade, rule of law, and distance from the equator to measure geography. This study used OLS regression to determine the extent of each variable's influence on economic growth. It was found by Rodrik et al. (2002) that institutions did have a major effect on economic growth compared to the policies made by such institutions. Consistent with the view of Rodrik et al. (2002), Acemoglu et al. (2005) also argue that institutions are significant not because of their policies, but by the way they influence technology and flow of capital. Acemoglu et al. (2005) used variables such as economic institutions and political institutions to differentiate between the effects of the actual institution and the policies they make. This discovery into the relationship between institutions and policy is parallel to the conclusion made by Boettke and Fink (2011).

Boettke and Fink (2011) argue that institutions do in fact have a more significant impact on economic growth than the policies that are put in place by these institutions. Under this

assumption they claim the most important aspect of institutions is secure private property rights. According to Boettke and Fink (2011) a society with secure private property rights will run efficiently in the long-term because of the confidence citizens have in the free-market rules and laws put in place by institutions. Under this type of institution a citizen has the incentive and confidence to engage in productive economic activities. Because of the importance placed upon private property rights, this paper will be using a rule of law variable and several other regulatory variables in addition to the model adopted from Jalles (2010) for the analysis on economic growth in BRIC nations.

Jalles (2010) studies the effect of the political institution of democracy on economic growth. In addition to democracy, Jalles (2010) also measures the effects of education using education levels of various age groups. After analyzing the effects of various democracy and human capital related variables through regression, Jalles (2010) found that both were significant factors on economic growth. This study will be utilizing an adaptation of this model because it essentially quantifies the impact of institutions on economic growth through several conduits. As previously noted, several variables measuring regulatory quality will be added to Jalles' (2010) model as it will provide the analysis with a more in depth measurement on the quality of institutions.

In an analysis conducted by Decker and Lim (2007) democracy by itself was found to not be a significant factor. The variables used were similar to Jalles (2010) and Rodrik et al. (2002) where they used variables to measure the effects of institution, integration of trade, geography, and democracy. Decker and Lim (2007) found that the institution of democracy needs to be combined with openness of trade and free flowing markets to have a significant influence on

economic development. An example of this finding is illustrated by China who has had robust economic growth under an autocratic political system because of proper. This leads us back to findings by previous papers that have claimed policy and regulation to be the primary factors for economic growth.

Barro (1996) discovered similar results to Decker and Lim (2007) regarding democracy. By using similar variables such as democracy levels, education, rule of law and trade related variables, Barro (1996) revealed at certain levels of democracy there are diminishing marginal returns. This means that past a certain point of democracy it becomes counter-productive or less efficient to be more democratic. For example, in a complete dictatorship it would be beneficial for the economy to become more democratic because of the efficiencies involved with a free market and open trade. However, there would be contrasting effects when an already democratic state were to become more democratic because of the inefficiencies involved with increased regulation.

4.0 Data and Empirical Methodology

4.1 Data

This study used OLS for the four countries for the time period 2002-2011. The four countries are Brazil, Russia, India, and China. The data used for analysis came from an assortment of databases. The dependent variable in this study, PCGR (per capita GDP growth rate), comes from the World Bank database and will provide a way to measure economic growth. Also from the World Bank are independent variables GDP (GDP at purchaser's prices), INFL (inflation), and AGEDEP (age dependency ratio). The independent variables IMPORT, EXPORT,

HUMCAP (human capital index), and GCF (gross capital formation) are derived from the Penn World Tables 8.0. The variables listed above will provide the study with a base for the economic growth model that will be used to further identify the effects of institutions.

The first measure of institutions is the POLITY variable, which is the independent variable that measures democracy levels and will provide the study with a tool to properly analyze the institution of democracy. The data for this variable comes from the Polity IV Project which conducts analysis on governments worldwide and delivers what is known as the Polity score. Other independent variables to be used for institutional analysis are VOACC (voice and accountability), POLSTAB (political stability), GOVEFF (government effectiveness), REGQUAL (regulatory quality), ROL (rule of law), and CORR (control of corruption). These variables come from the Worldwide Governance Indicators database and will provide an in depth examination of institutional quality. The complete list of variable names, definition, source, and expected sign can be found in Appendix A. Also, the summary statistics for all variables are shown below. It is interesting to note that many of the variables relating to individual freedoms are negative due to the structure of the chose countries.

Table 1: Summary Statistics for Dependent and Independent Variables

Variable	Obs	Mean	Std. Dev.	Min	Max
PCGR	60	.0344322	.0471365	-.1174	.1619617
GDP	60	477559.6	477751.1	122585.1	1810141
GOVTEXP	60	6.40e+10	1.08e+11	5.75e+09	5.12e+11

INFL	60	.1101965	.0989885	.0047221	.4594327
AGEDEP	60	.5415217	.0431697	.4528466	.6209541
HUMCAP	60	2.556268	.2512948	2.103224	2.967541
GCF	60	.2206895	.0370633	.1230955	.3087595
POLITY	60	7.433333	2.714473	-3	10
VOACC	60	.1494249	.578003	-.960371	1.244145
POLSTAB	60	-.6274356	.8648242	-2.39011	1.00049
GOVEFF	60	-.0901574	.6818042	-1.189068	1.261179
REGQUAL	60	.0005065	.8720871	-1.608095	1.53563
ROL	60	-.3905	.8405877	-1.668911	1.358071
CORR	60	-.0988315	.7584468	-1.207238	1.553228

4.2 Methodology

This study utilizes ordinary least squares (OLS) regression to measure the impact of institutions on economic growth. Seven similar regression models will be used in this analysis. All seven models will have the same dependent variable (PCGR) and baseline independent variables for economic growth (GDP, GCF, EXPORT, IMPORT, INFL, AGEDEP, and HUMCAP). Seven models will be used because of multicollinearity between the institutional related independent

variables (POLITY, VOACC, POLSTAB, GOVEFF, REGQUAL, ROL, and CORR). The models will take the following forms:

$$I)\ PCGR = \beta_0 + \beta_1 GDP + \beta_2 GCF + \beta_3\ EXPORT + \beta_4 IMPORT + \beta_5 INFL + \beta_6 AGEDEP + \beta_7 HUMCAP + \beta_8 POLITY + \varepsilon$$

$$II)\ PCGR = \beta_0 + \beta_1 GDP + \beta_2 GCF + \beta_3\ EXPORT + \beta_4 IMPORT + \beta_5 INFL + \beta_6 AGEDEP + \beta_7 HUMCAP + \beta_8 VOACC + \varepsilon$$

$$III)\ PCGR = \beta_0 + \beta_1 GDP + \beta_2 GCF + \beta_3\ EXPORT + \beta_4 IMPORT + \beta_5 INFL + \beta_6 AGEDEP + \beta_7 HUMCAP + \beta_8 POLSTAB + \varepsilon$$

$$IV)\ PCGR = \beta_0 + \beta_1 GDP + \beta_2 GCF + \beta_3\ EXPORT + \beta_4 IMPORT + \beta_5 INFL + \beta_6 AGEDEP + \beta_7 HUMCAP + \beta_8 GOVEFF + \varepsilon$$

$$V)\ PCGR = \beta_0 + \beta_1 GDP + \beta_2 GCF + \beta_3\ EXPORT + \beta_4 IMPORT + \beta_5 INFL + \beta_6 AGEDEP + \beta_7 HUMCAP + \beta_8 REGQUAL + \varepsilon$$

$$VI)\ PCGR = \beta_0 + \beta_1 GDP + \beta_2 GCF + \beta_3\ EXPORT + \beta_4 IMPORT + \beta_5 INFL + \beta_6 AGEDEP + \beta_7 HUMCAP + \beta_8 ROL + \varepsilon$$

$$VII)\ PCGR = \beta_0 + \beta_1 GDP + \beta_2 GCF + \beta_3\ EXPORT + \beta_4 IMPORT + \beta_5 INFL + \beta_6 AGEDEP + \beta_7 HUMCAP + \beta_8 CORR + \varepsilon$$

5.0 Empirical Results

As previously mentioned, this paper used ordinary least squares (OLS) regression to analyze the effects of institutions on economic growth in Brazil, Russia, India, and China. Seven regressions

were conducted because of the multicollinearity between the institutional related variables that were used. The results of the regressions are shown below in Table 2. The models analyzed were relatively accurate with R-squared ranging from .7331 to .7551 with 40 observations in each regression. The significance and effects of the independent variables related to institutions are counterintuitive and go against what previous research has found.

