The Decline of the U.S. Labor Share

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A beloved stylized fact

The fraction of total income that gets paid to labor is approximately constant over time in many countries.

“A satisfactory model concerning the nature of the growth process in a capitalist economy must also account for the remarkable historical constancies revealed by recent empirical investigations. It was known for some time that the share of wages and the share of profits in the national income has shown a remarkable constancy in “developed” capitalist economies of the United States and the United Kingdom since the second half of the nineteenth century.”

Kaldor (1957)
### (Selected) literature review

<table>
<thead>
<tr>
<th>Year</th>
<th>Author(s)</th>
<th>Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>1821</td>
<td>Ricardo</td>
<td>Anecdotal observance of constancy of labor share</td>
</tr>
<tr>
<td>1928</td>
<td>Cobb-Douglas</td>
<td>Introduce production function that results in constant labor share under (neo-)classical assumptions.</td>
</tr>
<tr>
<td>1939</td>
<td>Keynes</td>
<td>“remarkable constancy a bit of a miracle”</td>
</tr>
<tr>
<td>1957</td>
<td>Kaldor</td>
<td>Documents it as a quintessential growth fact</td>
</tr>
<tr>
<td>1958</td>
<td>Solow</td>
<td>“The literature does not abound in precise definitions, but obviously literal constancy is not in question.”</td>
</tr>
<tr>
<td>1964</td>
<td>Gallaway</td>
<td>Review of literature: Constancy of labor share controversial</td>
</tr>
<tr>
<td>1999</td>
<td>Gali and Gertler</td>
<td>Fluctuations in labor share (around constant mean) is proxy for marginal cost pressures firms face.</td>
</tr>
<tr>
<td>2014</td>
<td>Karabarbounis and Neiman</td>
<td>Labor share has been declining since end of 1970’s in many countries due to decline in relative price of capital</td>
</tr>
</tbody>
</table>
U.S. labor share

Nonfarm business labor share
Quarterly observations; seasonally adjusted

Source: Bureau of Labor Statistics, Bureau of Economic Analysis, and authors' calculations
U.S. labor share

Nonfarm business labor share
Quarterly observations; seasonally adjusted

1948-1987: 64.6 percent
2010-2012: 58.3 percent

decline: 6.4 percent

Source: Bureau of Labor Statistics, Bureau of Economic Analysis, and authors' calculations
Outline

- Measurement
  - Labor income of the self employed
- Labor share from a more disaggregated perspective
  - Sectoral origins of movements in the aggregate payroll share
- Potential explanations
  - Capital-labor substitutability
  - Deunionization
  - Globalization and offshoring
- Reconsidering the use and interpretation of the labor share
  - Factor income share
  - Markups and resource slack
  - Proxy for inequality
We find that the decline is

- **Measurement**
  - Mainly due to payroll compensation.
  - Overstated due to imputation of self-employment income.

- **Sources and explanation**
  - Driven by declines in labor shares in manufacturing and trade.
  - Concentrated in industries that faced increased import competition.

- **Implication**
  - A reason to reconsider use of labor share in macroeconomics
Measurement
How is the labor share calculated?

Labor share is the ratio of aggregate labor compensation to income:

\[
\frac{WL}{PY}
\]

Labor compensation is the sum of payments to two groups of workers:

- Workers who are on the payrolls of their employer.
  - Based on employer payroll records from the Quarterly Census of Employment and Wages.
  - Define the payroll share as \( \lambda^P = W^P L^P / PY \).
- Workers who work for themselves rather than for an employer.
  - Not obvious!
U.S. payroll share

Nonfarm business labor share and components
Quarterly observations; seasonally adjusted

Payroll share
Published

Source: Bureau of Labor Statistics, Bureau of Economic Analysis, and authors' calculations
U.S. payroll share

Nonfarm business labor share and components
Quarterly observations; seasonally adjusted

Payroll share drives most of labor share
1948-1987: 57.1 percent
2010-2012: 53.3 percent
decline: 3.9 percent

Source: Bureau of Labor Statistics, Bureau of Economic Analysis, and authors' calculations
The treatment of self-employment income

- Isolating the component of self-employment income that accrues to labor is fundamentally ambiguous.
- No direct measure of labor compensation for the self-employed.
- Different sources of factor income reported in the national accounts do not map directly into parts attributable to capital and labor.

