

The U.S. Economy at Year end.

What will 2008 bring?

- What about GDP Growth?
- The sub-prime problem.
- Jobs, education, and GDP.
- Lessons from Economic Development

Bruce Yandle

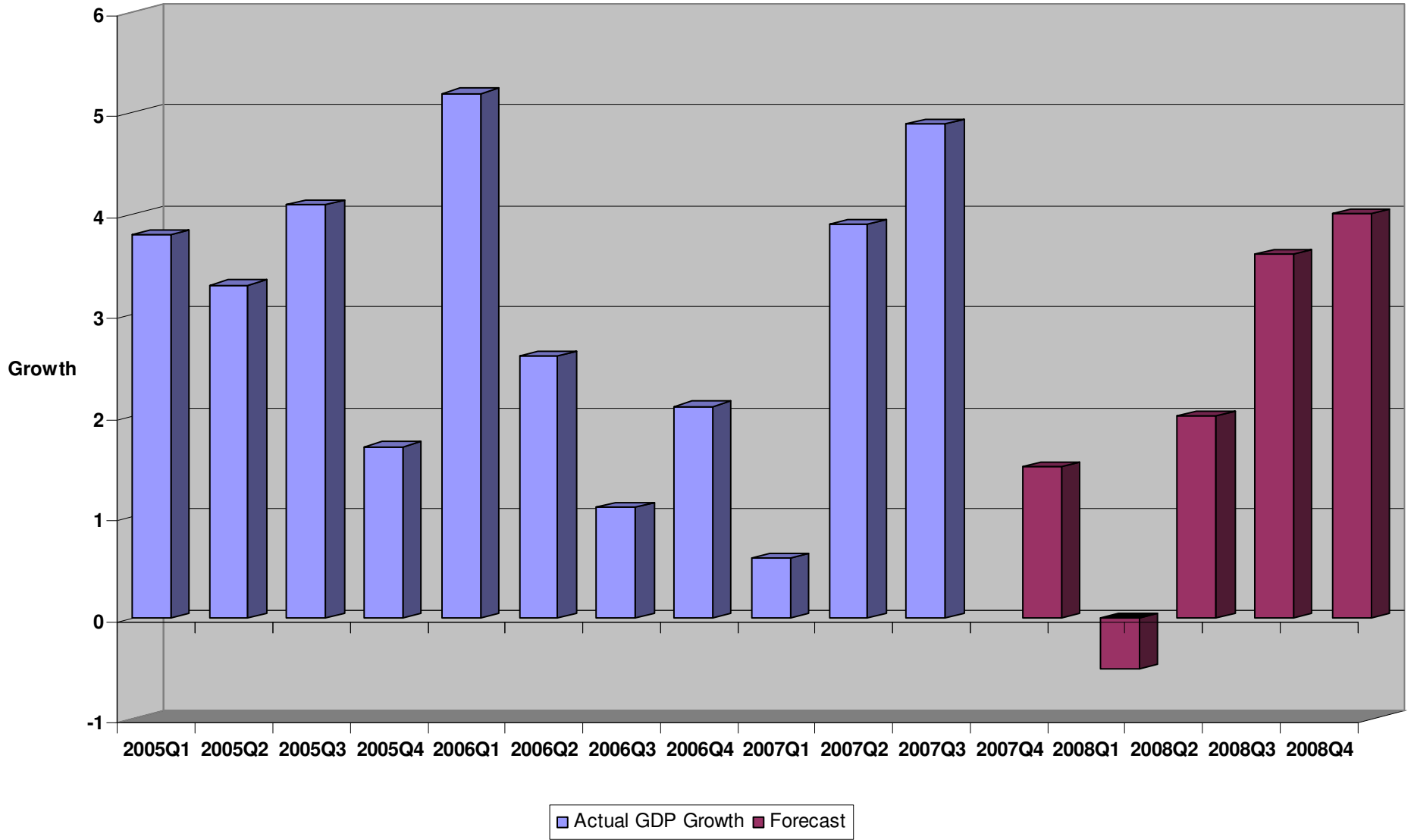
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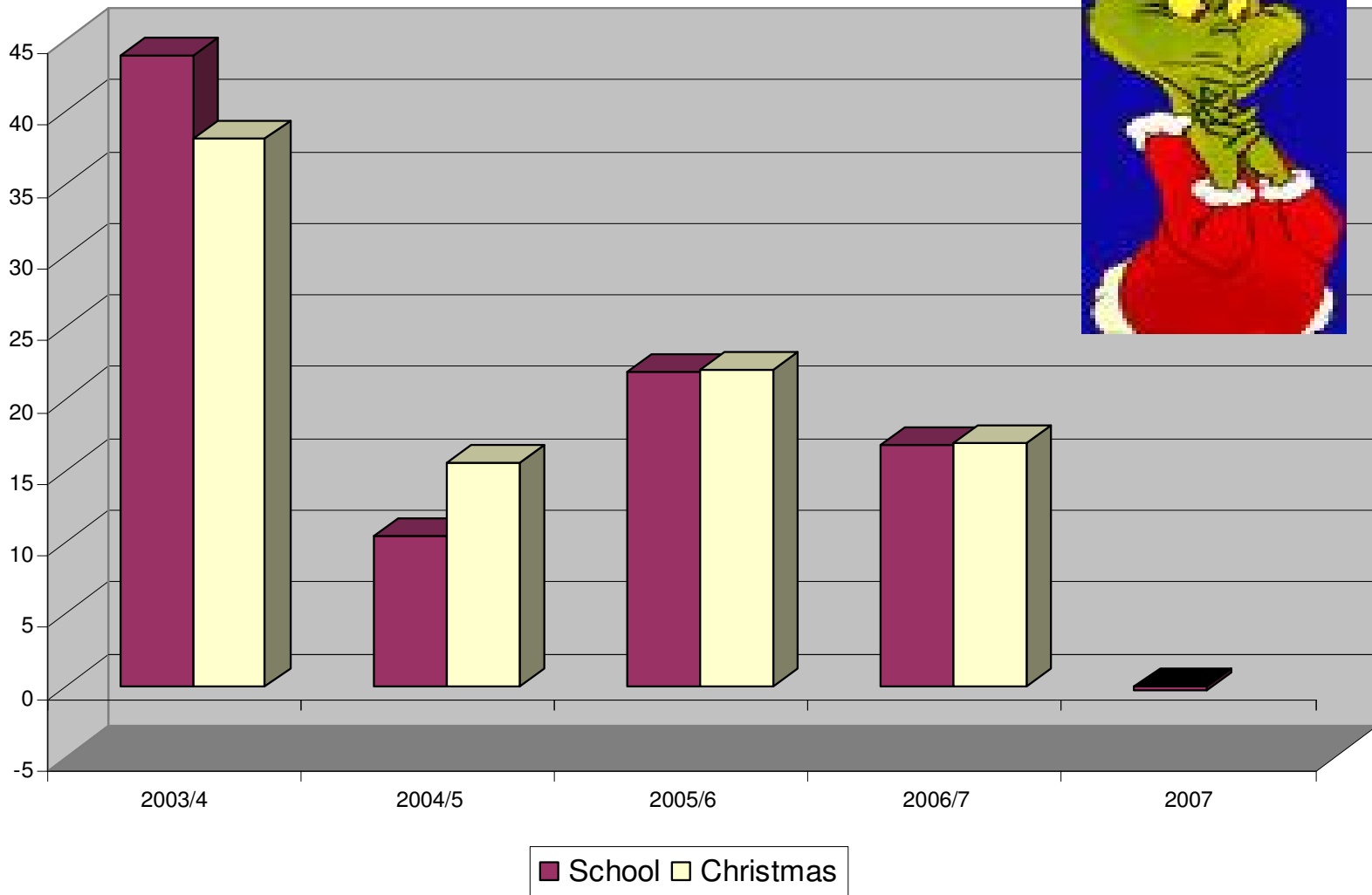
Will the Grinch Steal Christmas?

GDP Growth & Forecast



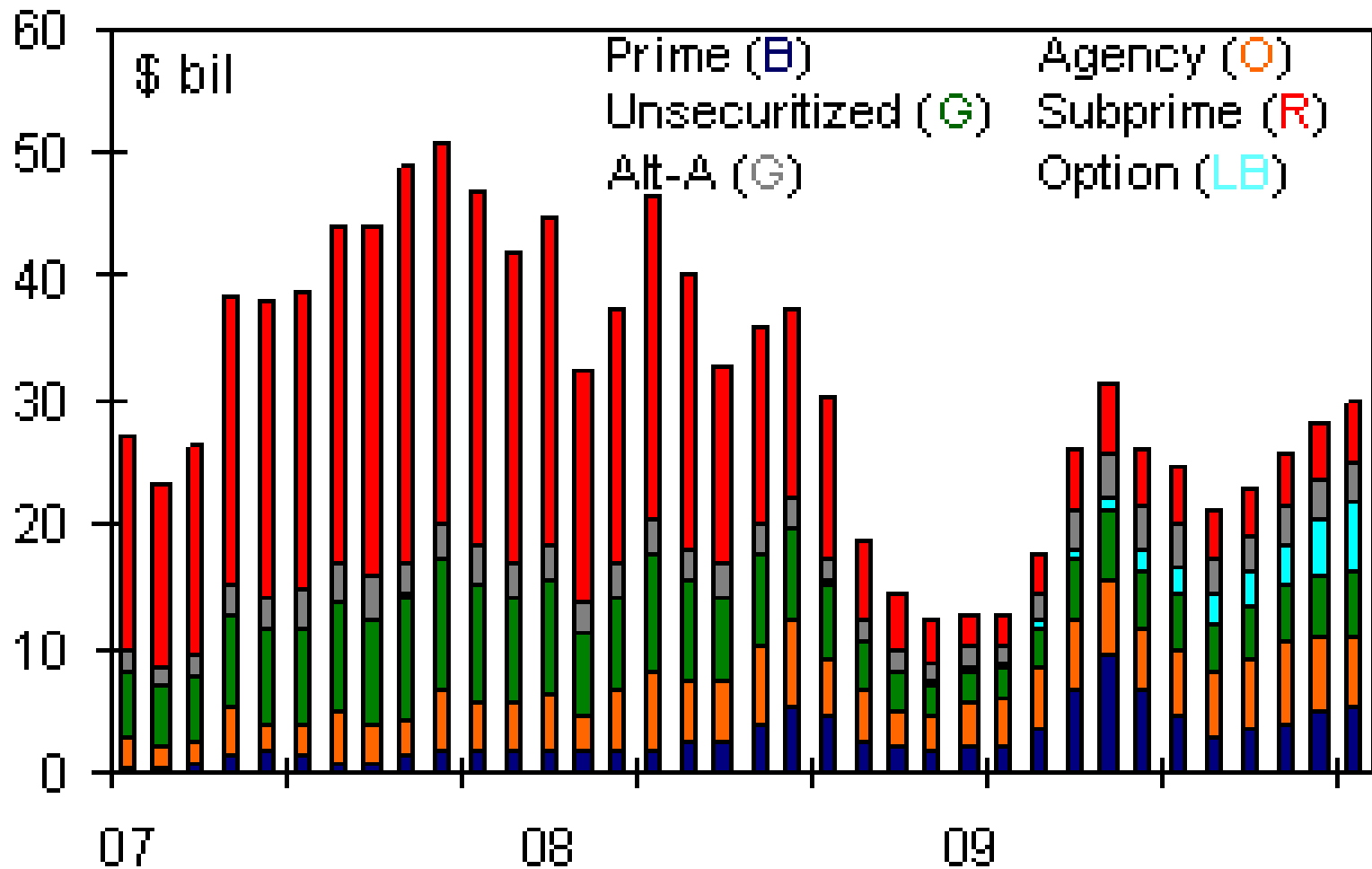
Superstore Sales: School & Christmas Annualized Monthly Sales Growth