The independent variables used in each model are GDP, GCF, EXPORT, IMPORT, INFL, AGEDEP, and HUMCAP. These were the base variables used as predictors for the dependent variable PCGR. Of these, GDP and GCF were statistically significant at the 1% level in all seven regressions. The coefficients for GDP and GCF agree with common knowledge. As GDP increases for a nation, growth rates will begin to slow. This is simply because of the Convergence Hypothesis which simply means a country with higher GDP will grow slower than a country with less GDP. Increased GCF will cause PCGR to also increase due to increased investment on fixed assets. The variable EXPORT was statistically significant in four out of the seven regressions. EXPORTS' coefficient is in accordance with common knowledge as increased exports leads to increased GDP and growth rates. IMPORT was statistically significant in three out of the seven regressions. This variable had a negative coefficient which makes sense because increased spending on imports will not lead decreased per capita growth rate. The variable for inflation, INFL, was statistically significant at the 5% level in five of the seven regressions that were conducted. The variables AGEDEP and HUMCAP, representing age dependency ratio and human capital index respectively, were not statistically significant in any of the regressions. However, the signs of their coefficients are correct as they will increase per capita growth rates as they themselves increase.

The variables used to measure the effect of institutions were POLITY, VOACC, POLSTAB, GOVEFF, REGQUAL, ROL, and CORR. These variables were added to the original model separately to determine their effect on economic growth. Out of the seven institutional variables only POLSTAB was statistically significant. REGQUAL and CORR were relatively close to being significant at the 10% level. The variable representing political stability, POLSTAB, has a positive coefficient which makes sense as more political stability would lead to a more stable and confident market. Ultimately this would lead to increased economic growth. The coefficient for REGQUAL is interesting because it is negative. Conventional thought would lead us to think better regulation would deliver a more fair and competitive market leading to increased economic growth. Similarly with the variable CORR, representing control of corruption, the coefficient was negative. Increased control of corruption should also lead to a more efficient market. However, this may not be the case in the sample countries due to the culture and common business practices. It may not be the case around the world, but it would seem that in BRIC countries it is a necessary evil to have behind the scenes dealings. In some nations around the world it is simply common practice to use bribery and other corrupt tactics. Although it is not statistically significant, the sign of the coefficient for GOVEFF would also support this theory. ROL was also not statistically significant, but the sign of its coefficient supports the findings from previous research on this topic. ROL, representing rule of law, measures the extent to which the rules of society are followed. This includes things like private property rights and upholding the law. Private property rights give consumers incentive to be more productive because they know they are protected by the law. VOACC, or voice and accountability, measures a citizens ability to participate in government and freedom to express their opinion on that government. This variable was negative and not statistically significant. The POLITY

variable similarly measures levels of democracy and autocracy. This variable was also not statistically significant in determining economic growth as it is illustrated by China who has experienced substantial economic growth with an autocratic political ideology.

Table 2: Regression Results

	I	II	III	IV	V	VI	VII
Constant	-50.0523	-60.784*	-35.71218	-37.04672	-39.25579	-51.74696*	-48.28796*
	(34.28218)	(31.06365)	(30.31688)	(35.98034)	(30.47687)	(29.96759)	(29.13507)
GDP	-3.73e-12***	-3.49e-12***	-3.75e-12***	-3.45e-12***	-3.56e-12***	-3.76e-12***	-3.82e-12***
	(8.85e-13)	(8.40e-13)	(7.72e-13)	(8.28e-13)	(7.81e-13)	(8.40e-13)	(7.96e-13)
GCF	83.97731***	76.92254***	70.9835***	77.75424***	71.01399***	81.42945***	76.30557***
	(17.03161)	(18.11428)	(16.51284)	(16.53239)	(17.19445)	(15.82807)	(16.08296)
EXPORT	41.90625	41.33942	46.69631*	39.6121	52.52855**	48.20416*	54.478**
	(24.91819)	(24.73)	(24.00109)	(24.69057)	(25.30915)	(28.63429)	(26.32341)
IMPORT	-32.38801	-41.69573	-46.72937**	-30.41169	-39.60283*	-28.92283	-47.24626**
	(21.82418)	(25.06628)	(21.7515)	(21.39265)	(20.99852)	(23.45486)	(23.28986)
INFL	.2482885*	.2823181**	.2383927**	.2988681**	.3000783**	.2679262	.2628637**
	(.1273319)	(.122556)	(.1135088)	(.1251104)	(.1173291)	(.1183086)	(.1148491)
AGEDEP	.357271	.5600011	.230995	.2640113	.3100063	.3878512	.4158355
	(.4103352)	(.3623677)	(.3045249)	(.3531907)	(.2963152)	(.306498)	(.2859087)
HUMCAP	5.031152	5.537525	1.664496	1.961202	1.548022	5.571606	2.249257
	(5.623994)	(5.151239)	(5.475802)	(6.737788)	(5.761081)	(5.161004)	(5.693616)
POLITY	.0664907						
	(.2556445)						
VOACC		-1.158134					
		(1.950391)					
POLSTAB			1.961355*				

			(1.159579)				
GOVEFF				-3.863116 (4.641011)			
REGQUAL					-3.626798 (2.533324)		
ROL						2.000103 (4.219343)	
CORR							-2.708718 (2.124948)
R^2	.7331	.7355	.7551	.7384	.7491	.7345	.7459
Obs.	40	40	40	40	40	40	40

***, **, and * denotes significance at the 1%, 5%, and 10% levels respectively. Standard error is in parentheses.

6.0 Conclusion

Over the time period analyzed from 2002-2011 it is evident the BRIC nations have underwent significant economic growth, some more than others. Like many others worldwide, this study has attempted to determine what may be the cause of this significant growth. More specifically, this paper looked at whether institutions played a role in per capita GDP growth rates. Surprisingly, it was found that institutions played a rather minor role in economic growth in Brazil, Russia, India, and China. This may have been because this study was limited to the small 10 year time period because of limited data relating to institutions or simply the group of countries under analysis grew because of different factors.

What this study did find is that political stability is a significant factor for economic growth. A stable political system provides a foundation for the market and society for which it governs. With this, an economy has the sense of security and confidence it needs to flourish. Due to these

findings countries around the world should strive to maintain a stable political structure which will in turn provide the base for which its economy can grow. It is also worth noting that these countries may operate differently than Western markets. Through regression analysis, it was found that regulatory quality and control of corruption had negative effects on economic growth. This would seem counterintuitive because they are such a large part of business practices in places like the United States and other Western countries. However in the countries analyzed, things like bribery and backdoor transactions may be part of business. Actions that would be penalized in the United States might be necessary for the economy to run efficiently in BRIC nations due to criminal organizations and corrupt government officials. This may lead us to think that these countries would be better off being left with some corruption if it allows them to operate more efficiently. In no way does this paper promote illegal business practices. Regulatory quality, control of corruption, and government effectiveness are what make a market competitive for all parties and what in theory enables the market to be most efficient.

