Issues in the Comparison of Welfare Between Europe and the United States

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This is One of Two Twin Papers

- The Second is
  Ian Dew-Becker and RJG,

Presented at NBER Summer Institute by IDB yesterday, July 20
Outline of this Paper

- Interpretation of falling *relative* hours per capita in Europe vs. U. S.
  - Major hypothesis: only a *small portion* of falling relative hours per capita represents welfare value of leisure
  - Addressing the current debates
    - Blanchard – it’s all the taste for leisure in Europe
    - Prescott – taxes explain everything
    - Ljungvist-Sargent – welfare state is more important
    - Alesina – Politics and unions

- An Independent Issue: Is GDP in US overstated?
What are the Substantive Issues?

“Why is Europe so Productive yet so Poor?”

If Y/H caught up but Y/N languished, then the superficial Answer is H/N has been falling

Why?

– Blanchard (JEP, p. 4): “The main difference is that Europe has used some of the increase in productivity to increase leisure rather than income, while the United States has done the opposite.”

Blanchard will be the straw man in this discussion of more subtle interpretations
An Opposing View to Blanchard’s “Taste for Leisure”

- By definition the decline in Europe’s Y/N related to Y/H can be divided into:
  - Decline in relative H/E (35% 1960-95)
  - Decline in relative E/N (65% 1960-95)

- Voluntary Leisure?
  - Some of decline in H/E is not voluntary
  - Most of decline in E/N is not voluntary
Part #1: What are the Data Issues?

- How to Compare Europe GDP vs. US GDP
- Thanks to Peter Neary AER Dec 2004:
  - Geary vs. EKS vs. “QUAIDS”
- Alternative methods of converting Ypc to international PPP
  - Maddison and PWT use Geary-Khamis
  - OECD and Eurostat use EKS (Eltetö, Köves, and Szulc), a multilateral extension of Fisher “ideal”
  - Groningen web site gives both
- No issues in comparing hours, employment, or working-age population
A Preview of the Charts

- Comparison of Y/N and Y/H, how could Europe be so productive yet so poor?
- Breakdown of H/N into E/N vs. H/E
- Raw Numbers on E/N and H/E
- E/L and L/N by Age
- Time Series Behavior of Labor Tax Rates
Y/N since 1960: Europe Fails to Converge and then Falls Behind
Productivity (Y/H) Post-1960: The Ratio Reaches 96.9% in 1995
The EU/US Ratios: Y/N compared to Y/H
Ratios of Ratios: \((Y/N)/(Y/H)=H/N\) and the Breakdown E/N vs. H/E

![Graph](image_url)
What the Recent *Macro Annual* Debate has Missed

- The EU/US Ratio for Employment-Population turned around in 1995

- Why?
  - A reversal of labor market regulations?
  - A reversal of product market regulations?
  - A reversal of labor taxes?

- But the decline in hours/employee did not turn around
Raw Numbers on Hours per Employee

The graph shows the trend of raw numbers of hours per employee from 1960 to 2000, comparing Europe - 15 and the United States. The United States line shows a consistent decline, while the Europe - 15 line fluctuates more but also shows a general decline over time.
Employment per Capita:
U.S. Women Marched Off to Work
1965-1990

United States

Europe - 15
## Summary of Turnaround in E/N vs. H/E

### Table 1

Levels and Growth Rates of Three Ratios of Europe to the United States, 1960-2004, percent

<table>
<thead>
<tr>
<th></th>
<th>Hours per Capita</th>
<th>Hours per Employee</th>
<th>Employees per Capita</th>
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</thead>
<tbody>
<tr>
<td>1960</td>
<td>119.8</td>
<td>102.4</td>
<td>115.9</td>
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<tr>
<td>1970</td>
<td>102.4</td>
<td>97.4</td>
<td>105.6</td>
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<tr>
<td>1995</td>
<td>73.6</td>
<td>87.1</td>
<td>85.7</td>
</tr>
<tr>
<td>2004</td>
<td>77.2</td>
<td>85.4</td>
<td>91.7</td>
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### Annual Growth Rates

<table>
<thead>
<tr>
<th></th>
<th>Hours</th>
<th>Employees</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>1960-70</td>
<td>-1.6</td>
<td>-0.5</td>
<td>-0.9</td>
</tr>
<tr>
<td>1970-95</td>
<td>-1.3</td>
<td>-0.4</td>
<td>-0.8</td>
</tr>
<tr>
<td>1995-2004</td>
<td>0.5</td>
<td>-0.2</td>
<td>0.8</td>
</tr>
</tbody>
</table>
An Outline of Issues for Discussion