Percent Growth

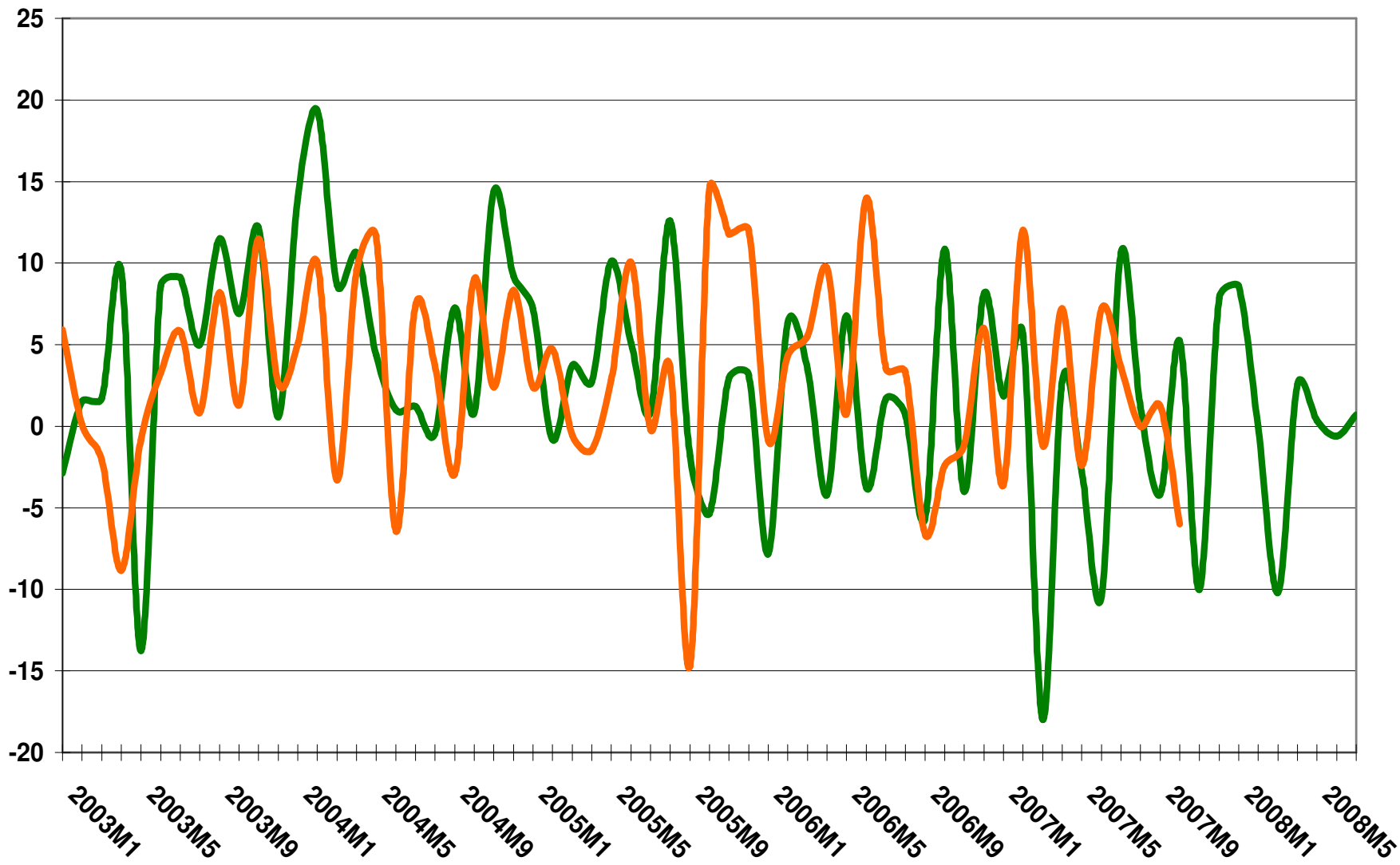


First Payment Resets Peak This Fall

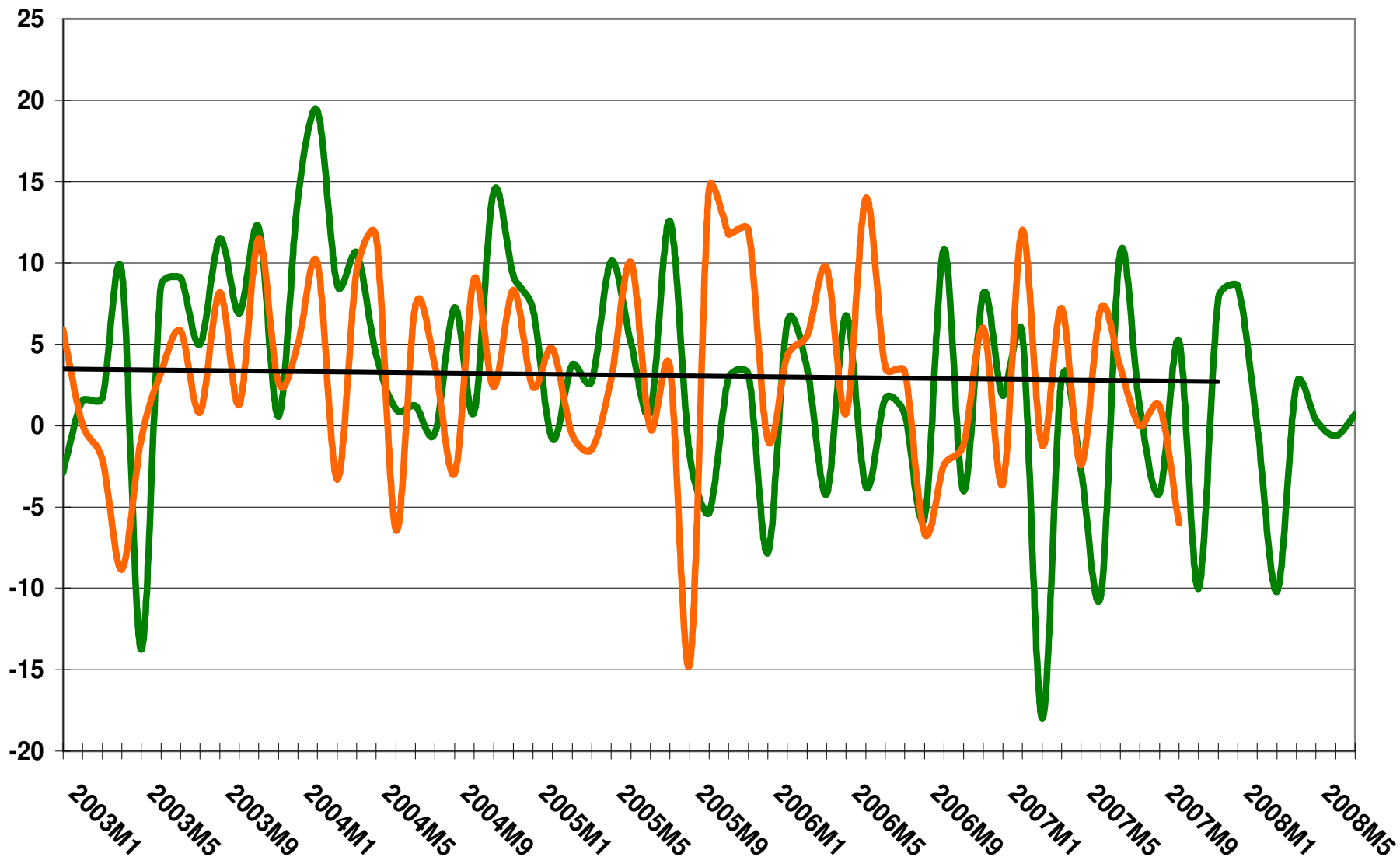
Mortgage debt outstanding facing first payment reset



