

The African Conundrum

Why hasn't there been growth in Africa?

Sub-Saharan Africa's lack of social capital

TABLE 2
SOCIO-POLITICAL INDICATORS: DIFFERENCES
BETWEEN SUB-SAHARAN AFRICA AND OTHER
LDCs

	SSA	Other LDCs
Corruption	4.97	6.03
Bureaucracy	1.38	1.72
Enforceability	1.95	2.09
Civil war	1.27	0.72
Fractionalization	67.6	32.7
Social development	1.10	-0.43
Inequality	31.0	31.0

This lack of social capital and representation led to

- Taxing of agricultural & mineral exports to finance industry growth in 1960s & 70s
- Financial Repression: directing credit towards industry & lowering interest rates towards favored sectors
- Even by 1991 (after some liberalization) only 13% of population lived where there were elected legislatures

& to poor performance of other variables in growth regressions

1. Lack of Openness
2. Poor public services

Democracy & ethnicity

- Controversial World Bank study finds that greater ethnic diversity "reduces" growth.
- Evidence on democracy & growth is disputed
 - Presumption is that it should be positive, since individual rights include investor rights
- Perhaps interaction of these 2 variables matters
 - Democracy accelerates growth in ethnically diverse areas, but not elsewhere. Implies effects of ethnicity are mutable.

Least open region to trade by 1980s

- Quotas, tariffs, export taxes
- Foreign exchange controls & marketing boards
- Growth rates consequently 0.4 – 1.2% slower p.a.
- Given level of trade restrictions more damaging in Africa (larger share of smaller economies)

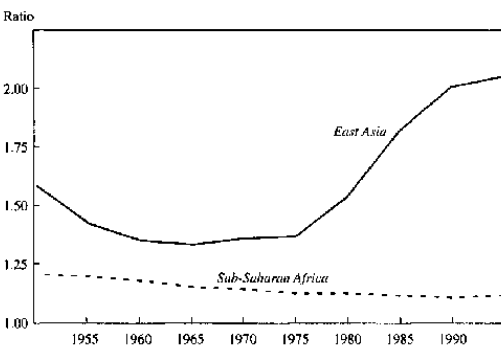
Led to deficient public services

- Lowered the return on public sector projects
- Used to create employment rather than public services
- Distorted services to minority which feels protected
- Spend larger share of GDP, but deliver less
- Low education levels have led to higher fertility rates and population growth → reducing GDP per capita
 - Growth in enrollments, but poor implementation
 - True of other social services; wages maximized not provision of services

Explaining high African fertility

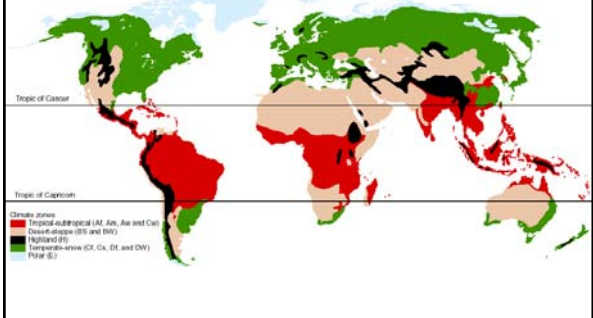
- Low levels of socioeconomic development
 - Low education levels & gender equality
- Socio-cultural practices
 - Polygamy, fostering: reflect low pop densities and struggle for survival
- Inability to save for old age
- Limited opportunities for market to work
- Last 2 explanations point to endogeneity: demography is mutable

Figure 7. Ratio of Working-Age to Dependent Populations, Africa and East Asia, 1950-95*



