Europe’s Standard of Living vs. the U.S.: Facts, History, and Diagnosis

Robert J. Gordon
Center on Capitalism and Society,
Columbia University,
February 28, 2005
How today’s Talk differs from the two papers

- “Data, History, Diagnosis”
- Data: Replace crude post-1950 data with the latest and best OECD/Groningen annual data: watch Europe fall back
- The paper went to 2000, now we go to 2004!
- Diagnosis of Current European Malaise, partly new
Understanding the Facts: Y per capita vs. Y per hour

- 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

- Y per capita vs. Y per hour is the crux of understanding the data on Europe vs. U. S.
How Productivity is Related to Output per Capita

Output (Q) Equal to the product of:

- Productivity \((Q/A)\)
- Hours per Employee \((A/E)\)
- Employment Rate \((E/L)\), that’s just \((1 – U/L)\)
- Labor-force Participation Rate \((L/N)\)
- Working-age Population \((N)\)

\[
\frac{Q}{N} \equiv \frac{Q}{A} \cdot \frac{A}{E} \cdot \frac{E}{L} \cdot L \cdot N
\]
How Could Europe be So Productive Yet So Poor

Output per Capita \( \frac{Q}{N} \)
In Europe 75\% of U. S. Productivity 95\% of U. S.
The Difference:
- Hours per Employee \( \frac{A}{E} \)
- Employment Rate \( \frac{E}{L} \)
- Labor-force Participation Rate \( \frac{L}{N} \)

\[
\frac{Q}{N} \equiv \frac{Q \cdot A \cdot E \cdot L}{A \cdot E \cdot L \cdot N}
\]
Europe vs. the U. S. since 1870

- The History: Europe falls back 1870-1950 and then catches up
- The catch-up in 1995 was almost complete in productivity (Q/A)
- The catch-up since 1970 has been incomplete in output per capita (Q/N)
- Why?
  - The collapse of Europe’s A/N
  - Why? The Disagreement with Blanchard
  - Q/A: Europe is no longer catching up but falling back. Why?
Part #1: Lots of Data Slides, What are the Data Issues?

- Thanks to Peter Neary AER Dec 2004:
  - Geary vs. EKS vs. “QUAIDS”
- Alternative methods of converting Ypc to international PPP
  - Maddison (1820-1950) uses Geary-Khamis
  - OECD uses EKS
  - Groningen web site gives both
- My calculations from Neary for EU-15
  - 1980 Neary preferred QUAIDS = 74
  - Average Groningen GK and EKS = 74
The Broad Sweep of 2 Centuries: Income per Capita
Since 1960: Europe Fails to Converge and then Falls Behind
Productivity since 1870: Almost Catching Up is Not Enough
Productivity:
A Closer Look at Post-1960
The Europe / US Ratios Are Much More Dramatic

[Graph showing the output per capita and output per hour over the years from 1820 to 2000.]
The Ratios Again: A Post-1960 Close-up
Ratios of Ratios: The Real Clue to What is Going On

- Employee to population ratio
- Hours per employee
- Output per capita to output per hour ratio
Ratios of Ratios: The Post-1960 Close-up
Hours per Employee Declined in Tandem until 1970, then diverged
A Close-up of Hours per Employee after 1960

- **United States**
- **Europe - 15**
What Blanchard Neglects: Employment per Capita

- **Europe - 15**
- **United States**
Employment per Capita: The Postwar Close-up

Europe - 15

United States
An Outline of Issues for Discussion

- Contra Blanchard, Europe’s failure to converge is not a matter of voluntary vacations!
- Much more is low employment per capita
- Even lower hours are not entirely voluntary
- “If the French really wanted to work only 35 hours, why do they need the hours police?”
- Short hours are a victory for parliamentary politics, not for free choice
What Matters is Ypc, not Productivity

Europeans have “bought” their high productivity ratio with every conceivable way of making labor expensive

- High marginal tax rates (payroll and income taxes)
- Firing restrictions
- Early retirement (55! 58!) with pensions paid for by working people
REAL WAGES AND PRODUCTIVITY:
WHICH IS THE CHICKEN AND WHICH THE EGG?