Money Supply and Industrial Production
2003 - 2008
Projections to 8/2008

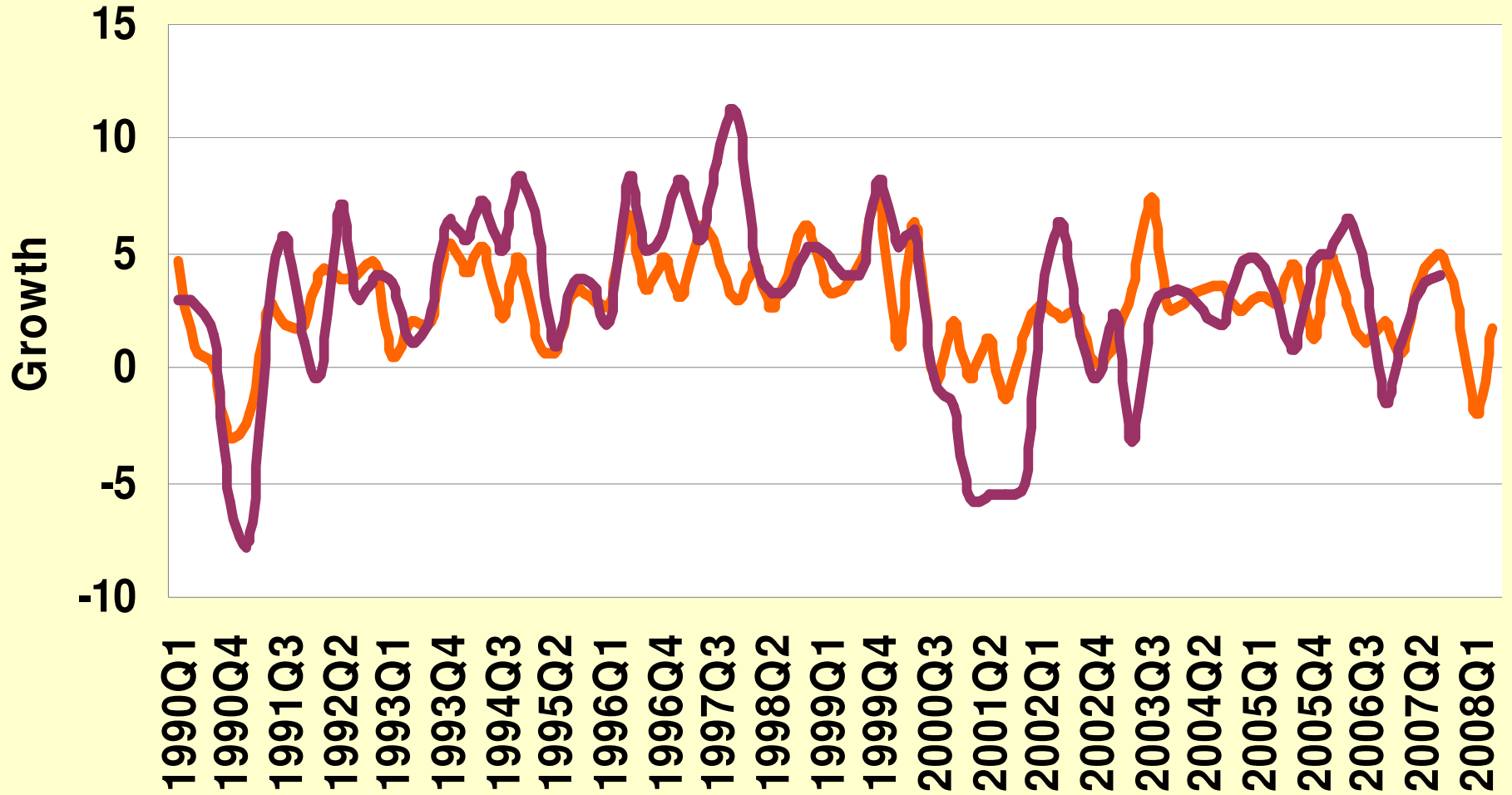


Money Supply and Industrial Production
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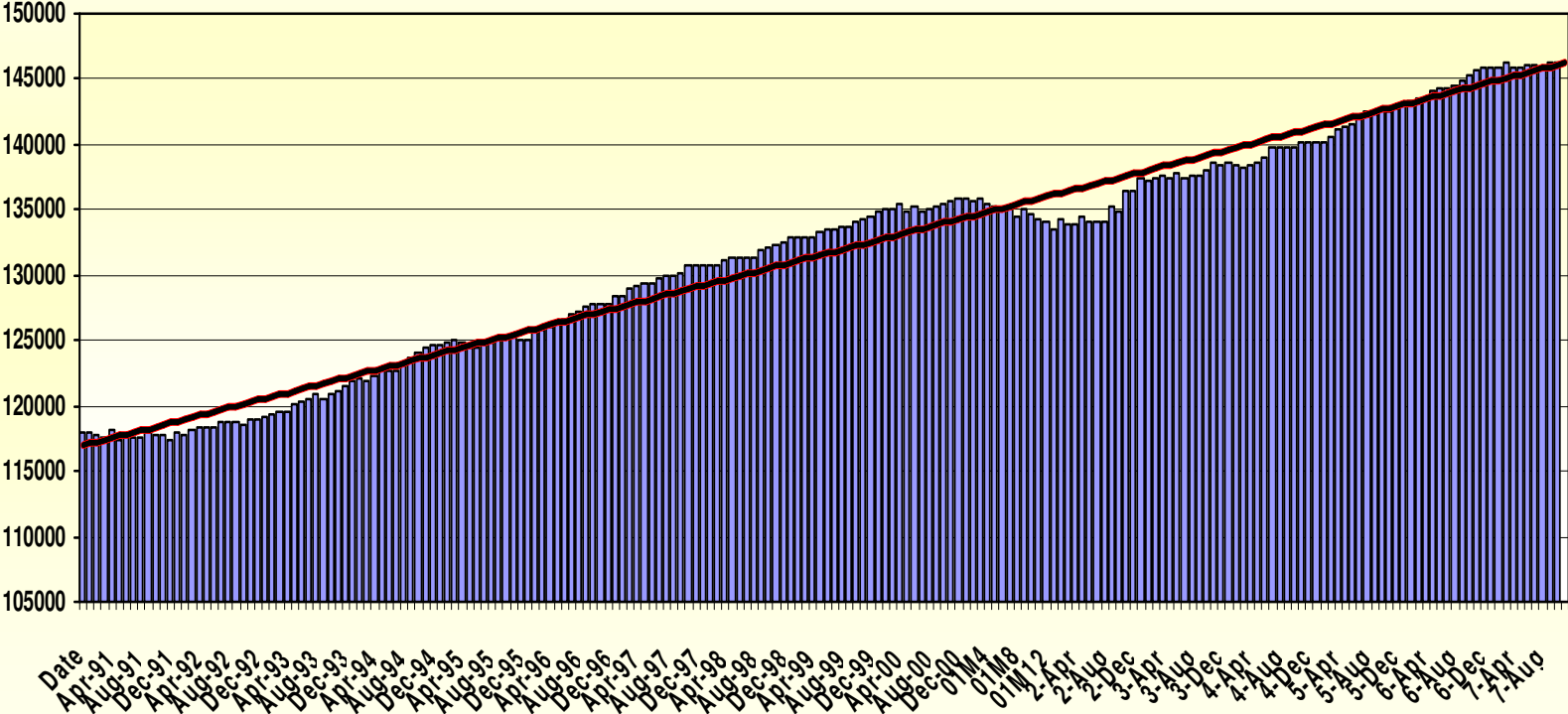


Industrial Production & GDP

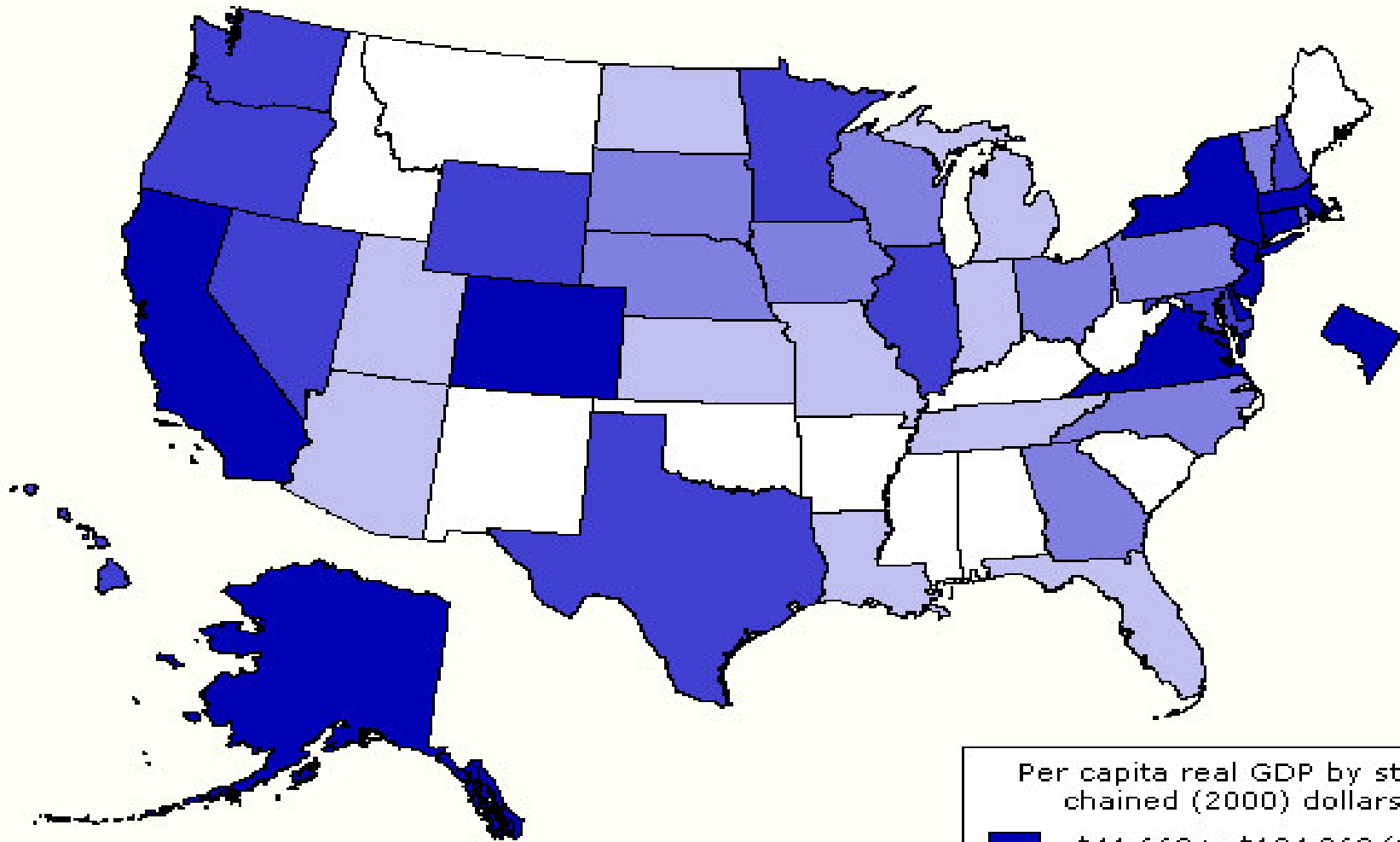
Annual Growth: 1990-2007








Total Employed, 16 and Over, Seasonally Adjusted
Household Survey, with Trend
1/1991 - 10/2007



Real Per Capita GDP, 2006

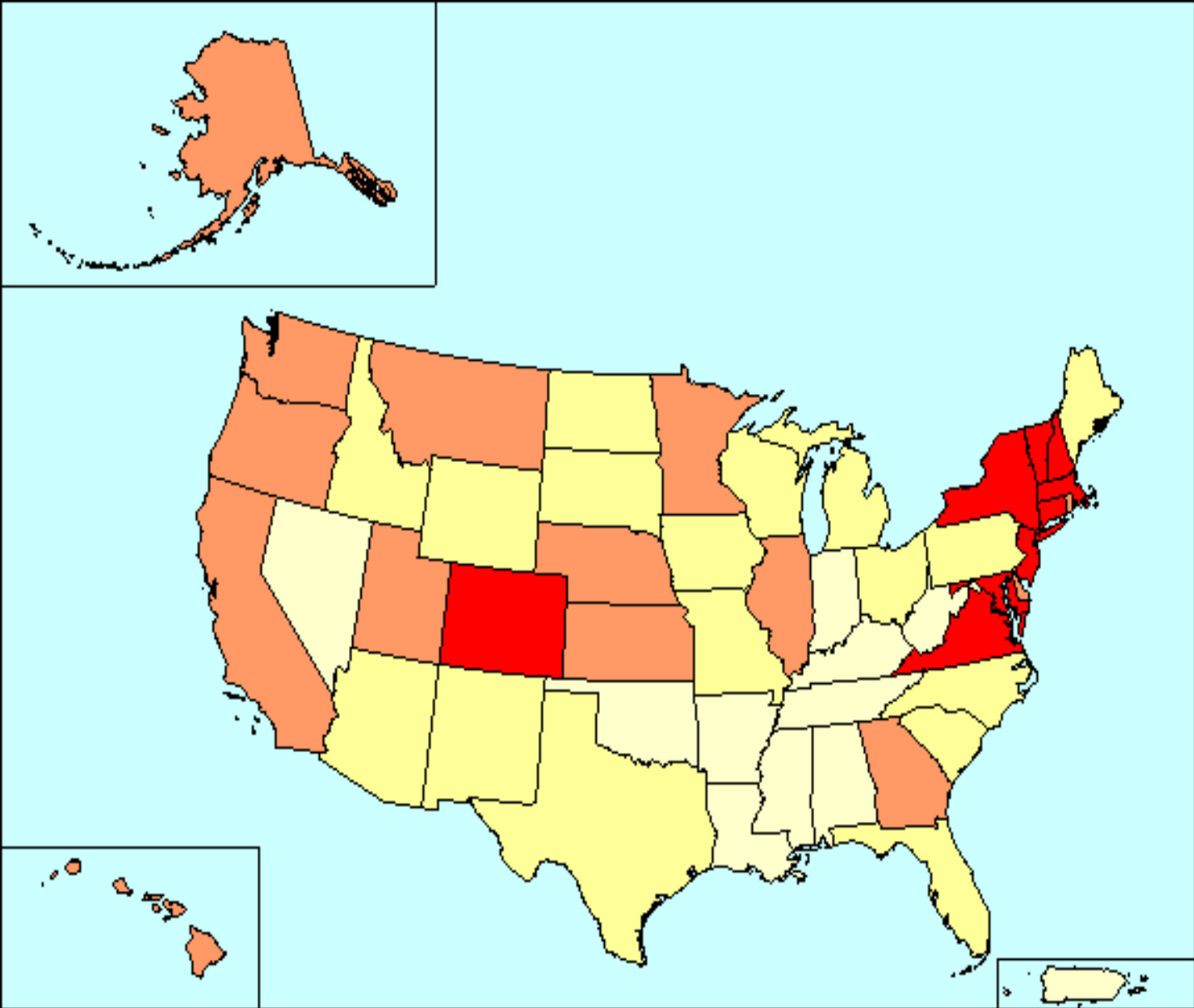


Per capita real GDP by state
chained (2000) dollars

	\$41,663 to \$124,363 (10)
	\$36,920 to \$41,663 (10)
	\$34,472 to \$36,920 (10)
	\$32,357 to \$34,472 (10)
	\$24,062 to \$32,357 (11)

