Explanations of Slow Growth in Productivity and Real Wages

Slow Growth in Productivity & Wages

• America’s Greatest Economic Problem?
  – Introduction
    • Slow growth in real wages is closely related to slow growth in productivity.
    • Only by raising its total output per hour can an economy sustain a higher hourly real wage for the average worker.
    • Slow growth in productivity and real wages
      – Increases job insecurity
      – Exacerbates the distribution of income

Slow Growth in Productivity & Wages

• Concepts of Productivity and the Real Wage
  – Introduction
    • Two alternative concepts of productivity
      – Labor productivity, y - n
      – Multifactor productivity, a = y - b * k - ( 1 - b ) * n
        » where b is the elasticity of output to capital
        » can measure y, k, and n and approximate b
      – Rearranging
        » a = ( y - n ) - b * ( k - n )
        » or labor productivity minus b time the growth in per capita capital stock
        » b * ( k - n ) is almost always a constant

Slow Growth in Productivity & Wages

• Concepts of Productivity and the Real Wage (continued)
  – How the Real Wage is Related to Productivity
    • Labor’s share = 1 - b = ( W * N ) / ( P * Y )
    – total compensation of labor divided by total income
    • or Labor’s Share = 1 - b = ( W / P ) / ( Y / N )
    – real wage divided by labor productivity
    • If labor’s share is a constant then real wages must grow at the same pace as labor productivity
      – if 1 - b = k, then growth of ( 1 - b ) = 0
      – and ( w - p ) = ( y - n )

Slow Growth in Productivity & Wages

• CASE STUDY: Behavior of Real Wages and Productivity in the United States
  – The Startling Facts About the Productivity Growth Slowdown
    – Figure 10 - 1
    • Productivity is pro-cyclical
      – Stronger in booms, weaker in recessions
      – Table 10 - 1

Slow Growth in Productivity & Wages

• Concepts of Productivity and the Real Wage (continued)
  – How the Real Wage is Related to Productivity (continued)
    • One caveat
      – p is the GDP price deflator
        » yields the real product wage
      – c is the Consumption price deflator
        » yields the real consumption wage
      – p and c can, and usually do differ
        » implies real consumption wage growth can differ from productivity growth

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• CASE STUDY: Behavior of Real Wages and Productivity in the United States (con’t)
  – Why does Real Wage Growth Lag Behind that of Labor Productivity?
    • Recent behavior of real wages and productivity
      » Figure 10 - 2
      » Table 10 - 2
    • Several things to notice
      – Labor’s share relative constant
      – real product wage approximately labor productivity
      – real consumption wage lagged behind

Slow Growth in Productivity & Wages

• Does Slow Productivity Growth Cause Slow Real Wage Growth, or Vice Versa?
  – An Adverse Productivity Shock Reduces the Real Wage, Hours, or Both
    » Figure 10 - 3 a
  • Potential causes
    – Other factors of production decline
    – If MFP were to decline
    » Implications of rigid versus flexible wages
  • Adverse shock to labor productivity reduces real wages
Slow Growth in Productivity & Wages

- Does Slow Productivity Growth Cause Slow Real Wage Growth, or Vice Versa?
  - The Possibility of Feedback from Low Real Wages to Low Productivity
    - Figure 10 - 3
  - Possible causes
    - Any event that increases the supply of labor
    - Increased immigration
    - Increase participation rate

- Sources of Adverse Productivity Shocks
  - Dimensions of the Productivity Slowdown
    - Figure 10 - 3
  - Manufacturing versus nonmanufacturing sectors
    - Within manufacturing, durable vs nondurable goods
    - Within durable goods, computers
  - Labor productivity and MFP both slow
    - Slower capital accumulation is not the culprit

- Slow Growth in Productivity & Wages
  - Sources of Adverse Productivity Shocks
    - Slower Growth in Measured and Unmeasured Inputs
      - Measured Capital per Labor Hour
        - k slowed, n accelerated after 1973
        - Inflation and the tax system
        - Labor force participation rate
      - Raw materials and energy
        - Why did MFP not reaccelerate after energy prices fell
      - Decline in Labor Quality
        - Composition of work force changed after 1973
Slow Growth in Productivity & Wages

• Sources of Adverse Productivity Shocks
  – Infrastructure

– Problems of Particular Industries
  • Mining
  • Construction
  • Public utilities

• Sources of Adverse Productivity Shocks
  – Running Out of Resources and Ideas
    • Depletion hypothesis
      – More people looking for less oil
      – Fewer large important changes in productive techniques
        • Is 1913 - 1972 the exception

– Is the Slowdown Partly an Illusion?

Slow Growth in Productivity & Wages

• Can Labor Supply Shifts Contribute an Explanation?
  – The Contrast between Europe and the US
    » Table 10 - 4
      • The US and Europe have different labor market policies
      • Implications for employment, unemployment, real wages, and productivity

Slow Growth in Productivity & Wages

• The Role of Growing Inequality
  – Median Real Wage Growth Falls Short of Average Real Wage Growth
    » Figure 10 - 4

  – High and Increasing Inequality
    • All of the real wage gains have accrued to workers with above-median real wages
      » Figure 10 - 5
      » Figure 10 - 6
      » Figure 10 - 7

* Figure 10-4  Labor Productivity and Three Concepts of the Consumption Real Wage: Mean, Median, and Median Male, 1973–95

* Figure 10-5  Ratio of Family Income of the Top 5 Percent of Families to the Bottom 20 Percent, 1947–95

INEquality HAS INCREASED SHARPLY SINCE THE 1970s

* Part of the increase in inequality in 1995 is attributable to changes in data collection methodology.
Slow Growth in Productivity & Wages

- The Role of Growing Inequality (cont’d)
  - Sources of High and Growing Inequality
    - US labor market flexibility
    - Technology has raised the demand for high-skilled workers
    - Increase relative supply of low-skilled workers
      - Increased international competition

Slow Growth in Productivity & Wages

- Is Real Wage Stagnation a Figment of Measurement Error?
  - Alternative Real Wage Indexes
    - Figure 10-8
      - Alternative nominal wage measures
      - Alternative price indexes
  - Biased Price Indexes
    - Price indexes overstate inflation in a rapidly changing economy
  - A Balanced Assessment

Slow Growth in Productivity & Wages

- Conclusion: What Policies Are Available to Boost Growth?
  - Policies have focused on boosting savings and investment
    - But low capital formation has not been the problem
  - The role of the government budget deficit
  - The role of human capital
    - Cost and timing
  - The role of regulations
  - Improve the productivity and price statistics