The headline measure assumes that $W^S = W^P$. Under this assumption, the labor share is

$$\lambda = \left(1 + \frac{L^S}{L^P}\right) \lambda^P$$

This is called the *labor basis* measure, Kravis (1959).
Compensation and proprietors’ income

Composition of nonfarm business sector income
Quarterly observations; share of Gross Value Added of NFB sector

Proprietors’ income w/o CCA and IVA
Compensation

Source: Bureau of Economic Analysis and authors’ calculations
Composition of nonfarm business sector income
Quarterly observations; share of Gross Value Added of NFB sector

Source: Bureau of Economic Analysis and authors' calculations
Labor share in 1980s

Composition of nonfarm business sector income
Quarterly observations; share of Gross Value Added of NFB sector

Source: Bureau of Economic Analysis and authors' calculations
Decline in share not due to profit increase

Composition of nonfarm business sector income
Quarterly observations; share of Gross Value Added of NFB sector

Source: Bureau of Economic Analysis and authors' calculations
### Measurement of income of self employed

#### NIPA Table 7.14.
Relation of Nonfarm Proprietors' Income in the National Income and Product Accounts to Corresponding Measures as Published by the Internal Revenue Service (billions of dollars)

<table>
<thead>
<tr>
<th>Line Item</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>1  Net profit (less loss) of nonfarm proprietorships and partnerships, plus payments to partners, IRS</td>
<td>600.2</td>
</tr>
<tr>
<td><strong>Plus:</strong></td>
<td></td>
</tr>
<tr>
<td>2  Adjustments for misreporting on income tax returns</td>
<td>494.3</td>
</tr>
<tr>
<td>3  Posttabulation amendments and revisions</td>
<td>-245.4</td>
</tr>
<tr>
<td>4-10 Other adjustments</td>
<td>43.3</td>
</tr>
<tr>
<td>11 Equals: Nonfarm proprietors' income, NIPAs</td>
<td>892.2</td>
</tr>
</tbody>
</table>
1. *Labor basis*: equal wages for self-employed and payroll employed (the headline measure).

2. *All-to-labor basis*: all of proprietors’ income to the labor input of the self-employed.

3. *Asset basis*: the returns to capital are the same for the capital used by the payroll employed and the self-employed. Very similar to the way self-employment labor income is inferred in the BLS Multifactor Productivity (MFP) data.

4. *Economy-wide basis*: the labor share in entrepreneurial income is the same as that for the overall economy.
### Alternative measures of the labor share—Kravis (1959)

<table>
<thead>
<tr>
<th>Measure</th>
<th>Assumption</th>
<th>Mean '48-'87</th>
<th>Mean '10-'12</th>
<th>Change (%-point)</th>
<th>Difference with published</th>
</tr>
</thead>
<tbody>
<tr>
<td>Headline – “Labor basis”</td>
<td>Wages the same.</td>
<td>64.6</td>
<td>58.3</td>
<td>-6.4</td>
<td>-</td>
</tr>
<tr>
<td>MFP – “Asset basis”</td>
<td>Returns to capital the same.</td>
<td>62.9</td>
<td>59.3</td>
<td>-3.6</td>
<td>2.8</td>
</tr>
<tr>
<td>“Economy-wide basis”</td>
<td>Labor shares the same.</td>
<td>62.7</td>
<td>58.1</td>
<td>-4.7</td>
<td>1.7</td>
</tr>
<tr>
<td>Payroll share</td>
<td>Only compensation of payroll employees.</td>
<td>57.1</td>
<td>53.3</td>
<td>-3.9</td>
<td>2.5</td>
</tr>
</tbody>
</table>

- About a third of the decline in the labor share spurious due to treatment of self-employment income.
- We focus on payroll share in rest of results.
Sectoral Origins
Decline in a broader perspective

![Payroll share graph](image)

Source: Bureau of Economic Analysis, Bureau of Labor Statistics, and authors' calculations
Decline in a broader perspective

“… remarkable constancy…” is “…a bit of a miracle.” Keynes (1939)
Miraculous constancy

The aggregate payroll share is:

\[ \lambda^P = \sum_i \left( \frac{W_i^P L_i^P}{PY} \right) = \sum_i (\omega_i \lambda_i^P) \]

where \( \omega_i = \frac{P_i Y_i}{PY} \) is the value added share of sector \( i \).

- substantial heterogeneity in the level and changes in payroll shares across sectors.
- systematic movements in the sectoral composition of the U.S. economy.