Source: U.S. Bureau of Economic Analysis, data released on 6/7/2007

Percent of above 25 population with a bachelor's degree, 2006

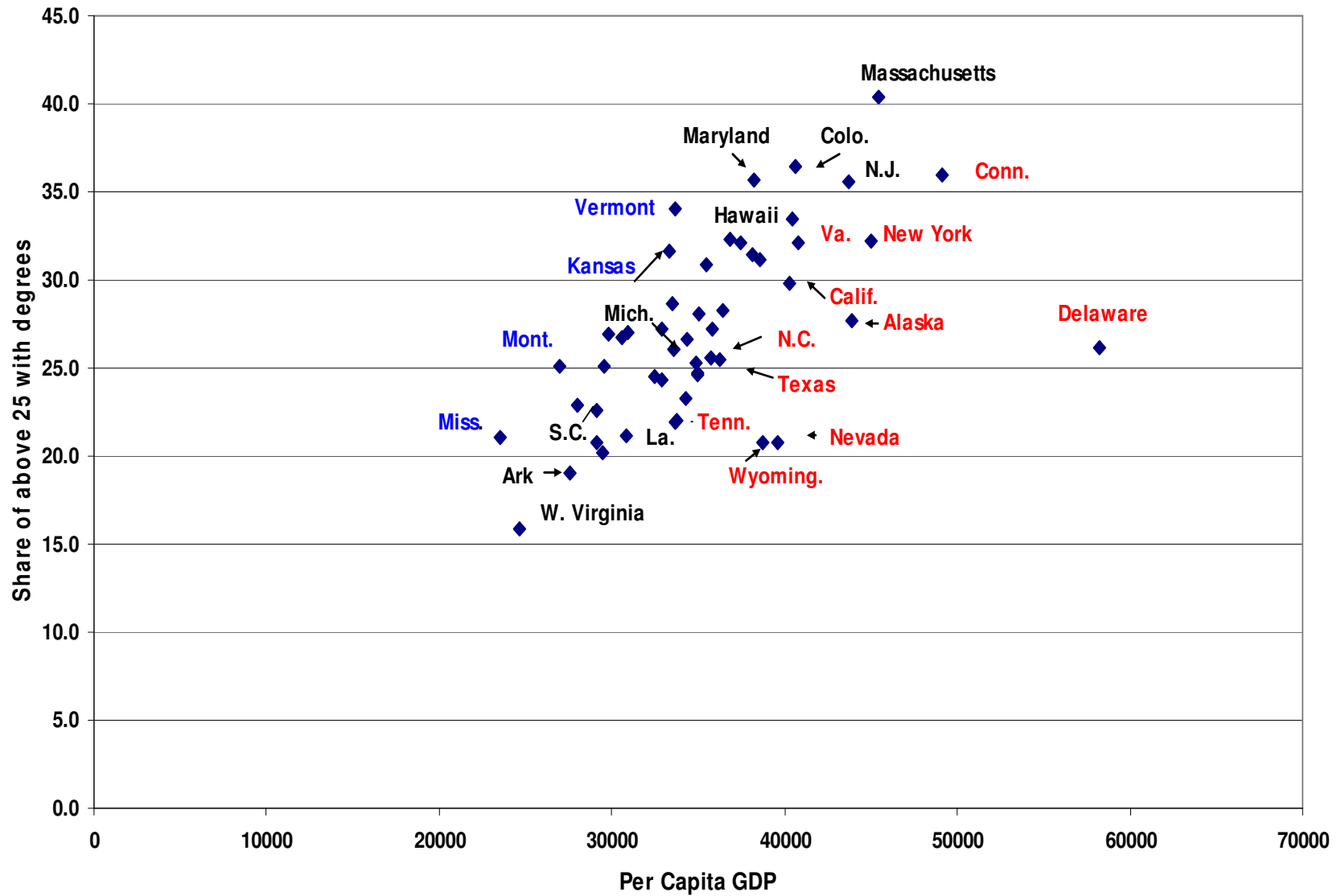


Data Classes

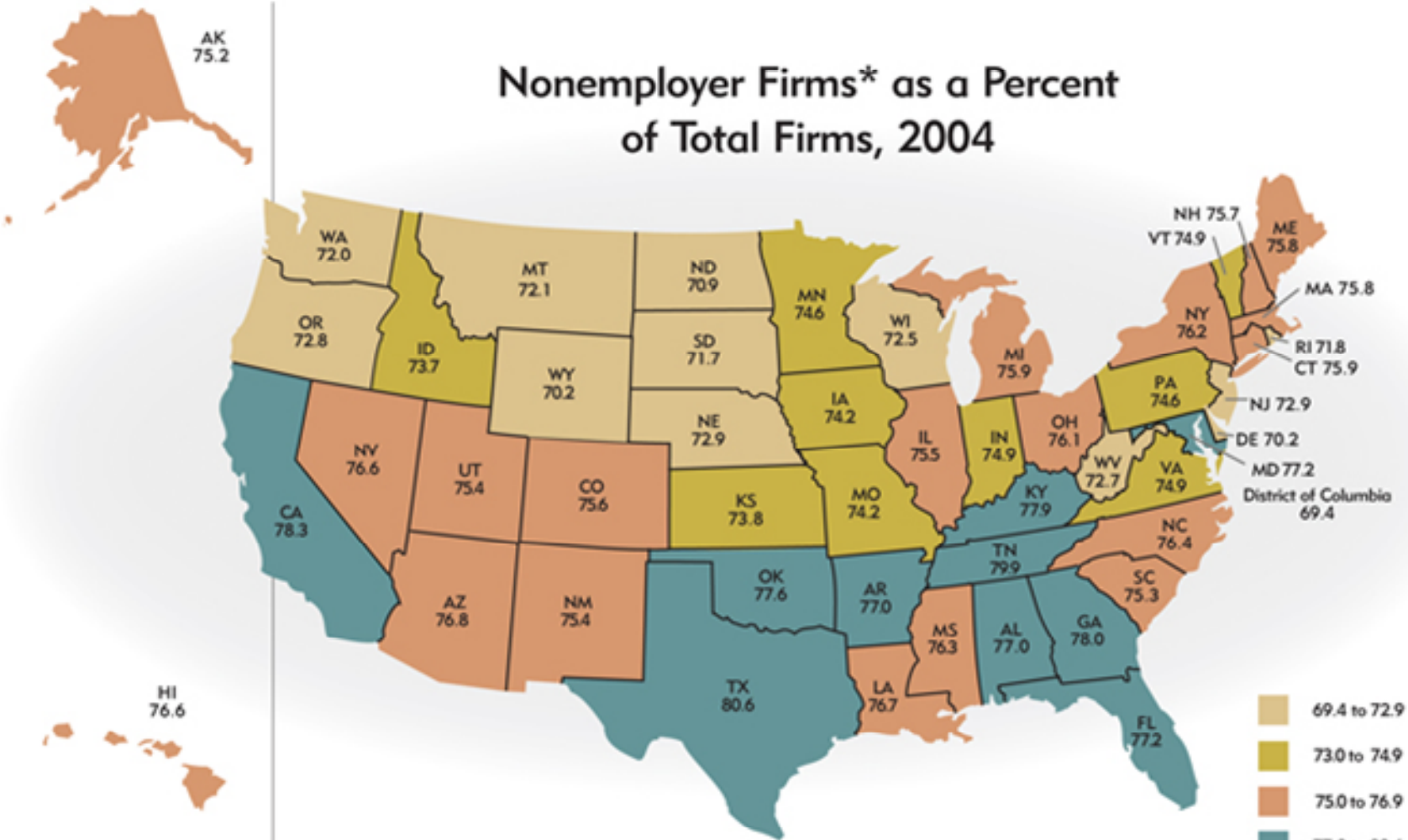
Percent

16.5 - 22.1
22.7 - 25.8
26.6 - 30.5
31.2 - 37.0
45.9 - 45.9

Bachelor's Degrees & Per Capita GDP, 2006



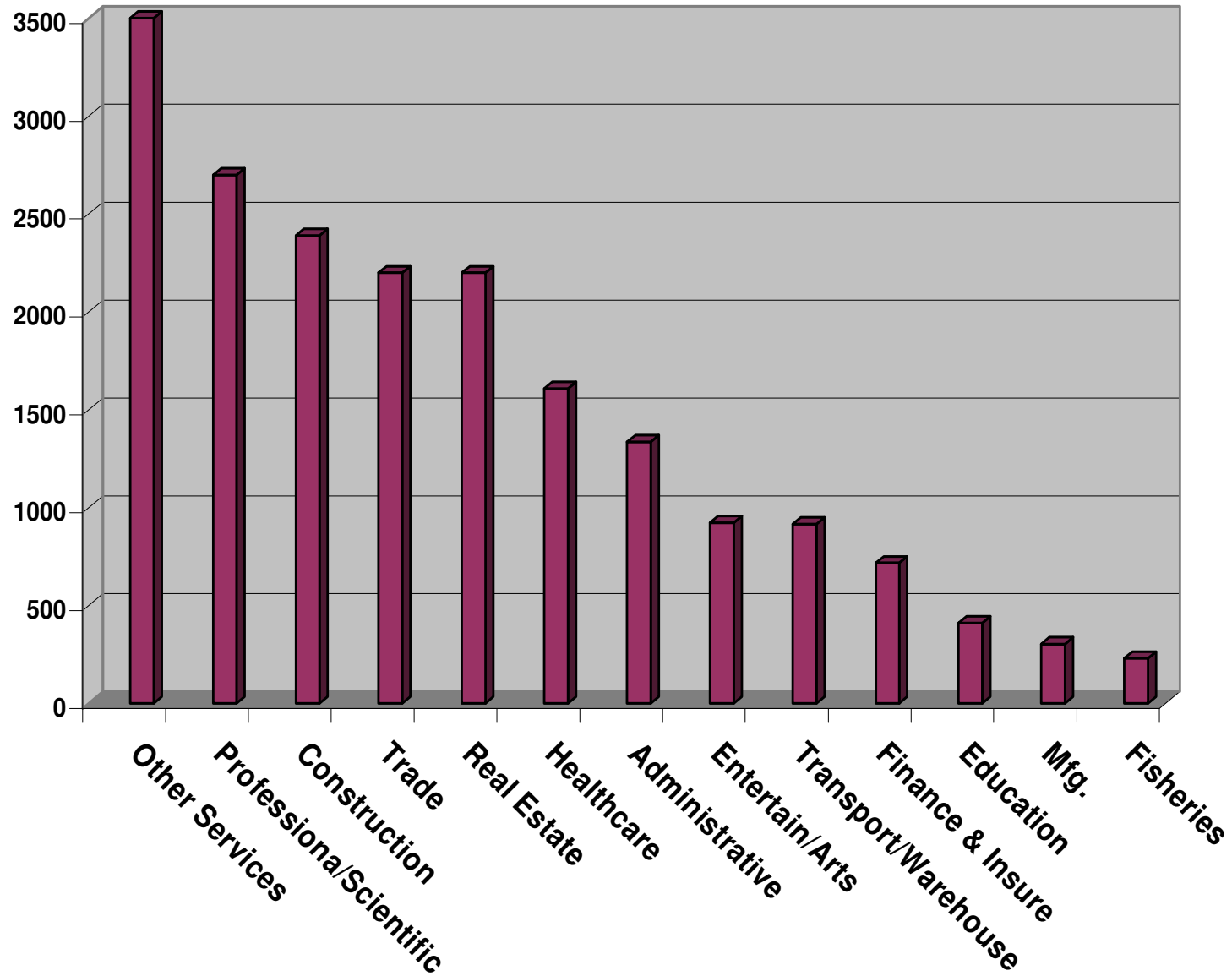
Nonemployer Firms* as a Percent of Total Firms, 2004



* A nonemployer firm has no paid employees, annual business receipts of \$1,000 or more and is subject to federal income taxes.