Appendix A

Variable	Description	Source	Expected Sign
PCGR	Per capita GDP growth rate based on U.S. dollar	The World Bank	
GDP	GDP at purchaser's prices is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products	The World Bank	+/-
GCF	Gross capital formation consists of outlays on additions to the fixed assets of the economy plus net changes in the level of inventories.	The World Bank	+
EXPORT	Share of merchandise exports at current PPPs.	Penn World Tables	+
IMPORT	Share of merchandise imports at current PPPs.	Penn World Tables	-
INFL	Inflation as measured by the annual growth rate of the GDP implicit deflator.	The World Bank	+/-
AGEDEP	Age dependency ratio is the ratio of dependents--people younger than 15 or older than 64--to the working-age population--those ages 15-64.	The World Bank	+
HUMCAP	Index of human capital per person, based on years of schooling (Barro/Lee, 2012) and returns to education (Psacharopoulos, 1994)	Penn World Tables	+
POLITY	Computes a score between -10 and 10 based on a country's characteristics related to democracy and autocracy.	Polity IV Project	+

VOACC	Voice and accountability captures the extent to which a country's citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association, and a free media	Worldwide Governance Indicators	+
POLSTAB	Political Stability measures the likelihood that the government will be destabilized or overthrown by unconstitutional or violent means, including politically-motivated violence and terrorism.	Worldwide Governance Indicators	+
GOVEFF	Government effectiveness captures the quality of public services, the quality of the civil service and the degree of its independence from political pressures, and the quality of policy formulation and implementation.	Worldwide Governance Indicators	+
REGQUAL	Regulatory quality captures the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development.	Worldwide Governance Indicators	+
ROL	Rule of law captures the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence.	Worldwide Governance Indicators	+
CORR	Control of corruption captures the degree to which corruption is perceived to exist among businesses, public officials and politicians.	Worldwide Governance Indicators	+

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NIGERIA: COUNTRY ANALYSIS

BY: DOUG FLINK

GEOGRAPHY


Réèpúblikk Naijiriya
Republik Nijeriya
نيجيريا جمهورية
Republic nde Naigeria
Republik Federaal bu Niiseriya
Federal Republic of Nigeria
euratlas

QUICK FACTS

- **Population: 174 million**
- **Top 20 economy by 2050**
  - Currently the largest in Africa
- **Democracy**
  - 36 states
- **OPEC member**
  - 13th largest oil producer in the world

RECENT GROWTH

- **Africa's largest economy**
  - Revision to measurement of GDP
    - Better account of service industry
  - GDP Doubled to $510 billion
  - Increased FDI for further growth

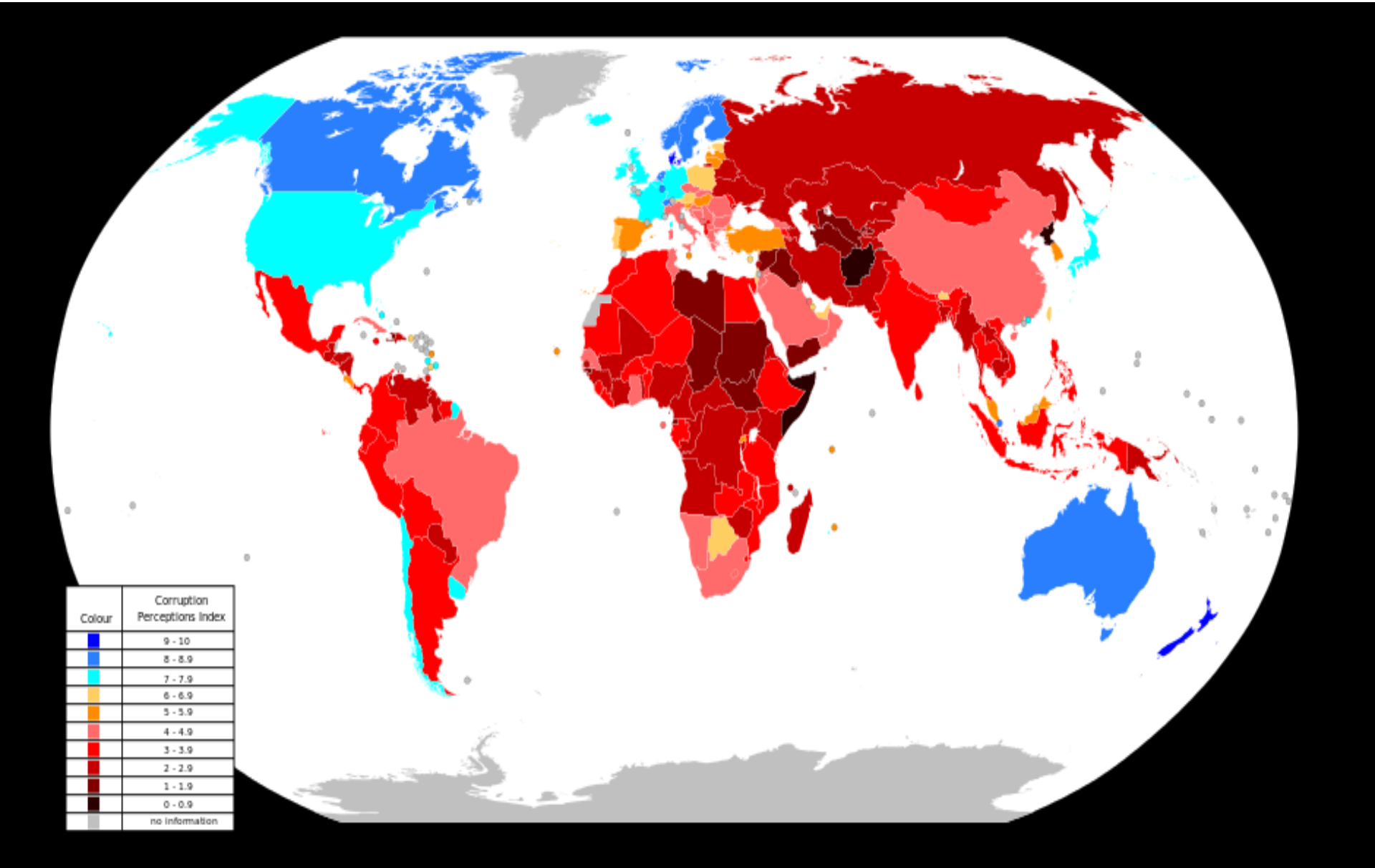
RECENT GROWTH (CONT.)

- **Poverty**
  - Ranked 121st income per capita; 26th largest economy
  - 153rd on U.N. Human Development Index
  - Government Corruption

CORRUPTION

- **Possible cause of poverty**
  - Inefficient use of resources and wealth
- **President fired head of central bank**
  - Investigation into lost oil revenue

CORRUPTION


Colour
Corruption Perceptions Index
9 - 10
8 - 8.9
7 - 7.9
6 - 6.9
5 - 5.9
4 - 4.9
3 - 3.9
2 - 2.9
1 - 1.9
0 - 0.9
no information

OIL THEFT

- **Up to $8 billion a year is stolen**
  - 100,000 barrels a day
  - Stolen directly from the pipeline
- **Politicians, security forces, militants, employees, oil traders, and villagers**

GOING FORWARD

- **Growth will remain strong**
  - Driven by resources, agriculture, trade, and services
- **Inflation will continue to decline**
- **Must control corruption for better utilization of production**

THE FIRST GLOBAL FINANCIAL CRISIS OF THE 21ST CENTURY

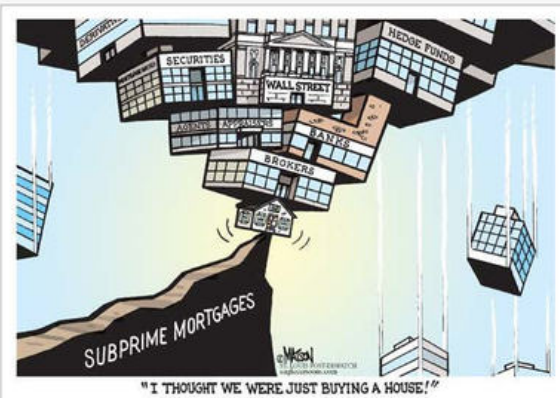
BUT THERE IS ONE ENDURING LESSON OF THE HISTORY OF FINANCIAL CRISES: **THEY ALL END** – LAWRENCE SUMMERS

AGENDA

- Review of Sub-Prime Crisis
- Monetary Policy
- Fiscal Policy
- Protectionism
- Other Proposals