Adverse productivity shock shifts down labor demand curve

Labor demand curve \( (N_{d1}^d) \)

Initial labor demand curve \( (N_{0}^{d}) \)

New labor demand curve \( (N_{1}^{d}) \)

Labor input

\( (W/P)_0 \)

\( (W/P)_1 \)

\( N_1 \)

\( N_0 \)

Downward shift in labor supply curve reduces real wage and productivity

Labor supply curve \( (N_{1}^{s}) \)

Initial labor supply curve \( (N_{1}^{s}) \)

New labor supply curve \( (N_{0}^{s}) \)

Labor input

\( N_0 \)

\( N_2 \)
Europe’s Low E/N Matters as much as Low A/E

- High Unemployment
  - High Youth Unemployment
  - High long-term Unemployment
- Low Labor-force Participation
  - Of Youth (defer to Phelps on Italian 30-year-olds)
  - Of Elderly
  - Would you believe these French and Italian retirement ages?
- The OFCE seminar I organized on this
  - Casual, just raise taxes
  - Casual, just raise retirement age
  - No Bush #43 hysteria
Welfare Issues to be Postponed for General Discussion

- GDP Exaggerates U. S. GDP per Capita
  - Extreme climate, lots of air conditioning, low petrol prices, huge excess energy use
  - U. S. urban sprawl: energy use, congestion
  - Crime, 2 million in prison

- Undeniable U. S. advantage, all those square feet
  - Inside the housing
  - Outside the housing in the residential lot sizes

- U. S. Medical Care Inefficiency
  - Raises Business Costs, like French taxes
  - Inefficiency, Insecurity
The History: Reorganizing an Old Story

- Organized by time, pre-1913, 1913-50, 1950+
- Within time periods, political union vs. other (USE device -- notice footnote 17)
  - Political union vs. “newness”
  - The heavy role of government in creating the late 19th century U. S. growth miracle
- Within time periods, reversible or nonreversible?
Political Union: Materials-intensive manufacturing

- Wright, raw materials
  - part of political union, not just natural endowment
    - US has advantage in resources vs. individual nations, but not all of Europe
  - No fear of Minnesota and Indiana going to war
  - Wright: doesn't emphasize enough ag, transport, trade
- Late 19th Century: The Dynamo of Chicago
  - Fastest Growing City in the World: 1870-1929
  - James Cronon’s “Nature’s Metropolis”
  - “Devil and the White City”
But it was not all Political Union: Even a USE Would Have Lagged

- Clear advantages of the New World (which U. S. uniquely? Which others (C, AU, NZ, Argentina?)
  - Agricultural
    - Land intensity indirectly responsible for ascendancy of American manufacturing
  - Newness
    - Common language, self-selection of ambitious immigrants, high motivation, labor mobility
  - American system of manufacturing (guns, watches, British anquish at Crystal Palace 1851)
  - Policy
    - Land for the railroads
    - The Homestead Act!
Post-1913: Exploiting the great inventions

- Vs. David-Wright on electricity in 1920s US mfg
  - Much more emph needed on ICE
  - Much more emph needed on 1930-50, not just 1920s

- Huge US lead in exploiting both electricity and ICE
  - U. S. in 1929 had 80% of world motor vehicle production
  - U. S. in 1929 had 90% of world motor vehicle registrations

- No mystery about the “Arsenal of Democracy”
Post-1913: The Great Compression

- **Immigration**
  - Restrictive legislation in the 1920s
  - A respite for low-skilled workers (compare now)

- **Trade barriers**
  - No importation of low-skilled labor via goods (compare now via China)

- **New deal pro-union legislation**
  - Pure rents for semi-skilled high-school drop-outs
World War II!
The Victory of the Arsenal