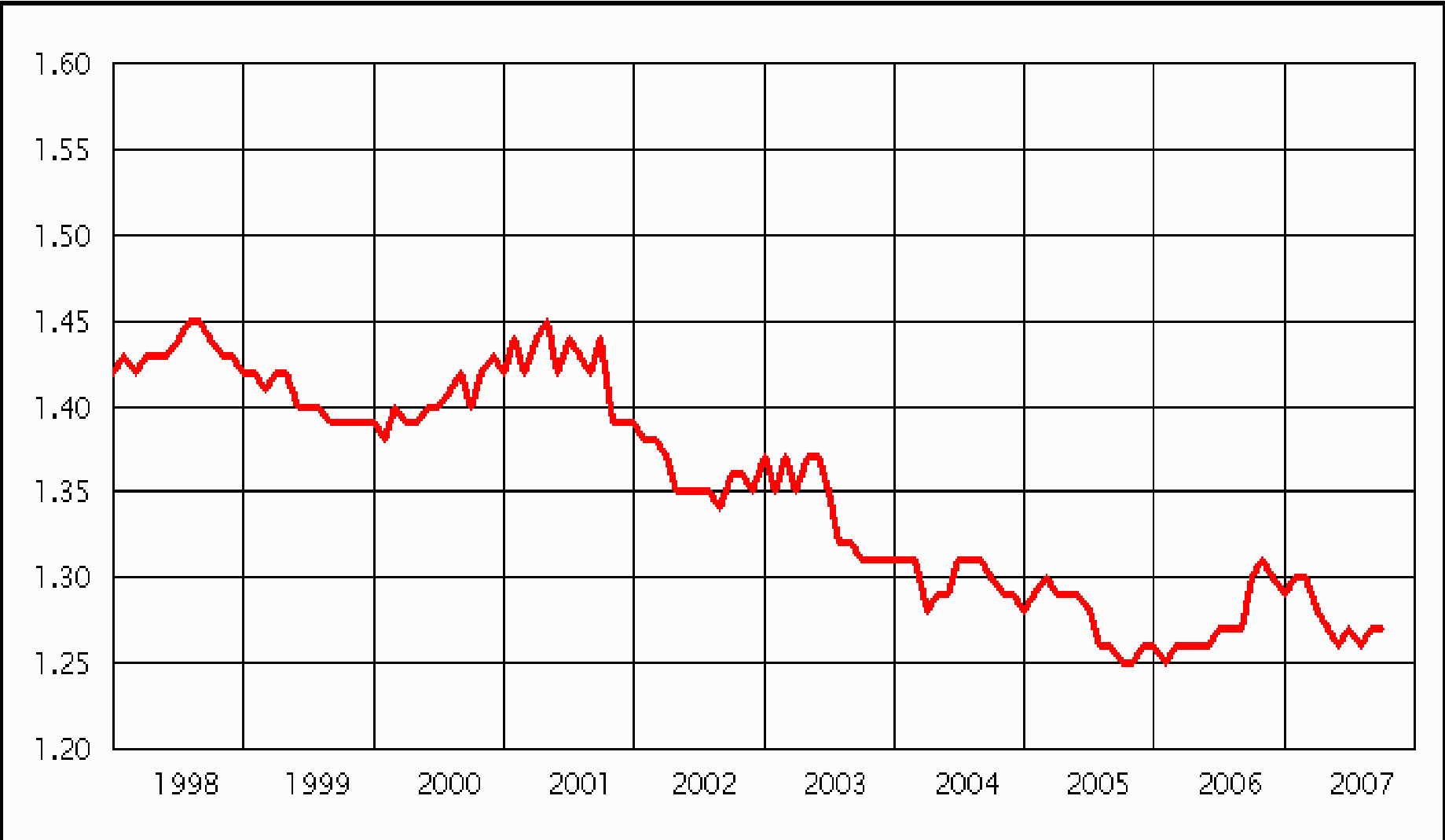
Source: Office of Advocacy, U.S. Small Business Administration

U.S. Nonemployer Firm Sector Employment, 2004 (Thousands)



Total Business Inventories/Sales Ratios: 1998 to 2007

(Data adjusted for seasonal, holiday and trading-day differences but not for price changes)



Forecast Time

	Actual 12/31/06	Forecast 12/31/07	12/17/07	Forecast 12/08
• Real GDP Growth	3.2%	2.5%	2.6%	2.3%
• CPI Inflation	2.6%	2.5%	2.6%	3.5%
• 30-yr. Mortgage	5.82%	6.0%	5.88%	6.20%
• Unemploy Rate	4.5%	4.0%	4.7%	4.8%
• Prime	8.25%	7.75%	7.25%	7.00%
• Dow	12,460	13,200	13,167	14,200
• Employ Growth	150M	175M	130M	125M
• Oil	\$58	\$45	\$91	\$70
• Gold	\$510	\$600	\$799	\$700

Next Six Months?

1. **The economy will be hurting from the housing fallout. GDP growth will barely break 2%. With weaker growth, oil prices will fall below \$70 a barrel. The Fed will cut rates one time. And the Dow will accelerate again, hitting 14,000.**

40

2. **Housing, energy, and continued Mid-East uncertainties are just too much. GDP growth moves into negative territory but not enough to be labeled a recession. Oil prices hit \$50. The Dow heads south to 12,000. The U.S. will be flirting with a real recession. Recognizing this, the Fed will reduce interest rates, but to no avail. Industrial production will head south. Negative GDP growth is just around the corner. No more talk of soft landings, the talk now is about avoiding a crash.**

3. **It is clear the economy is going into recession. Two consecutive quarters of negative GDP growth are now in the cards. \$45 oil. 12,000 Dow. Three interest rate cuts by the Fed.**

1

Next Six Months?

- 1. The economy is in a bit of a slide. GDP growth hits negative territory, but exports and consumer demand prevents a real recession from occurring. The Fed cuts again. Oil prices hover in the \$80 range, and the Dow move in a range of 13,000 to 14,000.**
- 2. The sub-prime challenge just won't go away, and federal efforts to soften the blow are unsuccessful. GDP growth moves into negative territory. The likelihood of recession is generally accepted. Oil producing countries take advantage of a vulnerable U.S. economy and raise prices. Oil shoots above \$100. Caught in real bind, the Fed cuts interest rates four times in succession. All to no avail. The Dow falls to 11,500.**
- 3. Those who thought the U.S. economy would slide into a recession failed to account for the election year effect. Republican leadership pulled out the stops. Somehow, the Fed got the message. Interest rate cuts occurred each time the Fed met. Credit restrictions were eased, and the mortgage default problem was practically eliminated. Although inflation signals began to sound off, the economy accelerated. GDP growth moved toward 3.5%. Oil prices rose above \$100. The Dow hit 15,000.**

An inquiry into the nature & causes of the wealth of nations.

Why are some nations rich and others poor?

- We draw heavily on the work of Professor Robert Gordon, Northwestern University, and Professors Gerald Dwyer, Robert Tamura, and Scott Baier, Federal Reserve Bank of Atlanta and Clemson University.

Theories of Economic Development

What explains ED?

- Labor and capital employed
- Climate
- Religion
- Conquest
- Access to markets and ideas
- Natural endowment
- Investment in human capital
- Property rights
- N-achievement

**And PARTICIPATION IN
TRADE!... which leads to
specialization!**

**But what is economic
success?**

Ultimate Measure of Economic Success

- Standard of Living = Income per capita
 - 1.3% growth, doubles every 53 years (Philippines)
 - 5.6% growth, doubles every 12 years (Korea)
- For very long-term growth or comparing rich and poor nations, income per capita and productivity are the same thing
- Not the same thing for short-term or comparisons among rich nations

Q = f(Capital, Labor)...and unexplained variation

Note: UV is Total Factor Productivity.