- Europe’s failure to converge is not just a matter of voluntary vacations
- Much more of the change 1960-95 was the decline in 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?”
Textbook Labor Economics

Downward shift in labor supply curve reduces real wage and productivity.
Europeans have “bought” their high productivity ratio with every conceivable way of making labor expensive

- High marginal tax rates (payroll and income taxes)
- Unions
- Firing restrictions
- Early retirement (55! 58!) with pensions paid for by working people
- Lack of encouragement of market involvement by teens and youth
The Decline in Europe’s E/N Matters more than H/E

- First, which age groups are suffering from higher unemployment in Europe?
- Second, which age groups experience lower labor force participation in Europe?
- Third, how does it come together in the distribution of low E/N by age group?
- Note: These graphs are for total population by age and blur male/female differences.
Unemployment by Age: EU vs. US in 2002
Labor-force Participation by Age
Putting it Together:
Europe vs. US E/N by Age Group

![Graph showing the comparison of Europe vs. US E/N by age group. The graph is a line chart with age groups on the x-axis and a numeric value on the y-axis. The red line represents Europe, and the yellow line represents the US. The graph illustrates the differences in E/N distribution between the two regions across various age groups.](image-url)
Decomposing the EU/US Difference in the E/N Ratio

<table>
<thead>
<tr>
<th>age distribution</th>
<th>unemployment</th>
<th>LFPR</th>
<th>E/N ratio</th>
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<tbody>
<tr>
<td>EU</td>
<td>EU</td>
<td>EU</td>
<td>87.14</td>
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<tr>
<td>US</td>
<td>EU</td>
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<td>86.19</td>
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<td>US</td>
<td>EU</td>
<td>91.23</td>
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<td>US</td>
<td>US</td>
<td>EU</td>
<td>90.77</td>
</tr>
<tr>
<td>EU</td>
<td>US</td>
<td>US</td>
<td>102.1</td>
</tr>
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Brief Summary of the Recent Prescott Debate

- Prescott says it’s all higher taxes in Europe
- This is consistent with
  - Firms cutting jobs
  - Employees choosing untaxed leisure
  - So decline in both H/E and E/N are involved
- Problems:
  - Alesina, labor supply elasticities don’t match
    - The labor-supply elasticity for adult men is zero
    - The elasticity for females and teenagers is high, but they are only half of the story
    - Thus Prescott can explain only half of labor withdrawal
  - Me, not consistent with age distribution story
Ljungqvist-Sargent’s skepticism on the “national family”

- Prescott assumes national family, voluntary redistribution to those who withdraw labor because of high taxes.

- In reality most of those who withdraw labor supply because of high taxes are not supported by voluntary family transfers.

- Are supported by government transfer payments that “strain social insurance systems”; “government expenditures were poor substitutes for private consumption.”
Alesina on Unions and Regulation

- Contrast between U. S. and EU
- U. S. union penetration peaked in late 30s, 1940s, declined after 1950s
- Europe peaked in late 1970s, early 1980s
- No disagreement about what unions do to the labor supply and demand diagrams
  - Unions push the economy northwest
Channels of European Union Influence (Alesina)

- Unions keep wages artificially high
- Unions may pursue a political agenda to reduce work hours
- Unions have pushed for early retirement financed by state pensions
- Unions impede the reallocation of labor in response to sectoral shocks

- Neither Alesina nor critics notice turnaround in Europe’s E/N after 1995
Critique of Modern Macro Interpretations

- About Alesina, timing is wrong. Union density increased 1960-80, but then fell to 1995 to about the same level as 1960.
- This argument from Rogerson (2006) ignores inertia in political process.
- Decline in unions and decline in taxes consistent with post-1995 turnaround in H/N.
Paper #2 with IDB on Tigers and Tortoises, Pop Shares and Private Y/H Growth, 1995-2004

- **Tigers**: Ireland, Finland, Greece
  - Pop Share: 5% ALP 4.79%

- **Middle**: Sweden, Austria, UK, Germany, Portugal, France
  - Pop Share: 61% ALP: 2.45%

- **Tortoises**: Belgium, Netherlands, Denmark, Luxembourg, Spain, Italy
  - Pop Share: 34% ALP: 0.72%

- Tortoise Failure by Industry: Across the Board
Note that the Tortoises are always highest, followed by Middle countries, followed by the Tigers and then the US

All countries markedly reduce taxes around 1997
Reactions of Hours to Taxes

- Regressions of H/N on tax wedge
  - Using H/N is a first approximation, need to study separate effects on E/N and H/E
- Double-log specification, estimated elasticity of H/N to tax wedge is -0.4
- Changes after 1995 don’t match the tax changes very well, but they go in the right direction
- Middle countries are the exception
- While everybody else was increasing H/N, middle countries were working less – counter to tax story
Bottom Line About Tigers and Tortoises

- Recent Reports by the OECD and others join together high unemployment and slow productivity growth as part of a general malaise.