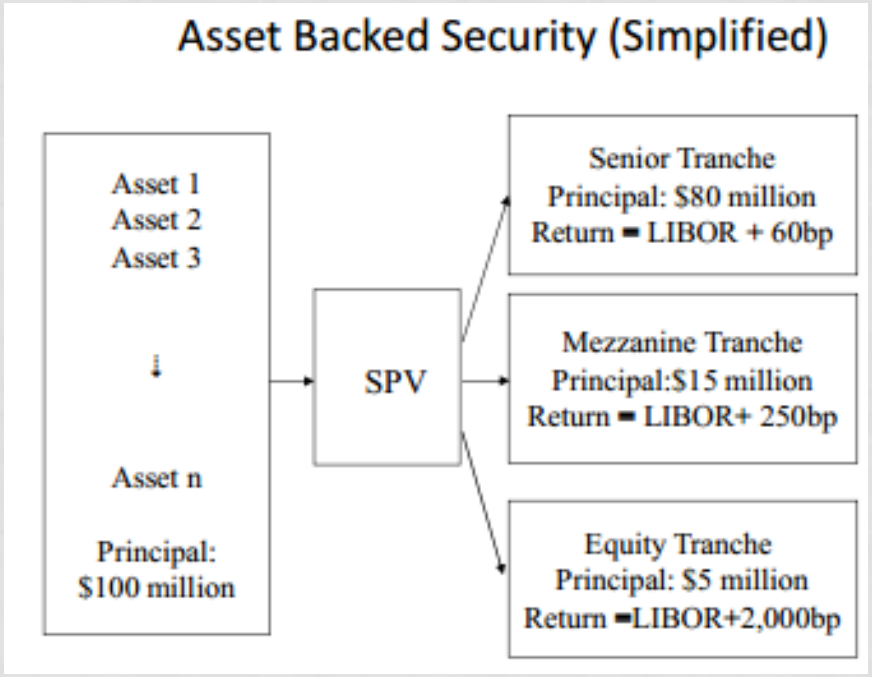
SUB-PRIME CRISIS

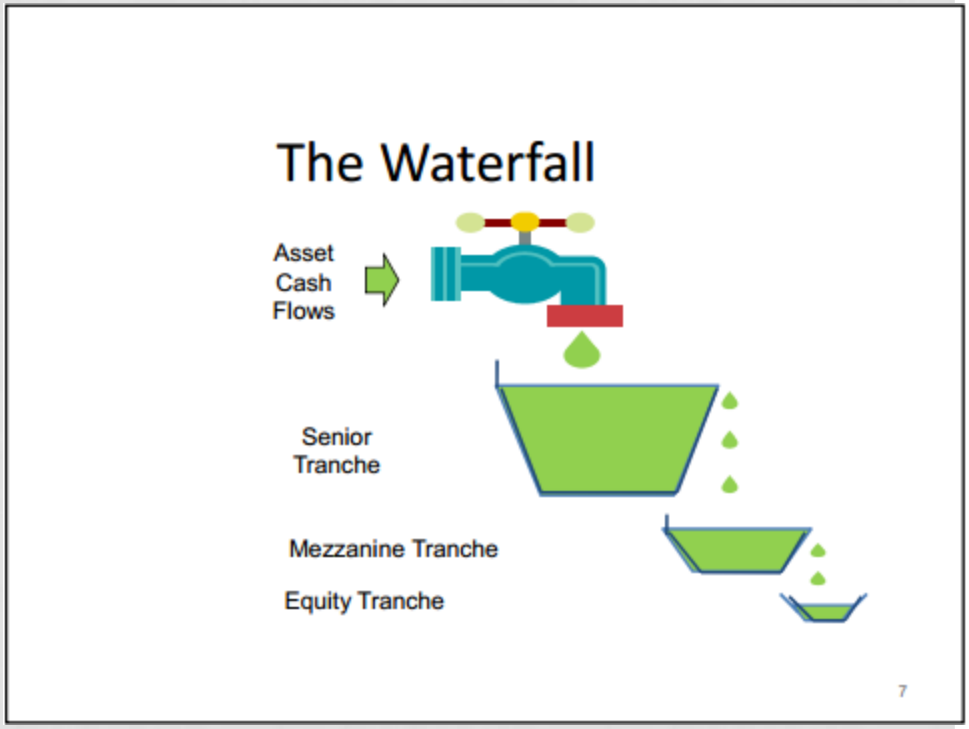
- Causes:
  - Relaxed Lending Standards
    - NINJA loans, 100% mortgages, teaser rates, etc.
  - Low interest rates increases demand for real estate
  - Mortgages securitized to hide risk
  - Current account imbalances
    - International capital inflows
    - Led to intertwining of international markets



Cagle Cartoons

THE ASSET BACKED SECURITY (ABS)