Climate Zones of the World

Figure 3. Koeppen-Geiger climate zones



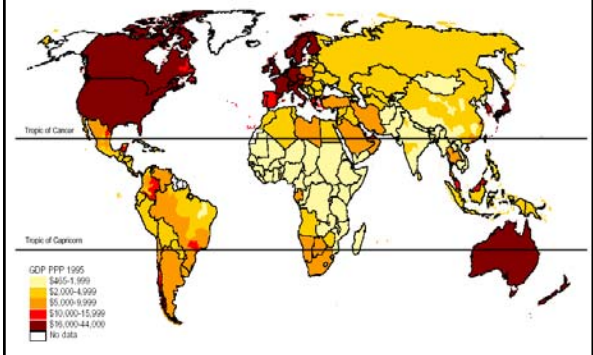
Lower Std of Living in Tropics

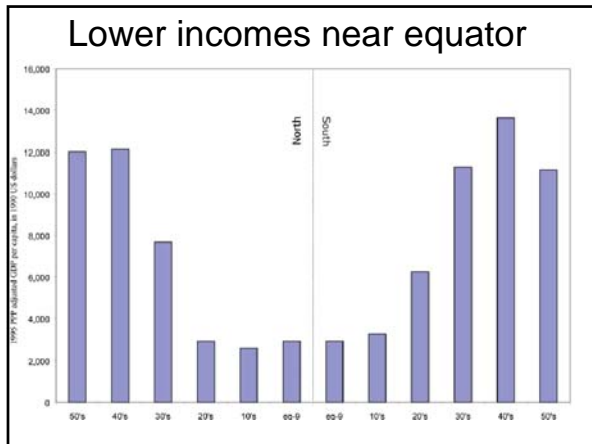
Table 1: 1995 GNP per capita

Climate zone	GNP per capita		
	Near	Far	Total
Af	0.66	0.54	0.64
Am	0.41	0.30	0.41
Aw	0.39	0.36	0.38
Cw	0.54	0.37	0.44
BS	0.80	0.49	0.55
BW	0.65	0.54	0.58
H	1.01	0.75	0.78
Cf	2.42	1.63	2.24
Cs	2.22	1.51	2.10
Df	2.67	1.22	1.90
DW	0.92	0.53	0.64
Tropical ¹	0.48	0.37	0.43
Non-temperate ²	0.54	0.48	0.50
Temperate ³	2.32	1.18	1.94
Total	1.35	0.65	

Low Incomes in the tropics

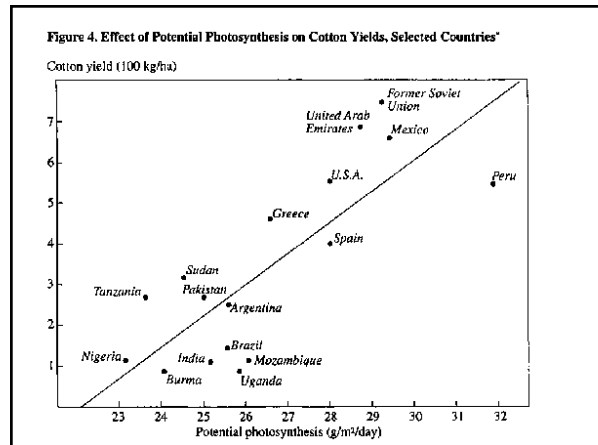
Figure 1. Income per person, 1995 (with sub-national data for 19 countries)





- ### Four reasons why geography & climate could matter
- Difficulty in transferring technology
 - Agriculture & Construction
 - Temperate climates have larger markets (more population) → more tech change
 - Agriculture & Health challenges
 - Higher transport costs due to more distant locations

- ### Is it Geography?
- Lack of +12 hour days during growing season reduces rates of photosynthesis
 - Constancy of temperature (no subzero temperatures) supports disease vectors and microbes
 - Limited ratio of coastline and limited number of navigable waterways relative to land hinder mass trade
 - Temperate climate in highlands caused population to concentrate away from coast
 - Low levels of urbanization raise trade & communication costs



- ### Tropical Risk
- Malaria lowers productivity
 - Semi-arid environment makes agriculture difficult above subsistence
 - Poor soil quality
 - 1/3rd too dry for agriculture
 - 1/2 is marginal quality