Simple shift-share analysis:

\[ \Delta \lambda^P = \sum_i \omega_i \Delta \lambda_i^P + \sum_i \Delta \omega_i \lambda_i^P \]

\( \sum_i \) \( \sum_i \) Shift Share
## Shift-share analysis 1948-1987

### Panel A. SIC, 1948 to 1987

<table>
<thead>
<tr>
<th>Major Sector</th>
<th>Share of value added</th>
<th>Payroll share</th>
<th>Shift-share analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1948</td>
<td>1987</td>
<td>Change</td>
</tr>
<tr>
<td>Nonfarm business sector</td>
<td>100</td>
<td>100</td>
<td>0</td>
</tr>
<tr>
<td>Natural resources and mining</td>
<td>4.7</td>
<td>3.0</td>
<td>-1.7</td>
</tr>
<tr>
<td>Construction</td>
<td>5.3</td>
<td>5.5</td>
<td>0.2</td>
</tr>
<tr>
<td>Durable goods manufacturing</td>
<td>17.6</td>
<td>12.9</td>
<td>-4.7</td>
</tr>
<tr>
<td>Non-durable goods manufacturing</td>
<td>15.3</td>
<td>7.6</td>
<td>-7.7</td>
</tr>
<tr>
<td>Trade/Transportation and utilities</td>
<td>31.7</td>
<td>26.0</td>
<td>-5.7</td>
</tr>
<tr>
<td>Information</td>
<td>4.1</td>
<td>5.0</td>
<td>0.9</td>
</tr>
<tr>
<td>Financial activities</td>
<td>12.6</td>
<td>20.5</td>
<td>7.9</td>
</tr>
<tr>
<td>Professional and business services</td>
<td>1.3</td>
<td>6.2</td>
<td>5.0</td>
</tr>
<tr>
<td>Education and health services</td>
<td>2.4</td>
<td>7.1</td>
<td>4.7</td>
</tr>
<tr>
<td>Leisure and hospitality</td>
<td>1.4</td>
<td>1.6</td>
<td>0.2</td>
</tr>
<tr>
<td>Other services</td>
<td>3.5</td>
<td>4.4</td>
<td>1.0</td>
</tr>
</tbody>
</table>
Shift-share analysis 1948-1987

Decomposition of decline in payroll share, pre 1987
5 major sectors; 1948-1987

- Changes in industry payroll shares (Shift)
- Change in composition of activity (Share)

Source: Bureau of Economic Analysis, Bureau of Labor Statistics, and authors' calculations
### Shift-share analysis 1987-2011

**Panel B. NAICS, 1987 to 2011**

<table>
<thead>
<tr>
<th>Major Sector</th>
<th>Share of value added</th>
<th>Payroll share</th>
<th>Shift-share analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nonfarm business sector</td>
<td>100</td>
<td>100</td>
<td>0</td>
</tr>
<tr>
<td>Natural resources and mining</td>
<td>2.2</td>
<td>2.5</td>
<td>0.3</td>
</tr>
<tr>
<td>Construction</td>
<td>5.2</td>
<td>4.1</td>
<td>-1.1</td>
</tr>
<tr>
<td>Durable goods manufacturing</td>
<td>12.3</td>
<td>7.0</td>
<td>-5.2</td>
</tr>
<tr>
<td>Non-durable goods manufacturing</td>
<td>8.2</td>
<td>6.3</td>
<td>-1.9</td>
</tr>
<tr>
<td>Trade/Transportation and utilities</td>
<td>22.6</td>
<td>19.3</td>
<td>-3.4</td>
</tr>
<tr>
<td>Information</td>
<td>4.9</td>
<td>5.0</td>
<td>0.1</td>
</tr>
<tr>
<td>Financial activities</td>
<td>21.2</td>
<td>23.6</td>
<td>2.5</td>
</tr>
<tr>
<td>Professional and business services</td>
<td>9.6</td>
<td>14.6</td>
<td>5.0</td>
</tr>
<tr>
<td>Education and health services</td>
<td>6.9</td>
<td>10.1</td>
<td>3.2</td>
</tr>
<tr>
<td>Leisure and hospitality</td>
<td>3.8</td>
<td>4.6</td>
<td>0.8</td>
</tr>
<tr>
<td>Other services</td>
<td>3.0</td>
<td>2.9</td>
<td>-0.2</td>
</tr>
</tbody>
</table>

*Source: Bureau of Economic Analysis, Bureau of Labor Statistics, and authors’ calculations.*
Estrada and Valdeolivas (2012), Karabarbounis and Neiman (2013)
Potential explanations
Two types of explanations

**Aggregate production function representation:**
- Capital-labor substitution due to steady decreases in relative price of capital or capital augmenting technological change resulted in decline of the labor share. 
  *(Karabarbounis and Neiman, 2014)*

**Cross-industry variation in declines in labor shares:**
- Investment specific technological change revisited
- Deunionization
- Offshoring, outsourcing, and increased foreign competition
The role of capital-labor substitutability