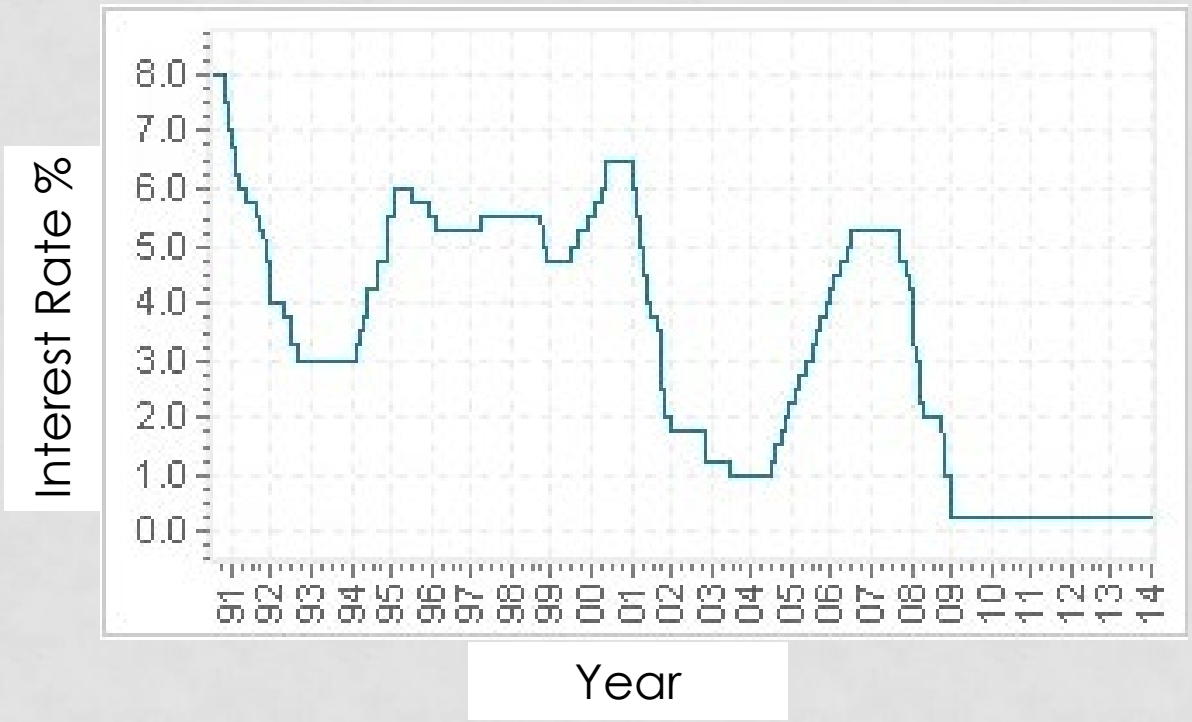




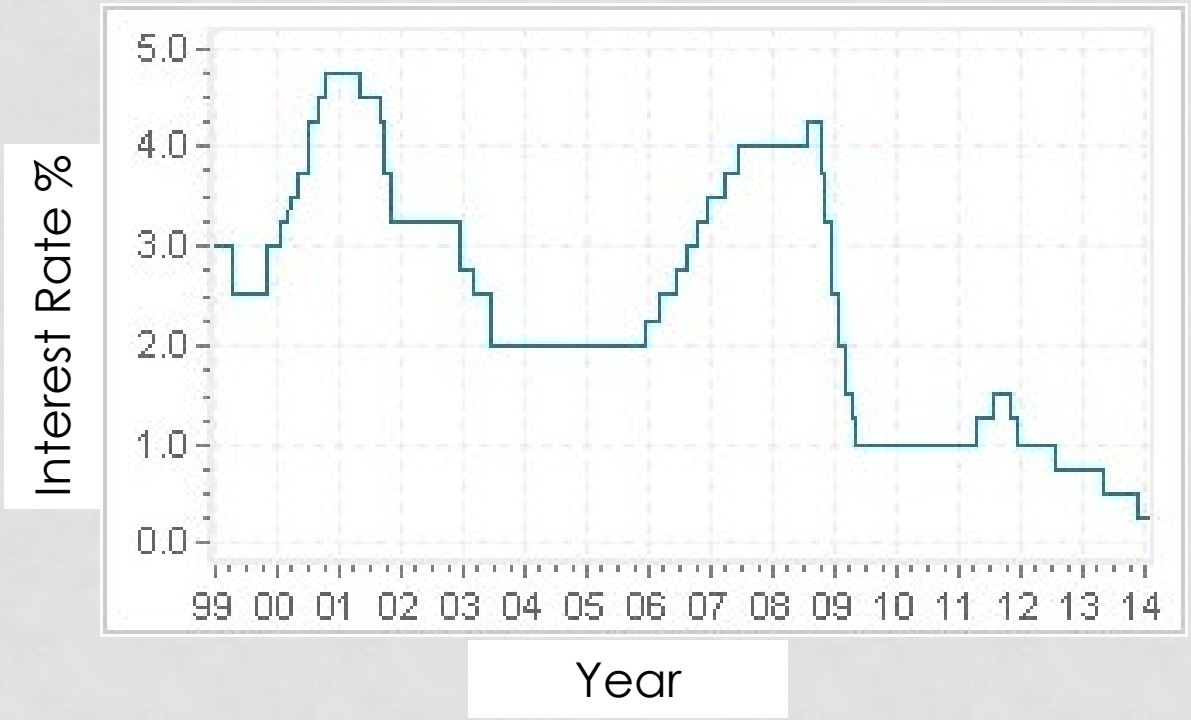
MONETARY POLICY

- Common first action was to reduce interest rates
- The Federal Reserve moved aggressively
- European Central Bank (ECB) was reluctant
  - Statement by ECB President Jean-Claude Trichet
- Japanese Central Bank already at low interest rates

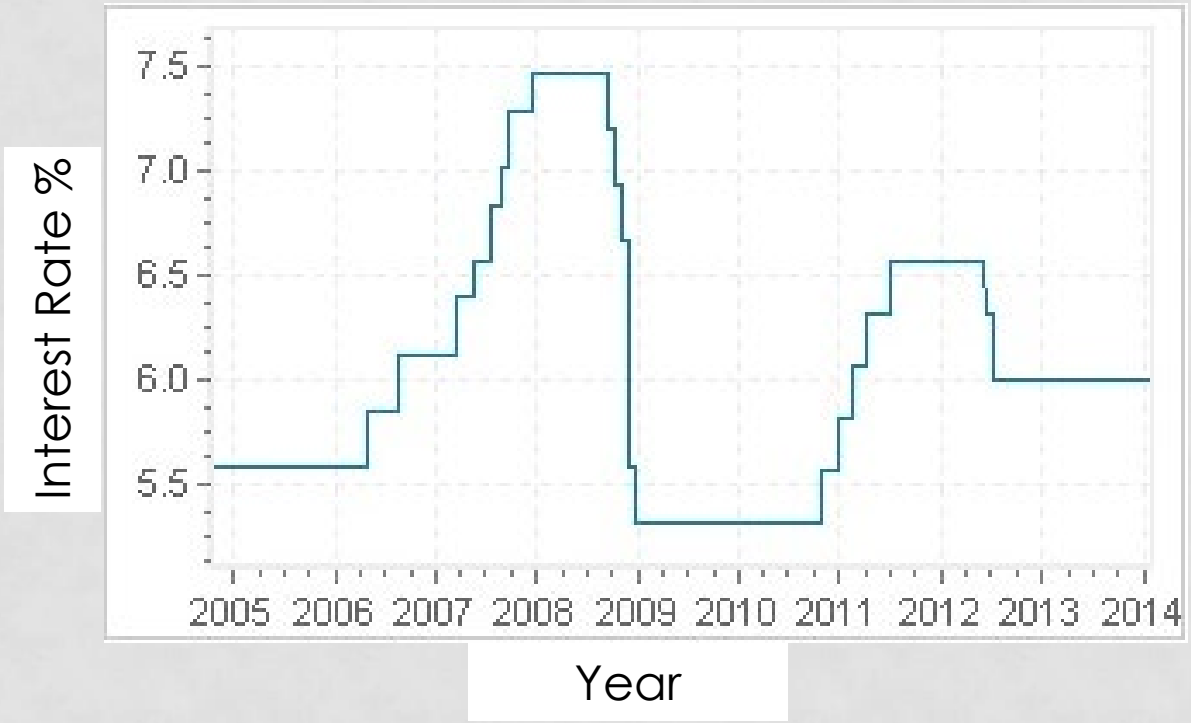
FEDERAL RESERVE INTEREST RATES



EUROPEAN CENTRAL BANK INTEREST RATES



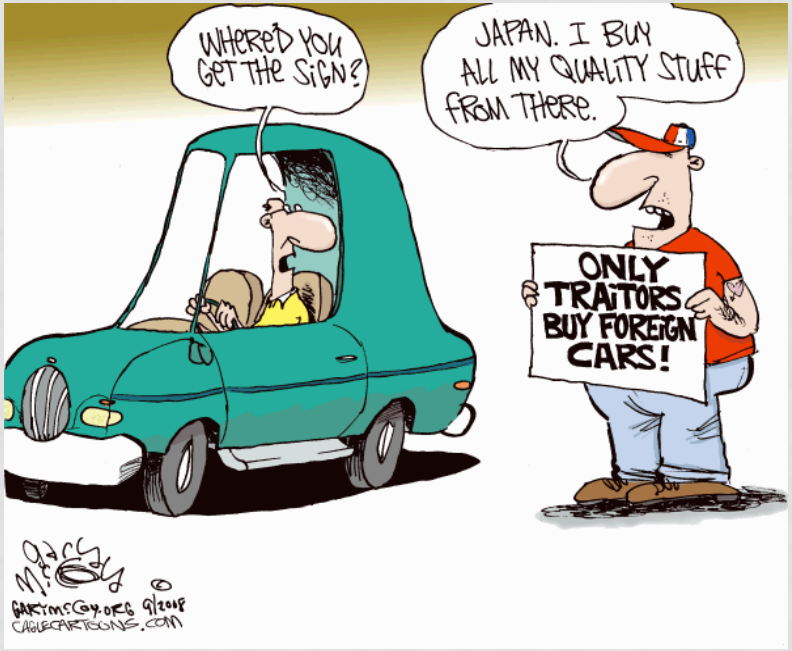
CHINESE CENTRAL BANK INTEREST RATES

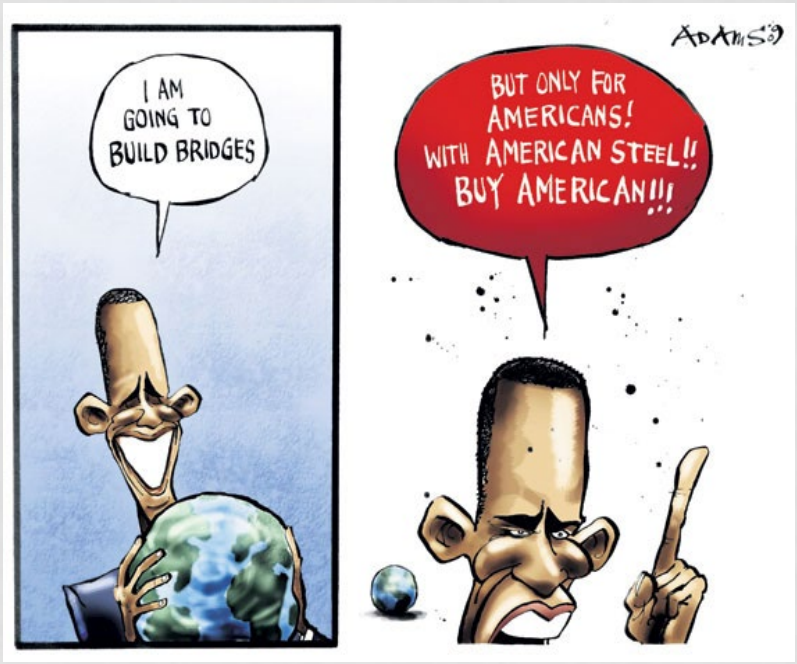


FISCAL POLICY

- IMF recommended a stimulus of 2% of GDP
  - United States pushed a $787 billion package
  - China passed a 4 trillion yuan package ($586 billion)
- Many in the EU opposed to such high stimulus
- Only the U.S., China, Australia, Spain, and Saudi Arabia reached the 2% of GDP goal

PROTECTIONISM





PROTECTIONISM

- Protectionism growing trend
  - 9% decline in exports
  - Anti-dumping claims up 20% in 2008
- Governments adopting new measures to protect industries
  - United States "Buy American" provision
  - India banned Chinese toys
  - Argentina stricter regulations on textiles and leather goods
- Does protectionism help or hurt?