High pop, low GDP, low patents

Table 3. Shares of Tropics in World Population, GDP, and U.S. Patents in 1995

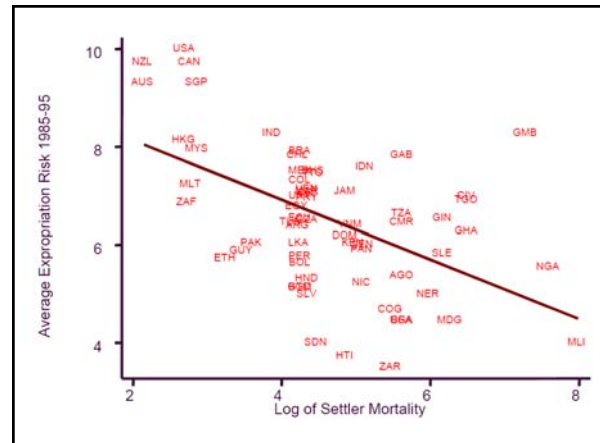
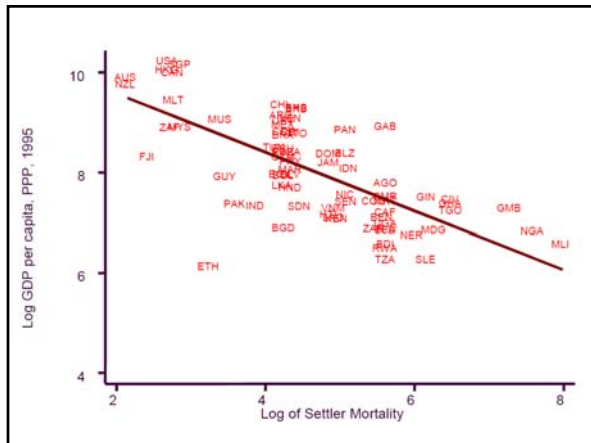
	Population (millions)	GDP (billions)	Patents issued, 1995
Tropics	2,019	5,893	1,880
World	5,653	34,519	101,330
Tropics (% of world)	35.7%	17.1%	1.9%

	Whole World (1)	Base Sample (2)	Whole World (3)	Whole World (4)	Base Sample (5)	Base Sample (6)	Whole World (7)	Base Sample (8)
Dependent Variable is log GDP per capita in 1995								
Average Protection Against Expropriation Risk, 1985-1995	0.54 (0.04)	0.52 (0.06)	0.47 (0.06)	0.43 (0.05)	0.47 (0.06)	0.41 (0.06)	0.45 (0.04)	0.46 (0.06)
Latitude			0.89 (0.49)	0.37 (0.51)	1.60 (0.70)	0.92 (0.63)		
Asia Dummy				-0.62 (0.19)		-0.60 (0.23)		
Africa Dummy				-1.00 (0.15)		-0.90 (0.17)		
"Other" Continent Dummy				-0.25 (0.20)		-0.04 (0.32)		
R-Squared	0.62	0.54	0.63	0.73	0.56	0.69	0.55	0.49
N	110	64	110	110	64	64	108	61

Endogeneity of Institutions?

(potential) settler mortality \Rightarrow settlements \Rightarrow early institutions \Rightarrow current institutions \Rightarrow current performance

- Mortality rates were a key determinant of migration. Use this to solve chicken & egg problem.
- Strong relationship between settler mortality and current institutions
 - Mortality 100 years ago explains 25% of inst'l variation