$$Q = f(\text{Capital, Labor, Education, Experience, Climate, Open})$$

$$Q = f(C, L, E, Cl, O, \text{Property Rights})$$

$$Q = f(C, L, E, Cl, O, P R, \text{Demo, Corrupt})$$

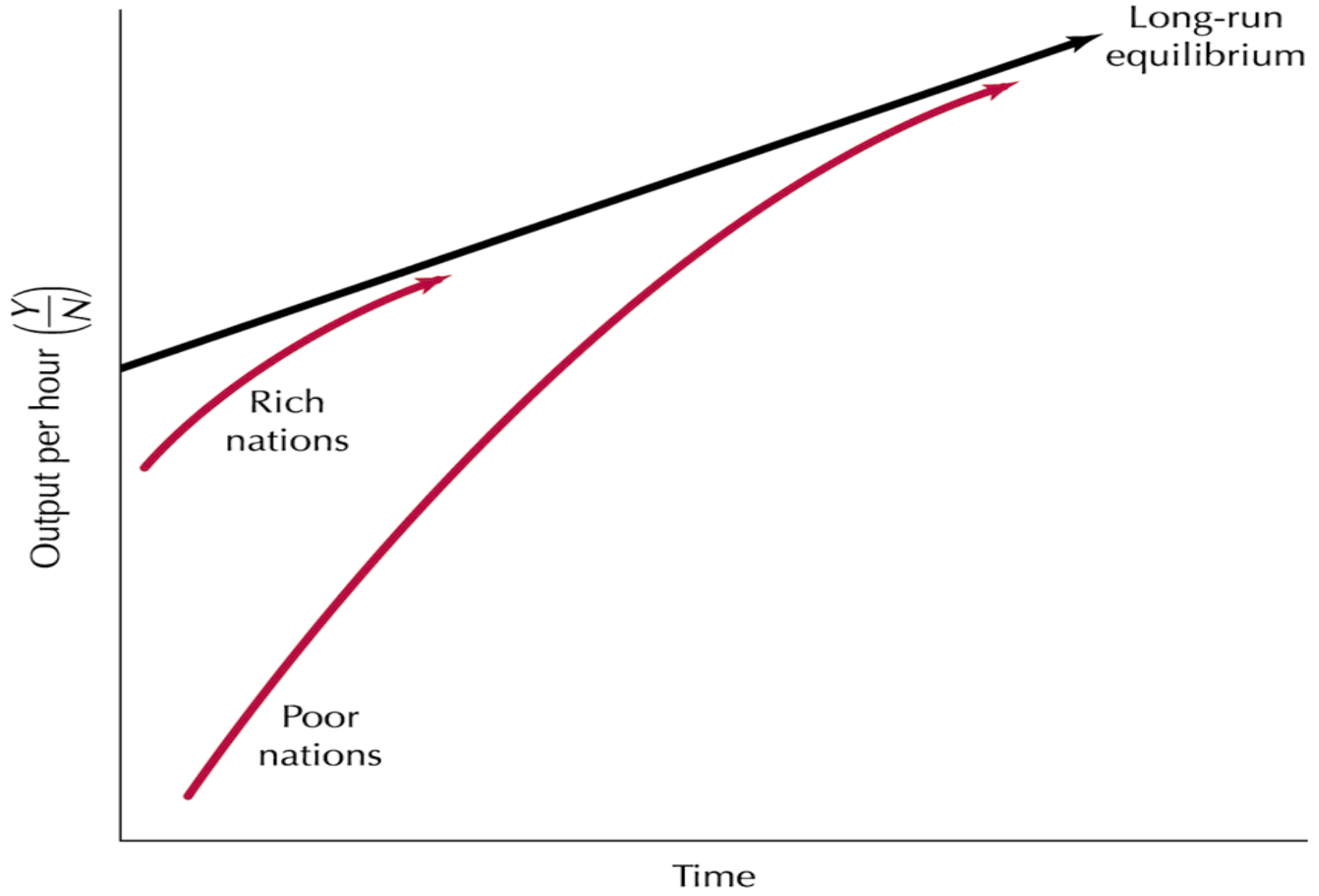
A Note on the Importance of Labor

- The critical variable. Necessary but not sufficient.
- What is the number of adults in a society?
- What is the level of education and experience? (Human Capital!)
- What share of them is available in the labor force? (Participation rate!) Typical level: 58% Male, 43% Female. Turkey: 19% Female.
- How many hours per year do they work? Europe average is 20% less than U.S. and world. Eastern Europe like the world.
- What is the output per hour? (Productivity!)
- What are the rules that determine holidays? Vacations? Unemployment compensation? Hours that stores and businesses can be open?

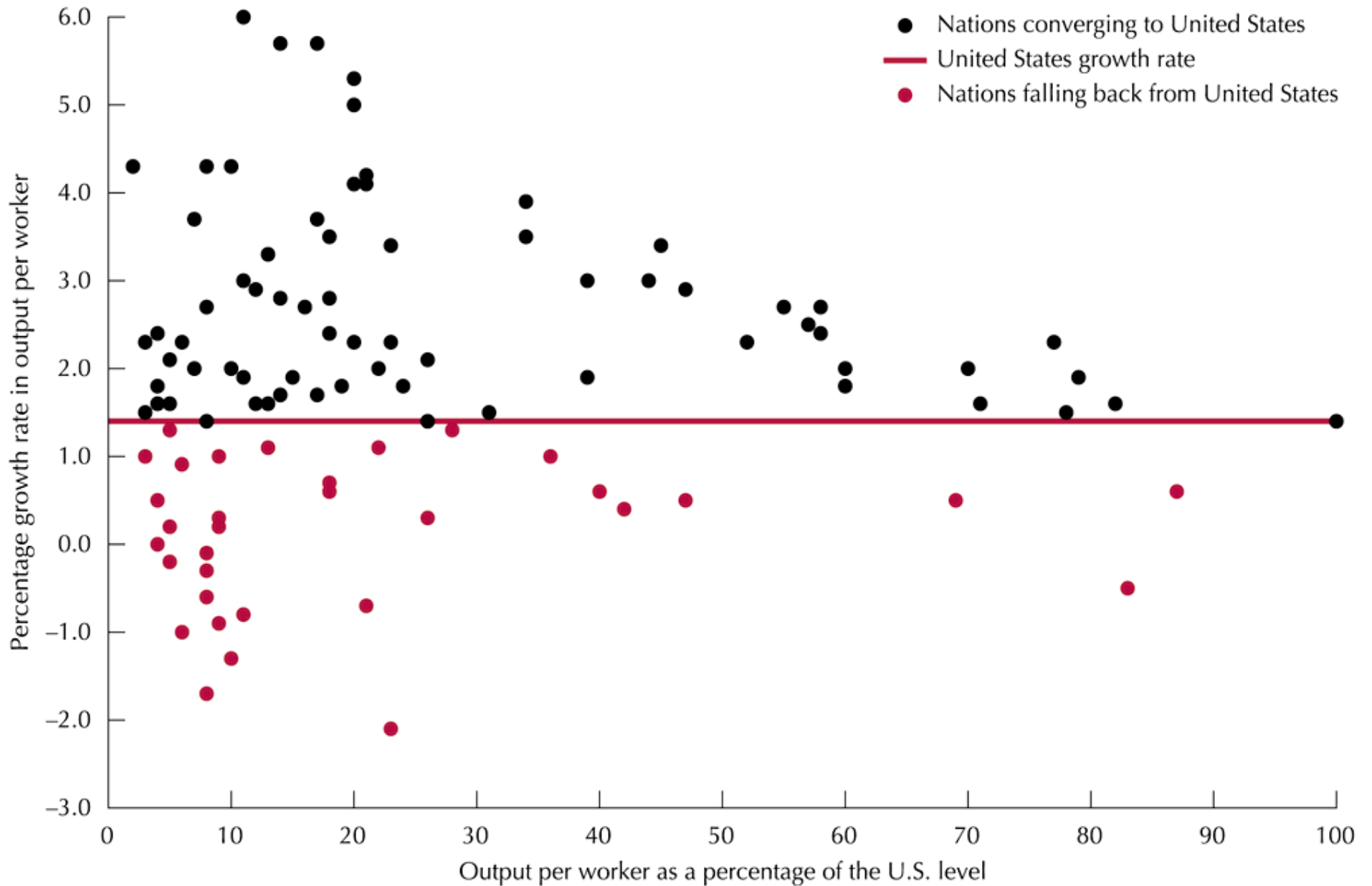


**It's that old Protestant work ethic.
We just work more in the U.S.**

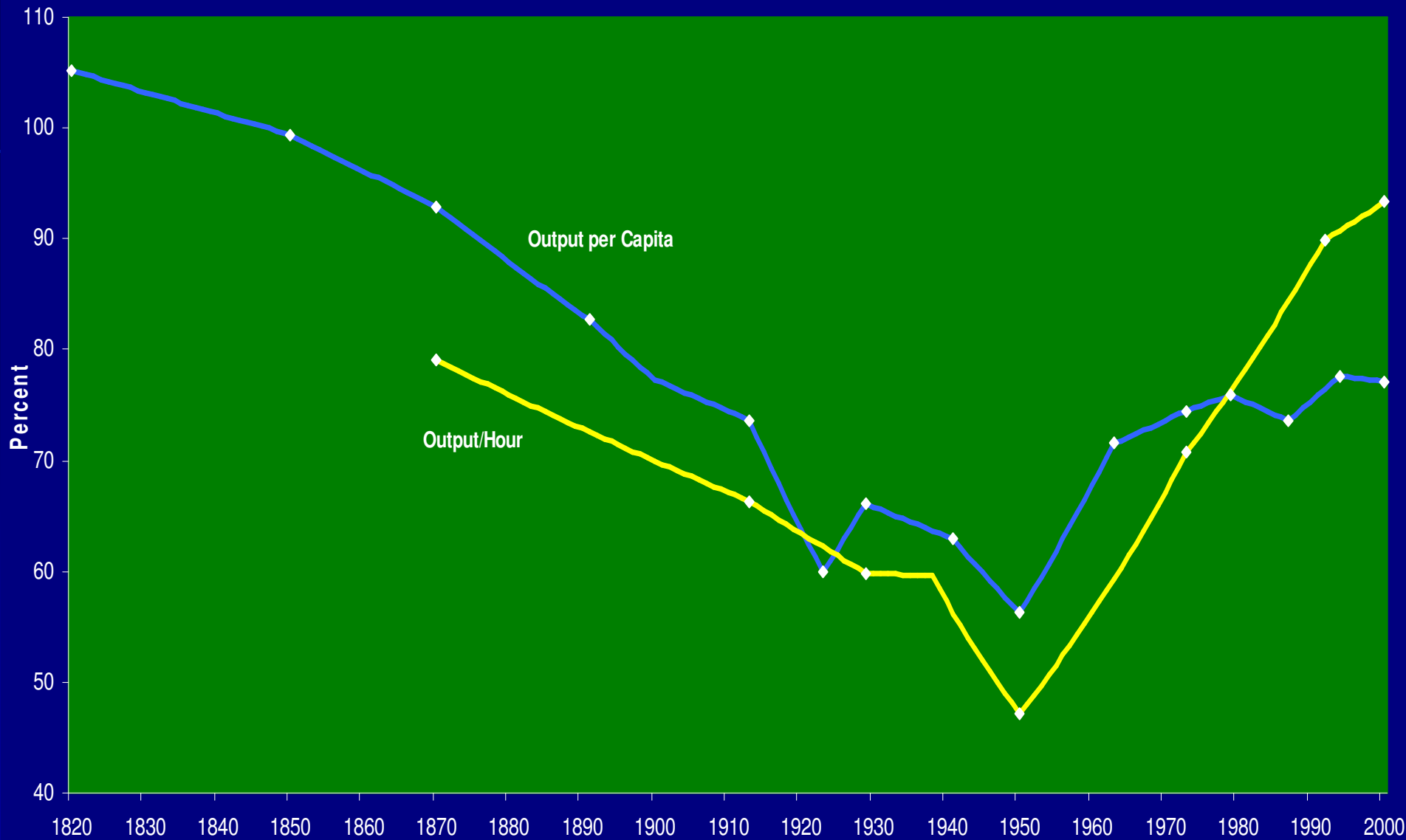
POOR NATIONS GROW FASTER WHILE THEY ARE CONVERGING



MANY NATIONS ARE FALLING BACK RATHER THAN CONVERGING



Ratio of Europe to the United States, Output per Capita and Output per Hour, selected years, 1820-2000