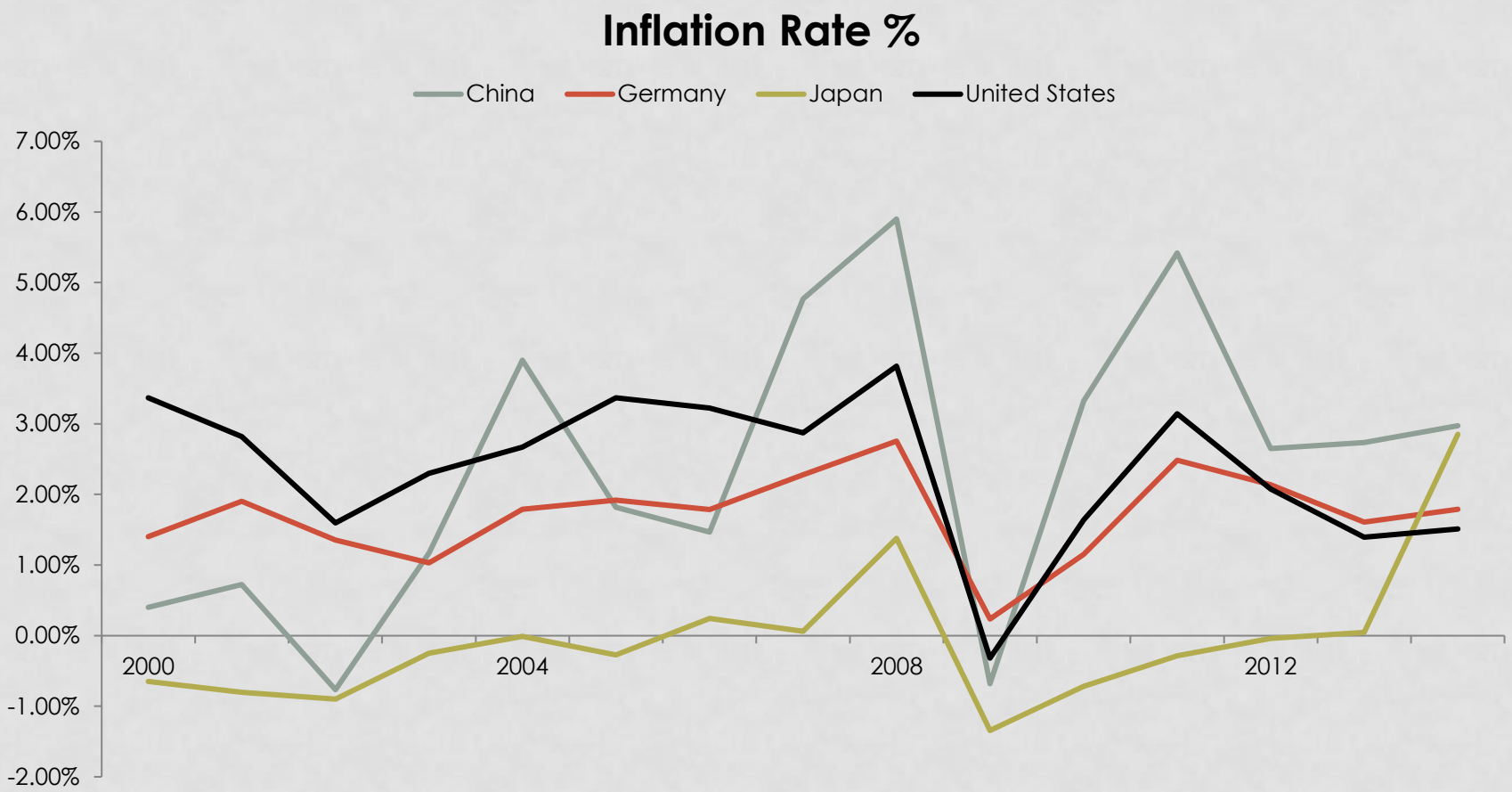
OTHER PROPOSALS

- IMF strived to play larger role with increased lending capabilities
  - Countries were reluctant to borrow from the IMF
- New world currency proposal from China
  - Quickly shot down by the U.S.

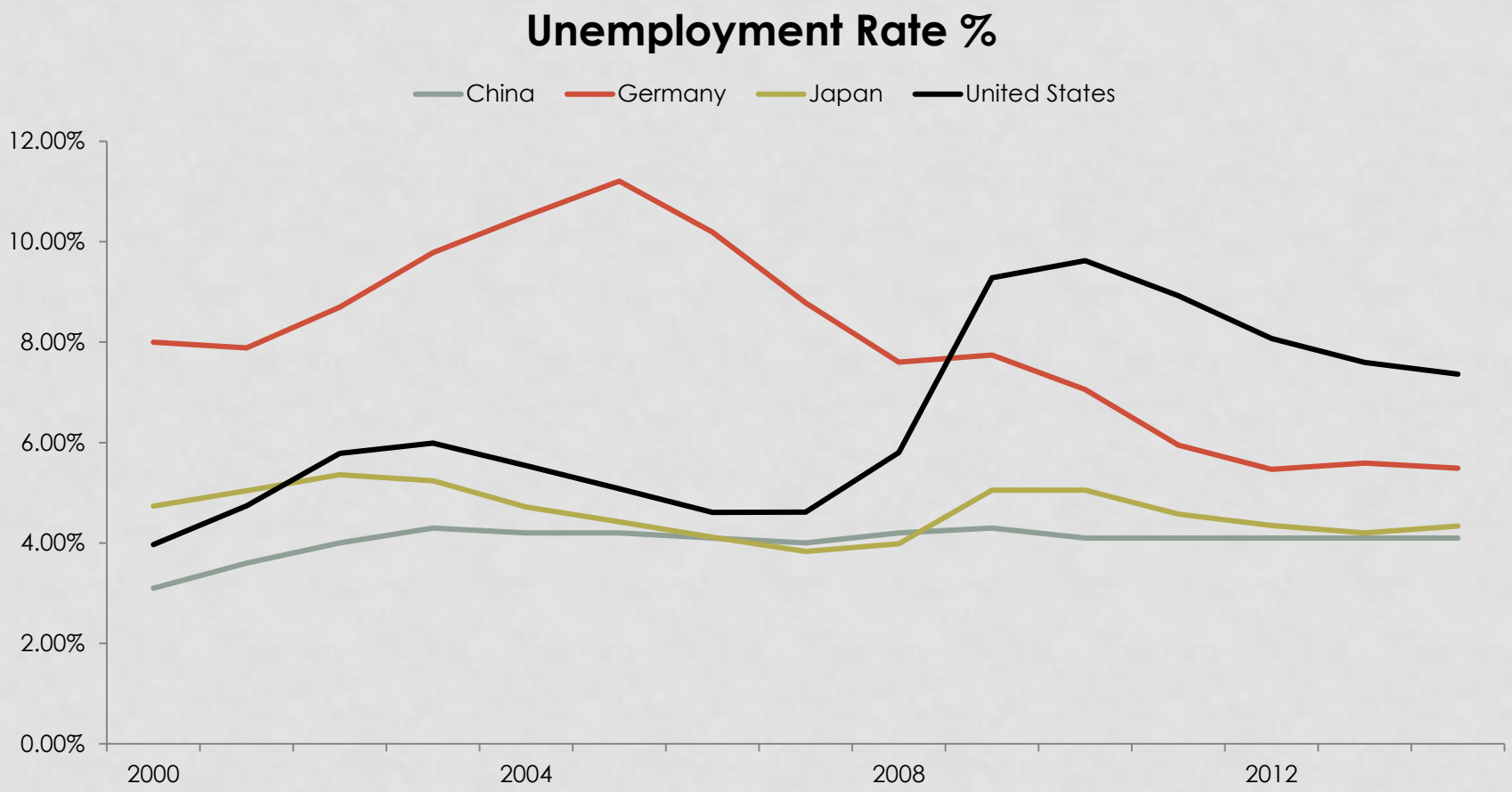
GDP


GDP Growth %
China
Germany
Japan
United States
20.00%
15.00%
10.00%
5.00%
0.00%
-5.00%
-10.00%
2000
2004
2008
2012