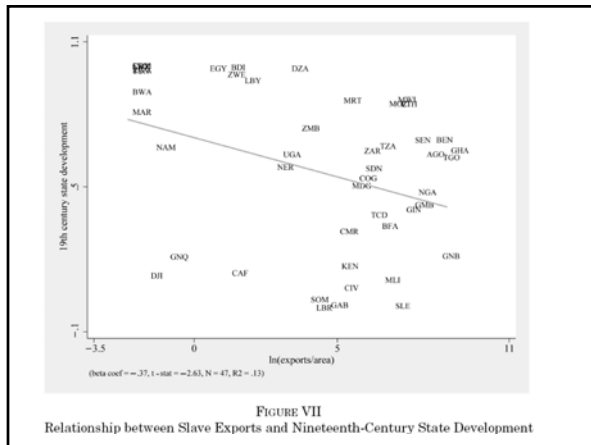
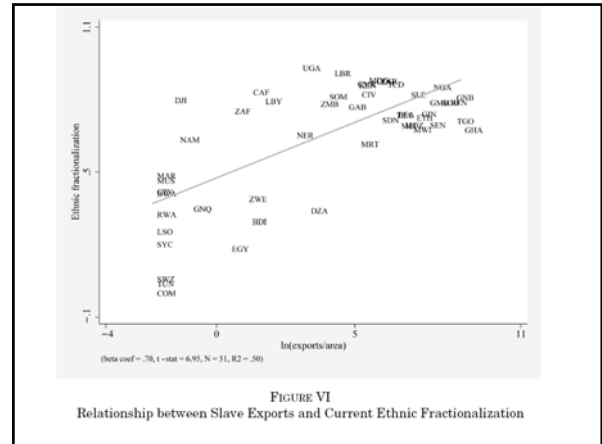
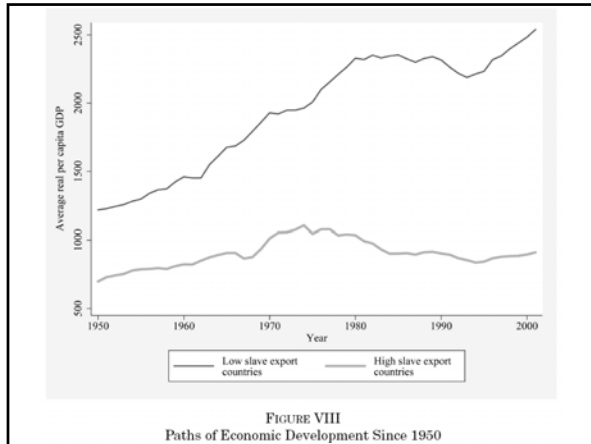


Reversal of Fortune Hypothesis

- A negative relationship between proxies for GDP per capita in 1500 (urbanization, pop density) and GDP per capita today
- Societies with a social organization ("good" institutions) that encourages investment will prosper
 - Private property institutions ("good institutions")
 - Extractive institutions ("bad institutions")

More on African Institutions

- Slave trades
 - They lasted for 500 years up to 1900
 - Colonialism was only ~ 75 years: 1885-1960
- What effect did these have on development?
 - More slave extraction \rightarrow lower GDP/capita
 - Slave trades involved kidnapping, warfare, & raiding
 - 12 million slaves exported in trans-Atlantic slave trade
 - Resulted in state collapse & ethnolinguistic fractionalization
 - Individuals of same ethnicity enslaved one another
 - Nunn's later work documents that pervasiveness of slave trade affects "trust" among individuals today!



Bottom Line

- Starting out behind, African countries have considerable scope for catch up
- Standard models would suggest strong catch-up advantage would largely offset geographical disadvantage, if right policies were put in place
- It hasn't happened
- But how much of handicap is the colonial legacy and slave trade?
- And how mutable is geography?



End of Japanese Miracle

- After 1970, growth in Japan decelerates more dramatically than in any other country
- Annual average growth rate of real GDP fell:

Country	1960-69	1970-73	1974-85
Japan	12.1%	7.5%	3.8%
US	4.1%	3.2%	2.2%

- What does this imply for other Asian countries that followed the Japanese model?

Proximate Explanations

- Scope for “catch up” growth exhausted
- Labor market grew less accommodating
 - Demands for higher living standards
- Diversification of social goals
 - Spending on housing & pollution abatement (the latter exceeds that in any other country)
- Savings rate declined as population aged
- Higher energy costs disproportionately impact Japan (but only short-run effect)

Less Obvious Explanations

- MITI-led system less suitable when task is innovation rather than extensive growth
 - Bureaucrats do less well than markets in picking future winners
- Bank-based financial system less suitable to a world of technological uncertainty
- In 1980s, Japan deregulated financial system, but this only increased competitive pressure and led to financial crises
- Bottom line: institutions developed for a world of extensive growth hinder continued growth when they become locked in

Japan’s Slowdown in the 1990s

Why it matters

- Japan is the world’s second largest economy & major US trading partner
- Unexpected?
 - Platinum growth preceded the dismal 1990s
 - In late 1980s, many commentators viewed Japan as poised to surpass the US economy: “Japanese Model”
- Developed countries have problems too
- Are problems uniquely Japanese or do we see ominous shadows in the US today?
- Implications for effectiveness of macro policy?
- Deflation: It’s baaaack.....
- Links between macroeconomy & banks...once again