- The miracle occurred in an ad-hoc system of government loose control over business improvisation
- The basis was laid starting with Henry Ford in 1914
- Herbert Hoover did something good
- Role of the American system and the engineer
- References: Overy, Walton
Post WWII

- France: penetration of electricity and ICE: exactly 40 years later
  - That wonderful Landes quote
- Reversal of initial U. S. advantages
  - Raw materials
  - Political union
  - Newness depreciates
  - Reversal of the Great compression
- Did Europe do anything creative except catch up?
  - Welfare state
  - Combining auto with public transport
The Great Paradox: Europe’s catching up stops after 1995

- 1973-95 Europe, starting 40 years late, continues to exploit great inventions
  - Copies U. S. interhighway system but retains railroads and builds TGV
- The teetering U. S. has run into diminishing returns
  - Old inventions, electricity and ICE, fade away
  - The Solow “computer paradox”
- 1995-2004. Europe's productivity growth doesn't revive, the great European funk.
Topic #3: The Diagnosis
Basic Paradox about IT

- Both Europe and U. S. Rapidly Adopted New Economy Technology
  - Personal Computers
  - Web Access
  - Mobile Phones
- But Europe hasn’t taken off
- Conclusion: Role of IT in U. S. revival must have been exaggerated
Finding the Culprit Industries

Output per Hour by Industry Group, EU and US, 1990-2003

- US ICT Pro
- EU ICT Pro
- US ICT Using
- EU ICT Using
- US Non-ICT
- EU Non-ICT

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1990-1995</td>
<td>8.0</td>
<td>6.0</td>
<td>2.0</td>
<td>4.0</td>
<td>0.0</td>
<td>2.0</td>
</tr>
<tr>
<td>1995-2001</td>
<td>10.0</td>
<td>8.0</td>
<td>6.0</td>
<td>4.0</td>
<td>0.0</td>
<td>2.0</td>
</tr>
</tbody>
</table>
Where is the Difference?  
The Van-Ark Decomposition

- Explaining the difference in Europe vs. US productivity growth post-1995
  - 55% retail trade
  - 24% wholesale trade
  - 20% securities
  - Rest of the economy: ZERO

- U. S. negative in telecom, backwardness of mobile phones
U. S. Retail Miracle

- Not uniform, concentrated in “large stores charging low prices with self-service format”
- ALL of productivity gains post-1990 attributable to NEW establishments and closing of old establishments
- Average pre-1990 establishment had zero productivity growth
Europe in Retailing

- Not uniform – Carrefour, Ikea
- U. S. “Big Boxes” (Wal-Mart, Home Depot, Best Buy, Target)
- Europe:
  - Land-use regulation, planning approval
  - Shop-closing restrictions on hours
  - Central-city congestion, protection of central-city shopping precincts
  - Prohibition on discounting by large new stores
  - Related to Phelps’ corporatism
Not enough emphasis on new vs. old

- It’s not just that land-use planning prevents Wal-mart from setting up a new big box on every highway interchange in Europe
- It’s that the MIX of retailing in Europe is heavily composed of small, old-fashioned firms
Education and University Research

- U. S. leadership in secondary education, 1910-40
- U. S. leadership in college education, post WWII
- U. S. research universities America’s leading export industry even in dismal 1972-95, still the envy of the world
  - Competition between state and private
  - U. S. peer reviewed grants to young professors, not young students
  - Contrast with Europe tuition subsidies
Let’s not Forget:
Germany is being Strangled by Euro

- No more monetary policy
- If inflation soars in Portugal or Ireland, German workers are unemployed
- Fiscal policy is strangled by the 3% deficit rule
- Germany is MUCH MORE threatened by Poland and Czech than U. S. by Mexico
- Different immigration dynamics
Conclusion (for now)

- Economic research has focused on particular European problems
  - Land use vs. big boxes
  - Employment taxes and low empl per capita
- Bigger issues
  - Low fertility rate vs. retirement ages
  - Stark contrast: Czech/Poland vs. Mexico
  - Stark contrast: U. S. can absorb immigrants and Europe cannot