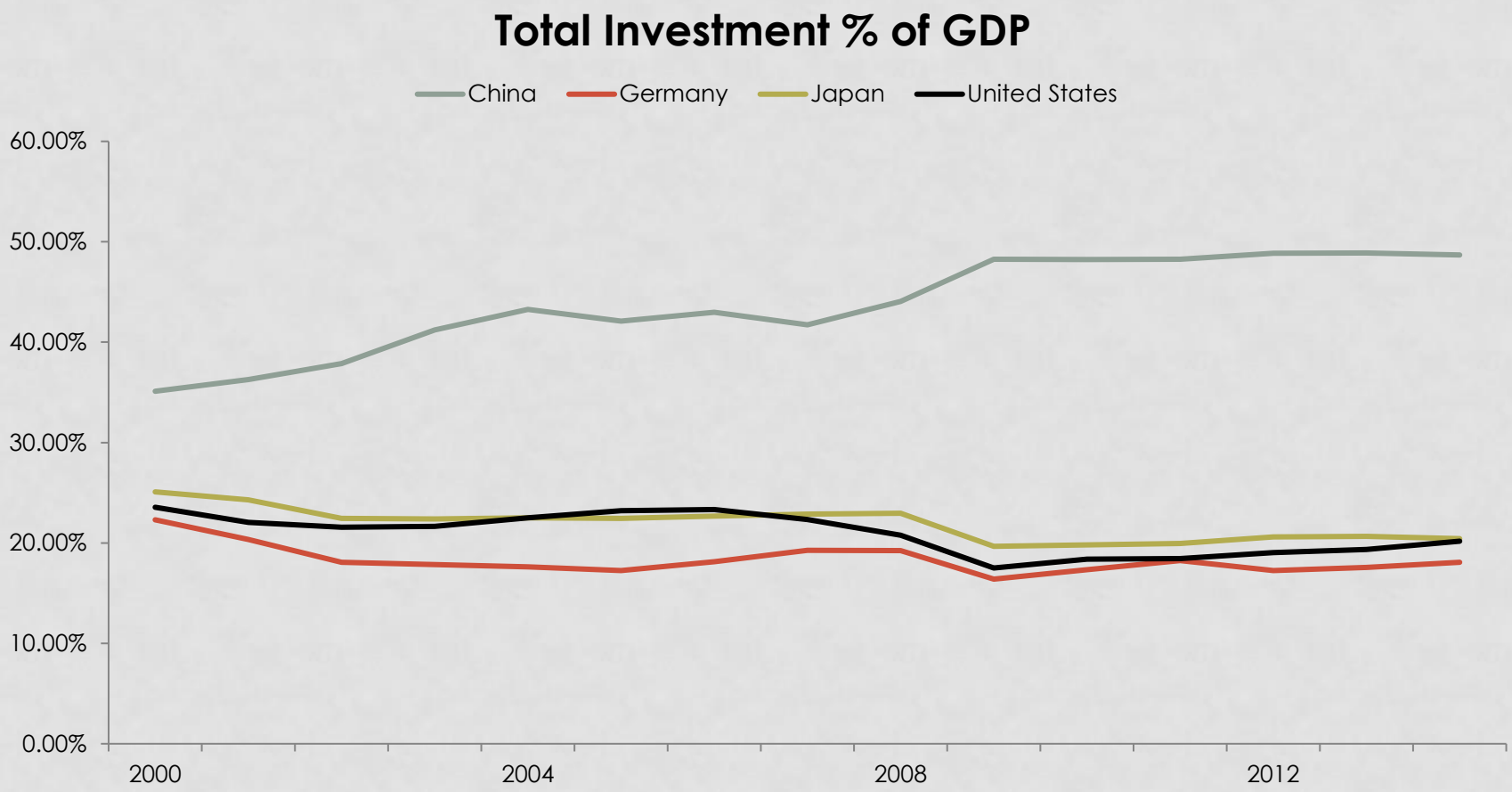
INFLATION RATE



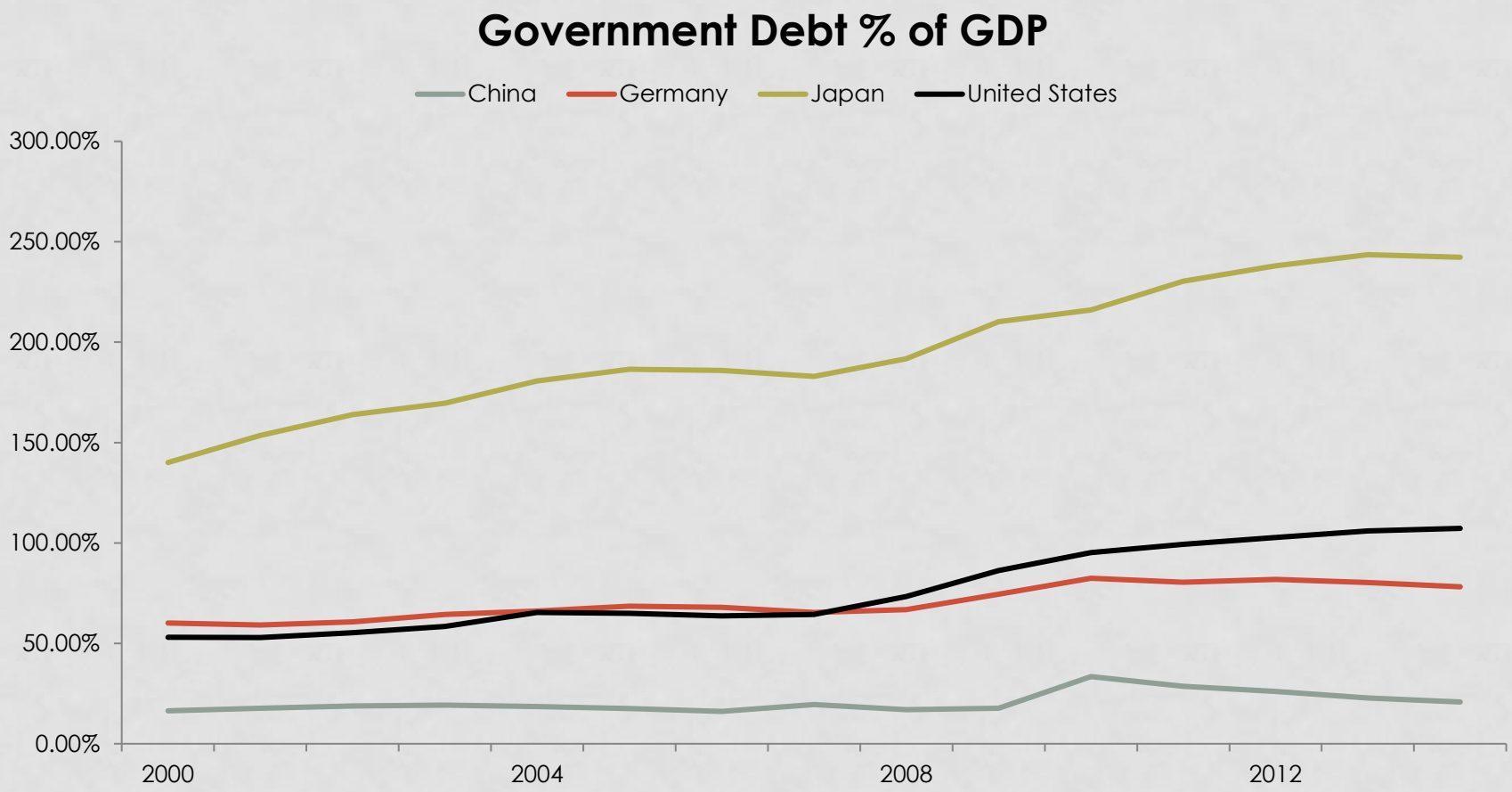
UNEMPLOYMENT RATE



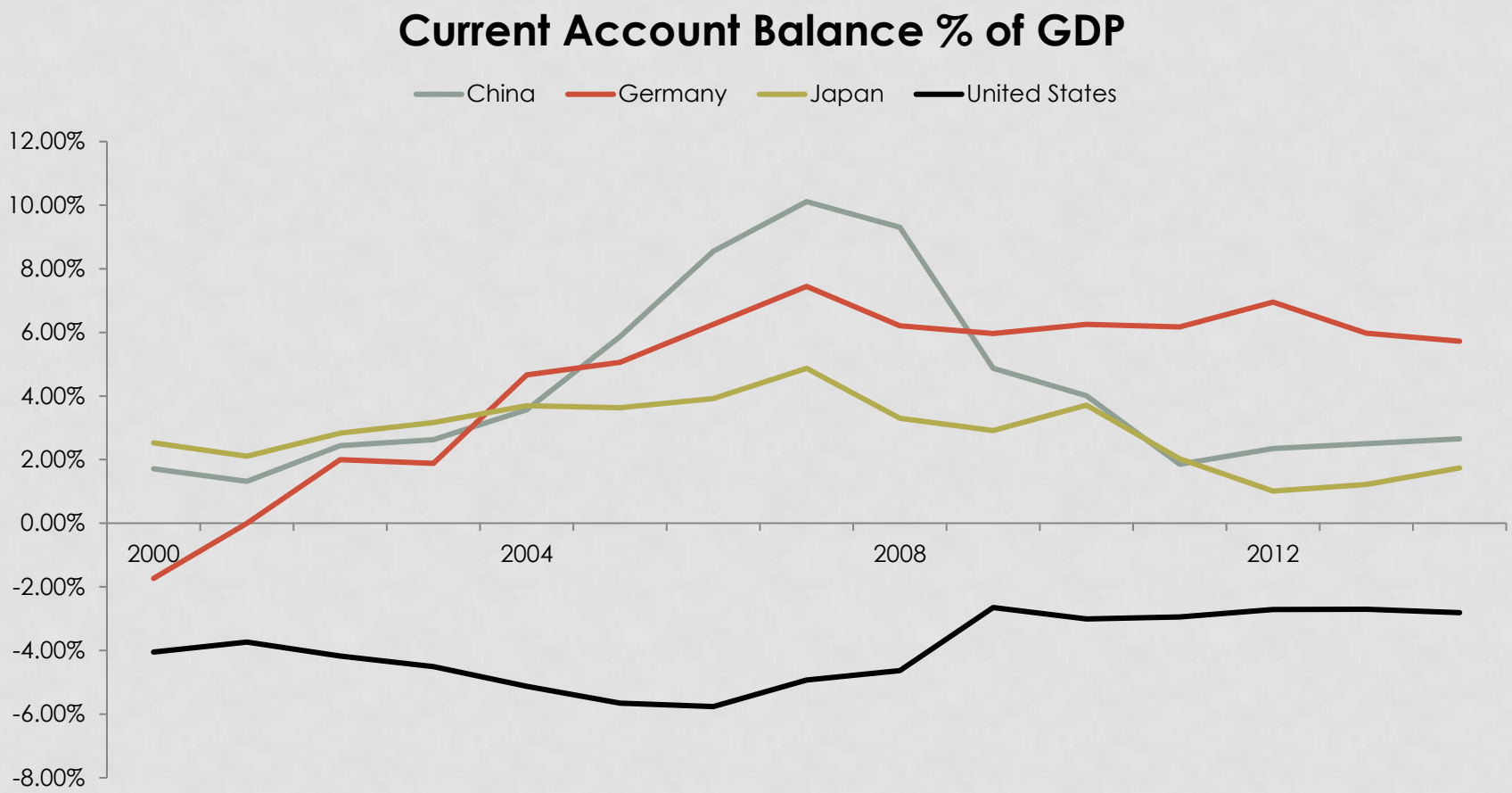
INVESTMENT


Total Investment % of GDP
China
Germany
Japan
United States
60.00%