Some initial signs of trouble

- Growth 1950-72: 10% p.a.
- Stock market peaks in 1989
- Property market values peak in 1990
- Fall in net wealth equals 200% of GDP
- Recession begins in 1991
- Officially ends in 1993

Table 3
Monetary and Financial Developments in the 1990s
(Annual percentage change)

	GDP Deflator	CPI	WPI	Real yen/\$	Land Price	Stock Price
1991	2.89	2.3	-1.29	72.2	0.55	2.38
1992	0.94	2.08	-1.69	67.4	-5.11	-32.03
1993	0.44	0.91	-4.07	62.4	-5.13	16.91
1994	-0.62	0.5	1.25	58.5	-3.82	0.47
1995	-0.38	0.07	-0.06	61.5	-4.3	-4.9
1996	-2.23	0.3	-0.33	71.2	-4.43	5.47
1997	1	2.23	1.42	79.4	-3.62	-20.85
1998	0.17	-0.32	-3.64	76.8	-4.38	-15.37
1999	-0.79	0	-4.12	76.9	-5.67	23

Things get worse

- Government pursues procyclical fiscal and monetary policy
- Bad debts of banks mount
- Consumption tax and rise in bad loans stalls recovery in 1996
- 1997-99: breakdown in financial markets

Nature of the Slowdown

- Decade long slump
- Little productivity growth
- Recession or slow GDP growth
- Falling prices or deflation
 - First dramatic example since Great Depression for developed economy
- Rising unemployment
 - Likely double the official rate
- Decreasing satisfaction with political system
 - Eroding of power of Liberal Democratic Party

Size of the 1990s slump

- Cumulative lost output 15% of GDP
- By 2004, 10% below trend growth in GDP
- & trendline (potential GDP) growth has slowed
- Public bailout of banks 15-20% of GDP
 - By comparison, US S&L crisis was 3% (or 1% in present GDP)
- Unemployment rates at postwar highs

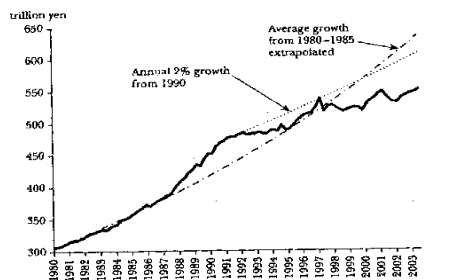
Unemployment increased from traditionally very low levels

Table 10
Labor Statistics 1985-99

	1985	1990	1995	1996	1997	1998	1999
Unemployment rate	2.6	2.1	3.2	3.4	3.4	4.1	4.7
Age 20-24	4.1	3.7	5.7	6.1	6.2	7.1	8.4
Men 60-64	7	5.1	7.5	8.5	8.3	10	10.2
Employ. rate (male)	81	81.1	81.9	82.1	82.4	81.6	81
Employ. rate (female)	53	55.7	56.5	56.8	57.5	57.2	56.7
Real wage index	89.9	100	103.2	104.9	105.3	103.1	102.4

Growth has slowed below trend

Figure 1
Real GDP: 1980-2002



Source: Japanese SNA (System of National Accounting); (<http://www.esri.cao.go.jp/en/sta/menu.html>).

Table 1
Contribution of Demand Components (% of GDP)