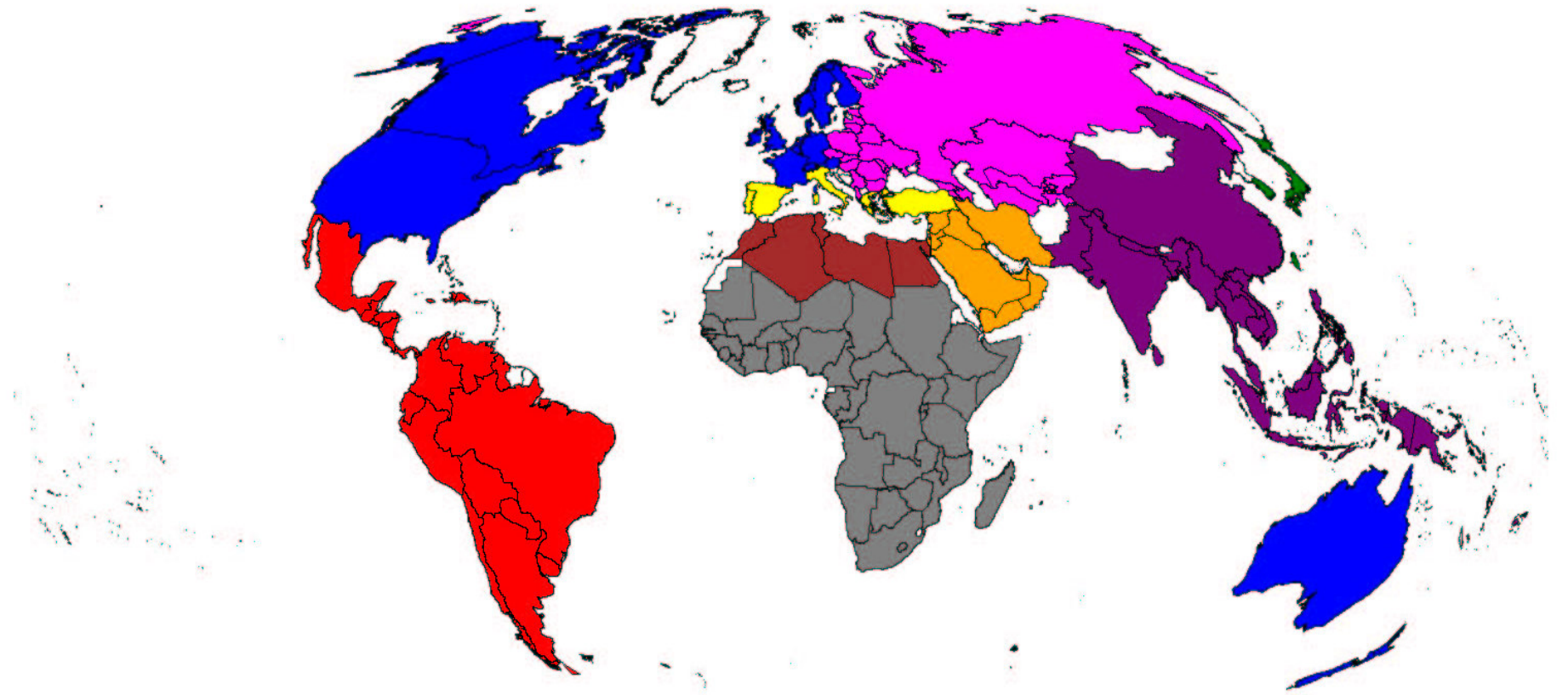


Dwyer-Tamura-Baier

Their Data

- 145 countries for varying numbers of years
- Before 1900 for 23 countries
- 98% of the population of the world in 2000
- Includes human capital using
 - Schooling
 - Experience
- All adjusted to 1985 U.S. purchasing power
- Also includes data on property rights, democratic, corruption, geography, climate, access to markets.