50.00%
40.00%
30.00%
20.00%
10.00%
0.00%
2000
2004
2008
2012

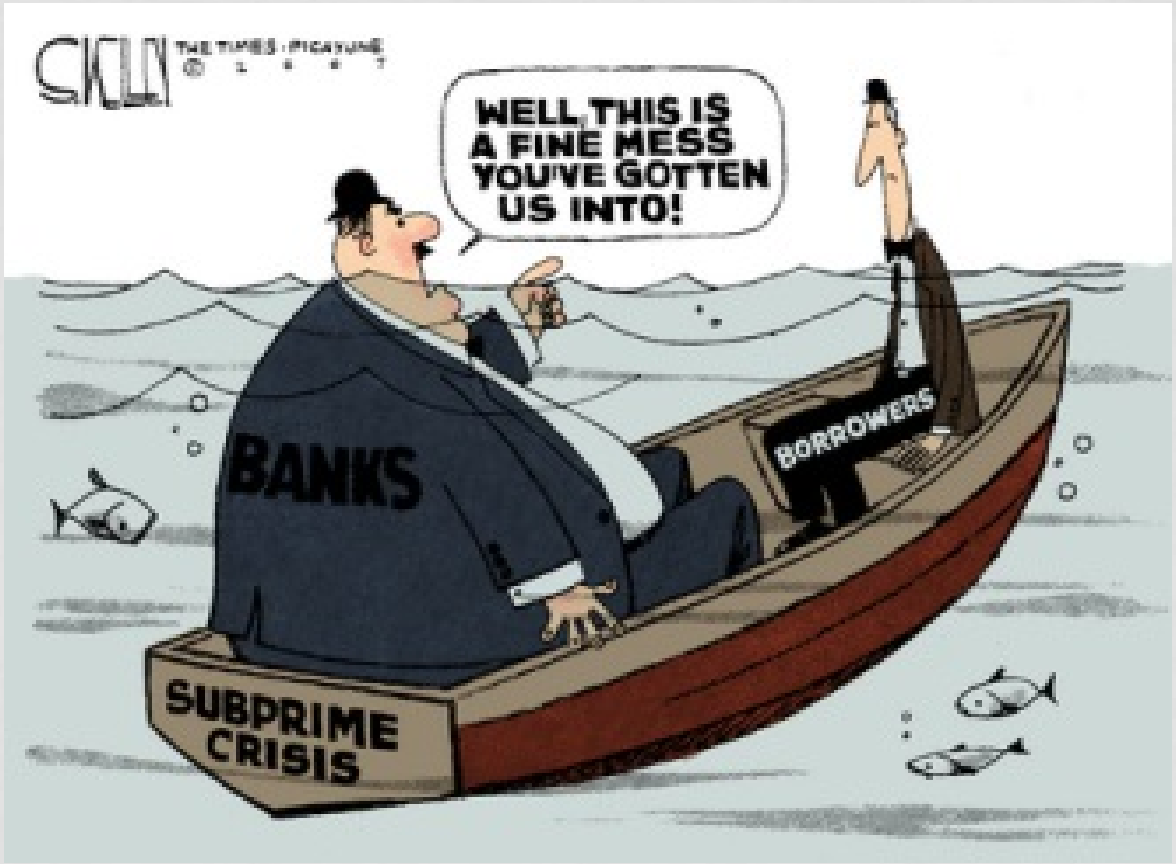
GOVERNMENT DEBT



CURRENT ACCOUNT BALANCE



CONCLUSION


WELL, THIS IS A FINE MESS YOU'VE GOTTEN US INTO!
BANKS
BORROWERS
SUBPRIME CRISIS