GDP Growth	Housing		Fixed Investment		Inventory		Public		Public		Exports	Imports
	Consumption	Investment	Investment	Investment	Consumption	Investment	Consumption	Investment				
1980	2.8	0.6	-0.6	1	0	0.3	-0.5	1.4	0.7			
1981	3.2	0.9	-0.1	0.5	0	0.5	0.3	1.2	0			
1982	3.1	2.6	0	0.2	0	0.3	-0.2	0.1	0.2			
1983	2.3	2	-0.3	0.2	-0.3	0.3	-0.2	0.5	0.2			
1984	3.9	1.6	-0.1	1.5	0	0.2	-0.3	1.5	-0.6			
1985	4.4	2	0.1	1.7	0.3	0	-0.5	0.6	0.1			
1986	2.9	2	0.4	0.7	-0.2	0.5	0.2	-0.7	-0.1			
1987	4.2	2.5	1.1	0.9	-0.1	0.2	0.5	-0.1	-0.7			
1988	6.2	3.1	0.7	2.3	0.6	0.2	0.3	0.6	-1.6			
1989	4.8	2.8	0.1	2.4	0.1	0.2	0	0.9	-1.6			
1990	5.1	2.6	0.3	2	-0.2	0.1	0.3	0.7	-0.8			
1991	3.8	1.5	-0.5	1.2	0.3	0.2	0.3	0.6	0.3			
1992	1	1.2	-0.3	-1.1	-0.5	0.2	1	0.5	0.1			
1993	0.3	0.7	0.1	-1.9	-0.1	0.2	1.2	0.2	0			
1994	0.6	1.1	0.4	-0.9	-0.3	0.2	0.2	0.5	-0.8			
1995	1.5	1.2	-0.3	0.8	0.2	0.3	0.1	0.6	-1.4			
1996	5.1	1.7	0.7	1.8	0.4	0.2	0.8	0.8	-1.3			
1997	1.4	0.6	-0.9	1.2	-0.1	0.1	-0.9	1.4	-0.1			
1998	-2.8	-0.6	-0.6	-2.1	-0.1	0.1	0	-0.3	0.9			
1999	0.6											
2000	1.9											

Table 2
Long-term Performance of the Japanese Economy
Average annual real growth rate (%)

	1961-70	1971-80	1981-90	1991-97
GDP	10.2	4.5	4	1.7
Private Consumption	9	4.7	3.7	2
Public Consumption	4.8	4.8	2.5	1.9
Resid. Investment	16.8	3.2	3.9	-1.8
Bus. Fixed Invest.	16.6	2.8	8.1	0.6
Public Investment	14.4	5.9	0.8	4.9
Exports	16.1	9.7	5.4	5.1
Imports	14.7	5.9	6.3	4.3
Employee Comp.	11.1	5.8	3.7	2.1
Disposable Income	9.5	4.8	3	2.2

Causes of the slump

- Equity & Property market bubbles?
- Overinvestment?
- Slow technical change?
 - End of catch up growth by mid-1970s
 - But isn't this the system that produced growth?
 - Emphasis on utilization of technology & R&D
 - But bureaucratic stewardship of saving, relationship banking, & protection were hindrances
 - Technological innovative industries (exports) only 10% of economy
- Banking system not financing new projects
- End of the social contract?

Productivity growth has slowed

Comparative annual growth rate
 computed from OECD InterSectoral Data Base 1997

		1973-79	1979-89	1989-1994
Japan	GDP	3.33	4	2.11
	TFP	0.72	1.79	0.91
	Labor Pr.	3.35	3.45	2.81
US	GDP	2.28	2.68	1.82
	TFP	-0.21	0.47	0.57
	Labor Pr.	0.12	0.68	0.98
Germany	GDP	2.45	1.87	2.47
	TFP	2.24	1.19	1.66
	Labor Pr.	3.72	2.1	2.77

Labor Productivity growth has been slow in the 1990s

Comparative Labor Productivity Growth
 (average % annual change in output/employee)

	1980-90	1990-95	1995-98
Japan	2.8	0.9	0.9
US	1.2	1.2	2.1
Germany	1.9	2.4	1.9

Problems: 1990-2004

- Political crisis?
 - Bold Japanese leadership lacking
 - Failure to address the banking system's problems for fear of provoking massive layoffs and voter reaction
 - Old guard refuses to go away; bold leadership shunned
 - Failure to close insolvent firms
 - Disapproval ratings > approval ratings for Koizumi

More problems

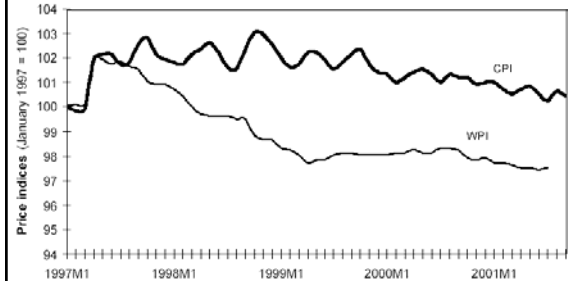
- Sustained deflation & debt deflation since 1994
 - Declining consumer demand
 - Real debt burdens are rising
 - Increases debt defaults
- Banking crisis
 - Bad loans estimated around \$1 trillion, rising at unsustainable rate
 - Not cleared from books: "evergreening"
 - Fear of significant job loss