- Our focus is different

- Labor market and tax reforms have raised hours per capita after three decades of decline.

- Rising hours per capita and declining growth of output per hour are signs of victory for European labor market reforms, not signs of defeat.
A Broader View: The Welfare Cost of Higher Unemployment

- The distinction between marginal hours of leisure (40 work, 80 leisure) vs. inframarginal hours (20 work, 100 leisure)
- Leisure hours on vacations and weekends are more valuable than mid-week leisure hours
  - Apply analysis to unemployment
  - Apply analysis to early retirement
The Welfare Effect of Early Retirement: Back-of-Envelope

- Baseline: work age 20-65, retire 65-84
- No saving, investment
- 30% tax finances pay-as-you-go pensions with balanced govt budget
  - Tax finances equality of consumption in retirement to consumption during work years
- Alternative retirement age at 55 requires tax increase to 45.6%, 25.1% decline in consumption during work years and retirement
Welfare calculation

- With 55 retirement age, after-tax wage is 25% less
- Extra hours switched from work to retirement leisure are low-valued (2/3)
- Total welfare = market consumption plus total value of leisure
- Market consumption declines 25.1 percent, welfare declines 22.6 percent, ratio 90% (i.e., leisure offsets 10%)
Some Time of Unemployed is Spent In Home Production not Leisure

- Freeman-Schettkat
- M = market, H = home production, L = leisure, P = personal time (sleep)
- I set P > 9.0 as Leisure

<table>
<thead>
<tr>
<th></th>
<th>M</th>
<th>H</th>
<th>L</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employed</td>
<td>8.0</td>
<td>2.5</td>
<td>4.5</td>
<td>9</td>
</tr>
<tr>
<td>Unemployed</td>
<td>1.0</td>
<td>4.5</td>
<td>9.5</td>
<td>9</td>
</tr>
</tbody>
</table>
Turn the Tables on the U. S.: The “Disconnect” between Welfare and PPP-Adjusted GDP

- GDPExaggerates 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
  - Insecurity, lack of employment protection, lack of citizen’s right to medical care

- How much is this worth?
BTUs per GDP: The EU-US Difference is only 2% of GDP
Other Additions or Subtractions from Europe’s Welfare

- **Urban Congestion?**
  - London vs. NY? Paris vs. Chicago?
  - Time spent in London underground vs. in a Chicago automobile?

- Prisons, perhaps 1% of GDP

- Inefficiency of U.S. Medical Care (Table 2)

- Undeniable U. S. superiority: housing
  - People value interior square feet (2X in US)
  - People value exterior land (4X in US)
The Value of Extra Security in Europe

- By Measuring Y/N Pre-tax instead of Post-Tax, we treat EU Welfare System as Valuable as Equivalent in Market Consumption

- Prescott counts only the substitution effects of higher labor taxes

- Europeans get full value back per tax dollar in valued government services
  - U comp, maternity leave, pensions, severance pay

- To Make an extra allowance would be double counting
Additional Subtleties

- Immigration?
  - U.S. Illegal but Voluntary
  - Illegal Immigrants have jobs
  - Alienated French *banlieues*
  - European immigrants more political than economic?

- Inequality
  - U. S. median real income grows slower than mean real income, increasing skewness of income distribution
| Table 3 | Summary of Adjustments to the Europe-to-U.S. Ratio of Per-capita Income, 2004 |
|-----------------|-----------------|-----------------|-----------------|
| | Europe-to-U. S. | Adjustment to | Adjustment to |
| | Ratio of Real GDP per Capita | Leisure Component of Hours | GDP |
| Market PPP Ratio of Y per Capita | 68.8 |  |  |
| Add: 2/3 of Difference |  |  |  |
| in Hours per Employee (11.8) | 7.9 |  |  |
| Add: 1/10 of Difference |  |  |  |
| in Employment per Capita (8.6) | 0.9 |  |  |
| Add: Half of Energy Use Difference |  |  |  |
| Add: Prisons and Other | 1.0 |  |  |
| Add: Medical Care Inefficiency | 3.0 |  |  |
| Sum of Market PPP Ratio and above Additions | 82.6 |  |  |
| Market PPP Ratio of Y per Hour | 89.2 |  |  |
| Percent Prody Gap Explained | 67.6 |  |  |
| Percent Total Gap Explained | 44.2 |  |  |