Countries and Groups



region WC SE EE NICs Asia SA LA ME NA

Output per Worker

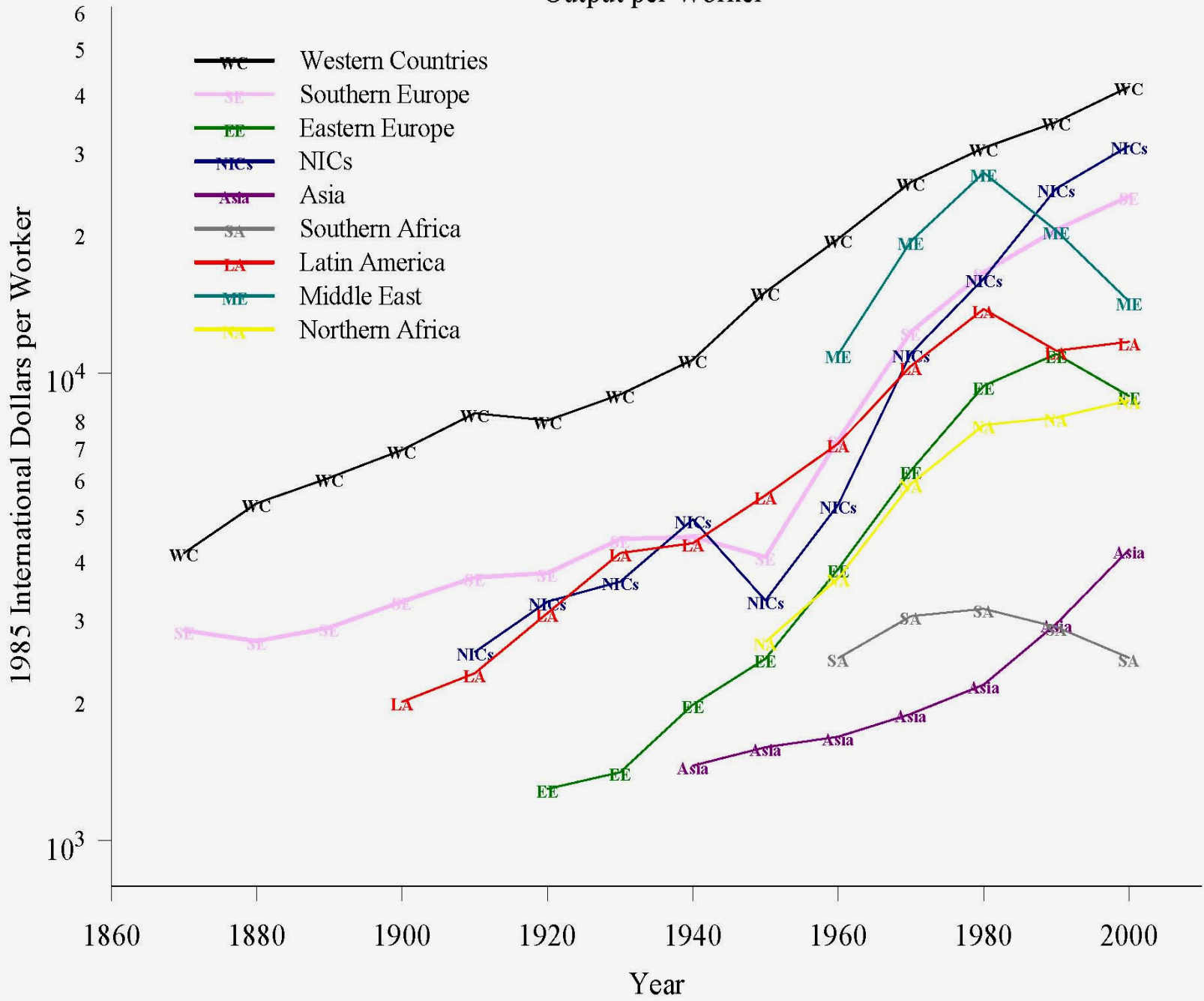


Figure 3
Capital per Worker

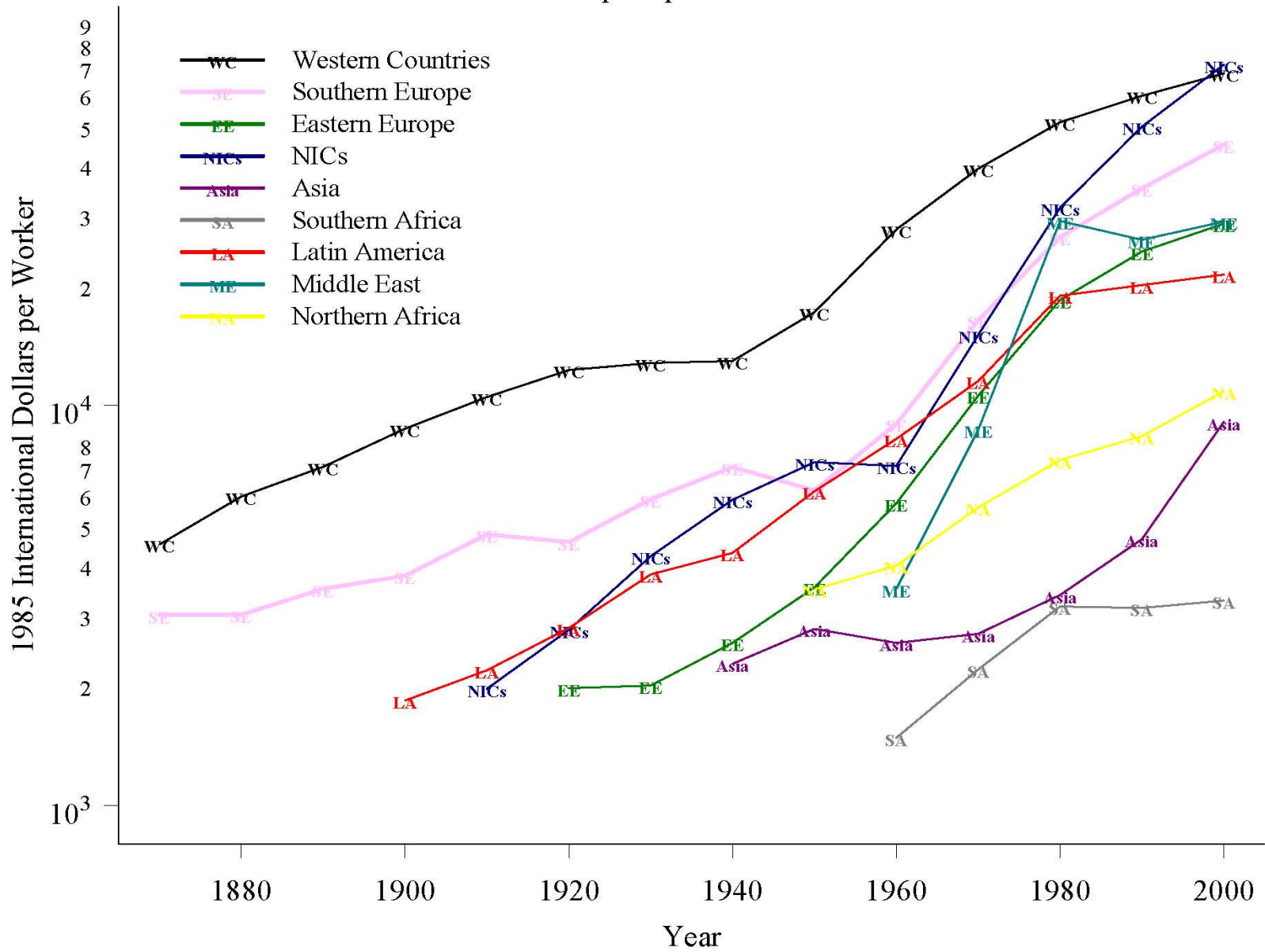


Figure 4
Years of Schooling

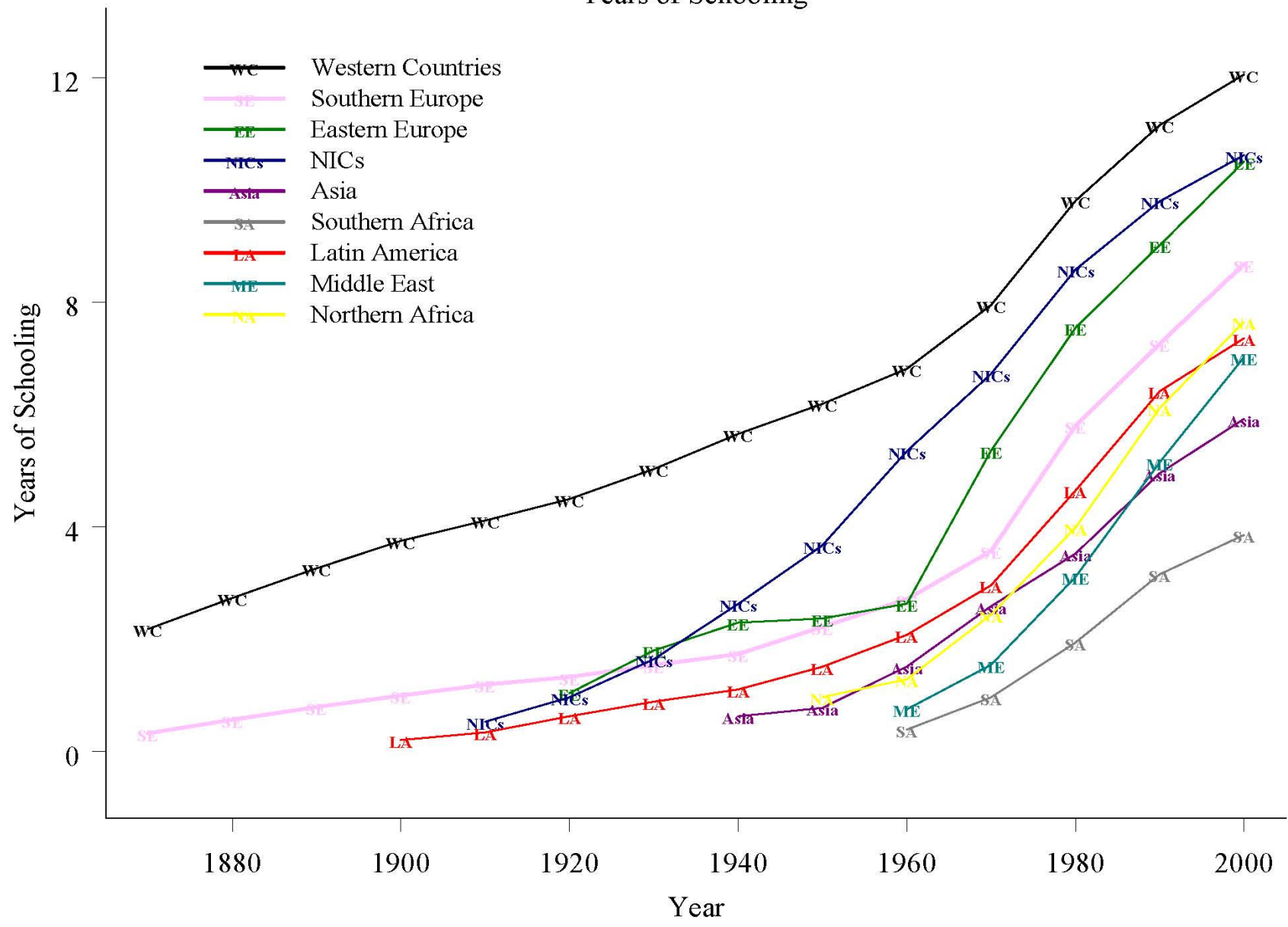


Figure 5
Human Capital

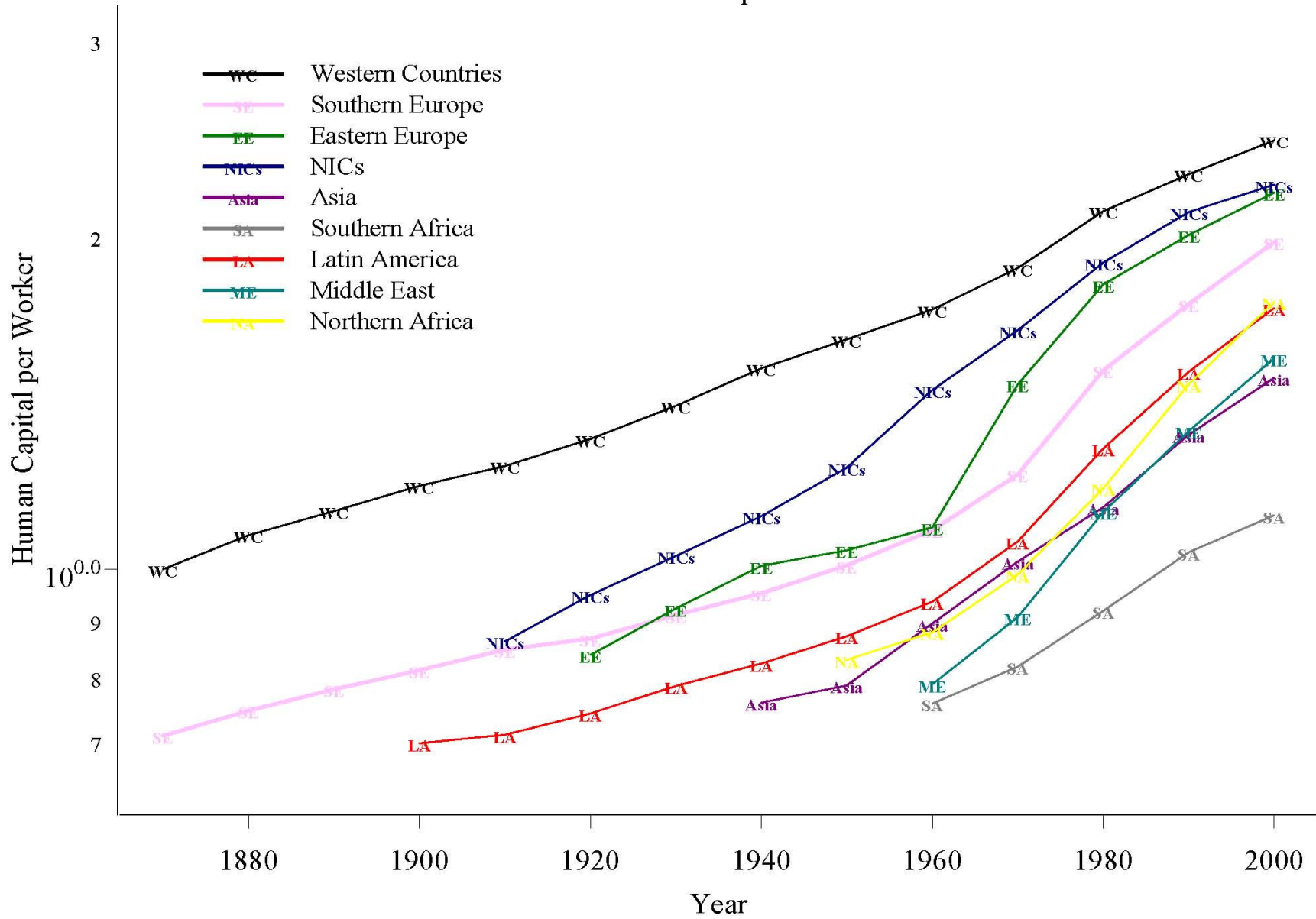
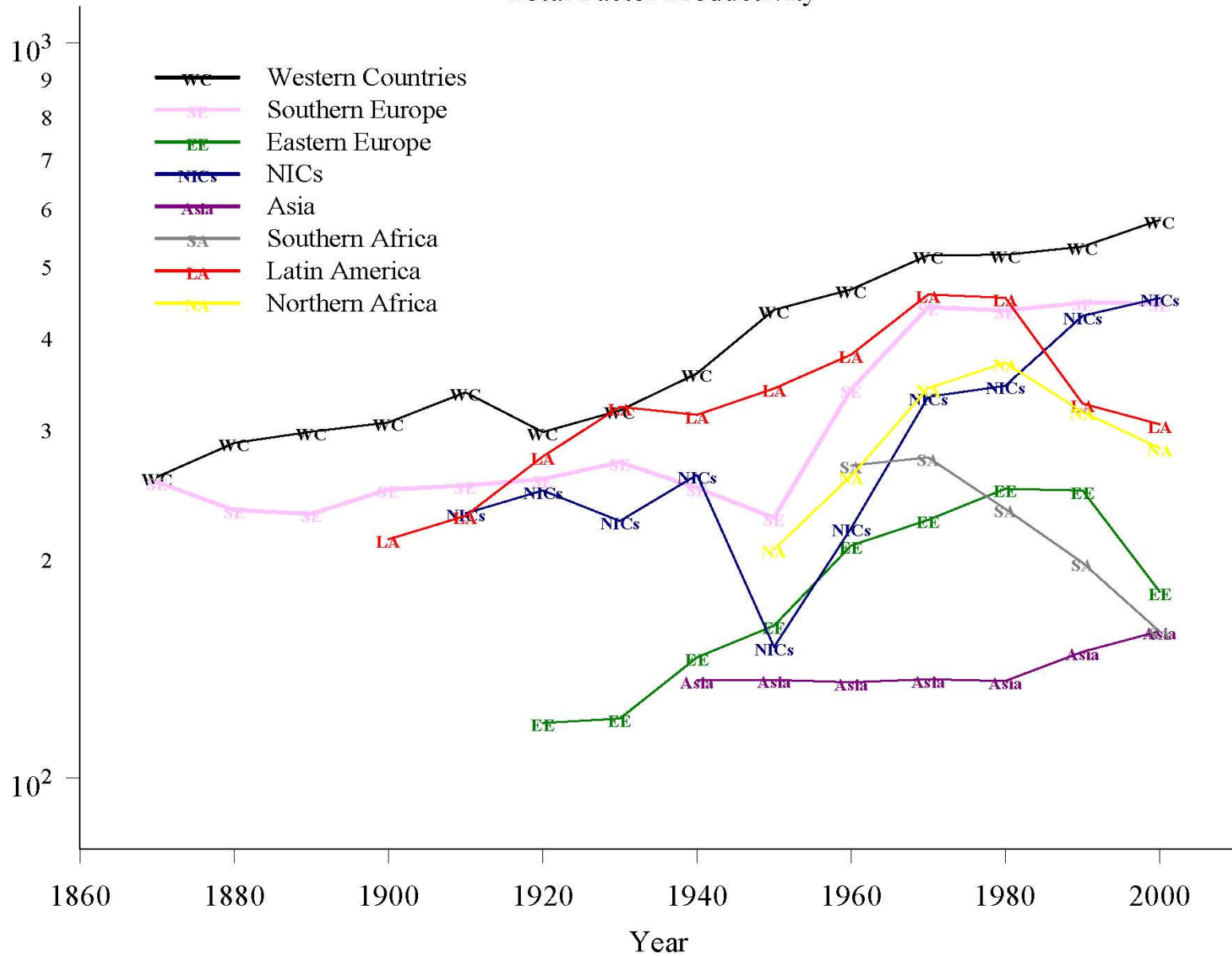


Figure 6
Total Factor Productivity



The TFP values for the Middle East are: 1960, 872.56; 1970, 1026.63; 1980, 835.49; 1990, 581.86; 2000, 358.02. These values exceed the range of this graph and therefore have been left off for graphical purposes.

Effect of U.K. Institutions and Geography on the Philippines

- Philippines has
 - Labor productivity 7 percent of U.S.
 - Capital productivity 25 percent of U.S.
- If Philippines had U.K. geography
 - Labor productivity would be 28 percent
 - Capital productivity would be 26 percent
- If Philippines had U.K. institutions
 - Labor productivity would be 75 percent
 - Capital productivity would be 58 percent

GDP per capita in 2000