More on banking crisis

- No new loans for I
- Credit crunch: Supply of loans shrinking
 - Bad loans are rising
 - Depresses asset prices further
- Domestic savers pulling out of weak, small and medium-sized banks
- Capital adequacy standards not enforced
 - → bad banks not being shut down

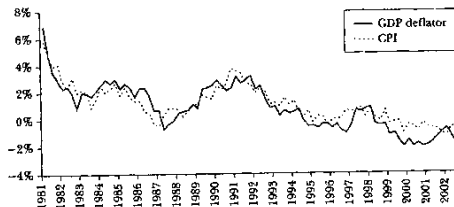
Deflation was a reality

Figure 1 Deflation in Japan



Deflation

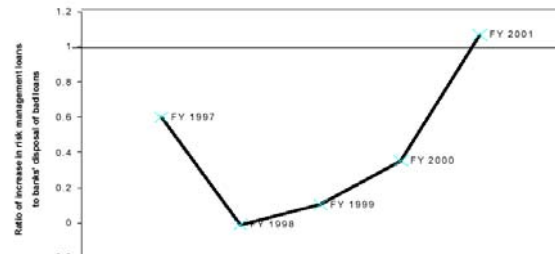
Figure 2
Inflation Rate



Source: GDP deflator is from Japanese SNA (<http://www.esri.co.jp/en/ana/menu.html>). CPI (consumer price index) is the series modified by Arai and Hoshi (2003) to remove the effects of consumption tax changes in 1989 and 1997. The original series for CPI is available at (<http://www.stat.go.jp/data/cpi>).

Bad loans rose to unsustainable levels

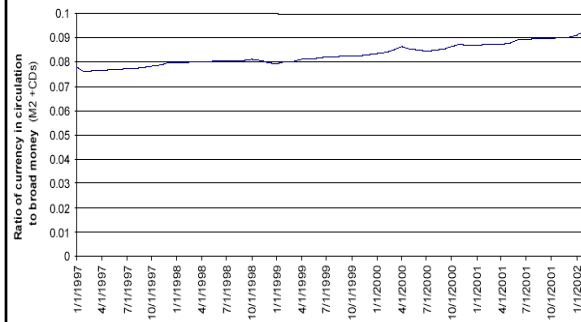
Figure 2 Growth of bad loan burden



Source: Annual data from Financial Services Agency, Classification IV ("Risk Management") loans, "Loss to Banks on Disposal of Bad Loans." FY 2001 is computed from an official projection. <http://www.fsa.go.jp/news/e/2002/201-2e.html>.

Money supply contracted

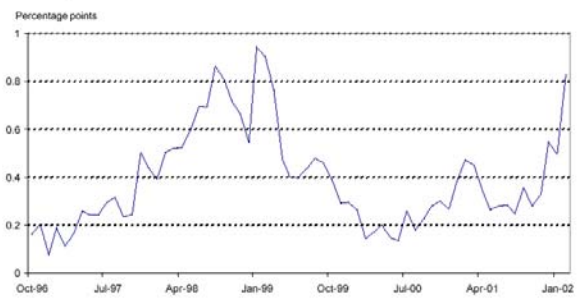
Figure 4 Currency-to-deposit ratio



Note: The Bank of Japan redefined the definition of money stock in March 1998.

Credit crunch occurred

Figure 5 Credit spread between 5-year industrial Bank of Japan bonds and 5-year Japanese government bonds



Zombie Firms

- Bad firms continue to receive new loans
 - Implicit subsidies from government
 - Crowding out profitable firms
- Banks won't lend to viable enterprises
- Banks won't clean up bad loans
- Lack of adequate restructuring of industry
- Helps explain slowdown in productivity
- Neither fiscal or monetary policy has focused on this problem

Other areas of financial sector distress

- Several major insurance companies on verge of default
 - Double gearing between banks & insurance co.'s
 - Lending to each other inflates reported capital
- Govnt's FILP (Fiscal Investment & Loan Program) is bleeding cash → cost taxpayers another 78 trillion yen
- With banking sector added in, taxpayers are looking at 100 trillion yen or 20% of GDP in future costs

And more problems

- Fiscal problems are mounting
 - Deficit spending has been tried in spades
 - Currently 8% of GDP
 - Averaged roughly 6% for decade
 - Debt to GDP ratio is greater than 130%
 - Interest payments are rising portion of budget
 - Japanese debt downgraded → higher borrowing costs
 - No desire to try this any further
- Monetary policy
 - Central bank has not credibly committed to inflation
 - Nominal interest rates are very low: 0.25%
 - But real interest rates remain positive!!! Why?
 - To prop up equity prices, BOJ recently purchased equities

Real interest rates have remained positive despite deflation

Table 5
Real Interest Rates
(Government long bond yield minus expected inflation)

	1990-91	1994-95	1998-99
Japan	4.9	3	1.8
US	4.2	4.6	3.8
Germany	4.5	4.3	3

Japan's budget deficits have soared

Japan's Budget Deficit (Excluding Social Security)
(% of GDP)

	Deficit (General Government)
1983	6.2
1984	4.6
1985	3.4
1986	3.9
1987	2.4
1988	1.6
1989	0.7
1990	0.6
1991	0.8
1992	2
1993	4.8
1994	5.1
1995	6.4
1996	6.9
1997	5.9
1998	7.1
1999	8.9
2000	8.5
2001	8.1

Debt has reached astounding proportions

General Government Gross Debt (National Accounts basis)
(% of GDP)

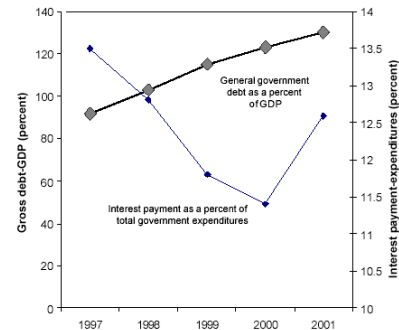
	Japan	US	Germany
1991	57.9	71.4	40.1
1992	59.3	74.1	43.4
1993	63.7	75.8	49
1994	68.8	75	49.2
1995	76.2	74.5	59.1
1996	80.5	73.9	61.9
1997	84.6	71.6	62.8
1998	97.4	68.6	63.3
1999	105.3	65.1	63.5
2000	112.8	60.2	63.5

Global picture isn't too great

- Yen overvalued
- China is the new economic bully on the block
- Military threats from North Korea?
- Demographic trends

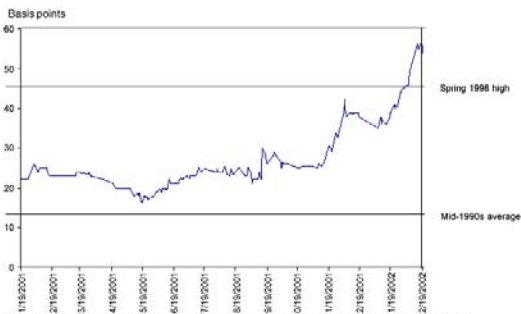
The Long-term fiscal picture is bleak

Figure 3 Fiscal indicators for Japan



Default risk has been rising

Figure 6 Credit spread on 10-year Japanese government bonds



Note: Market (bid) price on credit spread derivatives available as an insurance protection on bond default (daily data).
Source: BGC Ratings, UBS Warburg

Policy prescriptions

- Bank closures: why?
- Bank recapitalization
 - Outside sources?
 - Political opposition?
- Bank of Japan purchases of long-term Japanese government bonds
- Depreciation of Yen
 - Will the US allow it?

You have been hired to advise Japan on its economy

1. Describe the current Japanese economy
2. What are the origins of the economic slump?
3. What are the problems with Japan's current economy?
4. What policies have been tried?
5. What policy prescriptions are left to try?
6. What would you recommend?