Imagine a constant-returns-to-scale aggregate production function:

\[ Y = F(A_K K, A_L L) \]

Labor’s share is

\[ \lambda = \frac{wL}{Y} = \frac{w}{A_L f(k)} \]

\(w\): real wage
\(k = (A_K K)/(A_L L)\): capital-labor ratio in efficiency units
\(f(k) = F(k, 1)\): output per efficiency unit of labor

With competitive markets:

\[ w = \frac{\partial Y}{\partial L} = A_L[f(k) - kf'(k)] \quad \text{and} \quad r = \frac{\partial Y}{\partial K} = A_K f'(k) \]
The role of capital-labor substitutability

Labor’s share is

\[ \lambda(k) = 1 - \frac{kf'(k)}{f(k)} = 1 - \alpha(k) \]

The response of labor’s share to \( k \):

\[ \frac{\partial \ln \lambda}{\partial \ln k} = -(1 - \lambda) \frac{\sigma - 1}{\sigma} \]

- Key parameter: \( \sigma \), the elasticity of substitution between effective capital and labor.
- \( \lambda \) is predicted to decrease in \( k \) whenever \( \sigma > 1 \).
- Karabarbounis and Neiman (2014) estimate \( \sigma \) to be around 1.25.
The role of capital-labor substitutability

Two potential sources for capital deepening.

▶ Capital-augmenting technical progress.
▶ Investment-specific technical change. Karabarbounis and Neiman (2014) highlight this channel.

Confront the data:

▶ Growth rate of the capital-labor ratio implied by Fernald (2012)’s measure of capital input and the BLS Labor Productivity and Costs measure of hours worked for the business sector.
▶ Investment-specific technical change: equipment price relative to output.
Capital-labor ratio and investment-specific tech. change

Capital deepening and investment-specific tech. change
Quarterly observations; 10-year centered moving average annualized growth

Log points (× 100)

Investment-specific technological change
Capital-labor ratio

Source: Fernald (2012)
**Capital-labor ratio and investment-specific tech. change**

**Capital deepening and investment-specific tech. change**

Quarterly observations; 10-year centered moving average annualized growth

Log points ($\times 100$)

- **1980’s-2000:** Decline in labor share started when investment technological change accelerated.

Source: Fernald (2012)
Capital-labor ratio and investment-specific tech. change

Quarterly observations; 10-year centered moving average annualized growth

Log points (x 100)

Early postwar period:
Investment-specific technological change and relatively constant labor share.

Source: Fernald (2012)
Capital-labor ratio and investment-specific tech. change

Elsby/Hobijn/Sahin BPEA F13 The Decline of the U.S. Labor Share

It is not machines replacing workers

Capital deepening and investment-specific tech. change
Quarterly observations; 10-year centered moving average annualized growth

Investment-specific technological change

Past decade:
Decline accelerated when investment technological change slowed down.

Source: Fernald (2012)
Investigate the sources of the within-industry changes in payroll shares.

- If the decline in the payroll share is due to firms replacing workers with machines, then sectors that invest in types of equipment with slower price increases should see larger declines in their payroll shares.

- This would result in a positive relationship between the rate of equipment price increases and the change in the payroll share across industries.

Exploit sectoral data on equipment prices and labor shares.

- Use price of equipment and software data from the Fixed Asset Tables made available by the BEA for 60 NAICS industries.
Capital-labor substitutability: a disaggregate perspective

Equipment price growth and payroll share declines
59 NAICS sectors; size reflects value added share

A weak negative relationship.
Declines both payroll shares and equipment prices were common from 1987 to 2011.

Around three quarters of industries experienced a decline in their payroll share; around half of them experienced a decline in the equipment investment price.

A weak negative relationship between the change in equipment prices and payroll shares across industries.

This is the opposite of what one would expect if capital deepening due to the decline in price of equipment were the driving force of the decline in the payroll share.

This evidence strengthens the findings of our aggregate analysis.
Deunionization

- An important change in U.S. labor market has been the decline in unionization.
- The fraction of workers covered by a union or employee association contract declined from 14.6% in 1987 to 7.7% in 2011.
- The bargaining power of unions tends to increase workers’ share of the surplus generated in the production process. Hirsch (2012) estimates that union wage premiums in the private sector were around 25% in 1984.
- A large decline in union membership might be expected to result in a decline in the aggregate labor share.
- Such a decline would be concentrated in the industries with the largest declines in union coverage.
Deunionization and payroll share declines
59 NAICS sectors; size reflects value added share

△ Union coverage rate (%-point), '87-'11
△ Payroll share, '87-'11

- A weak positive relationship.
Globalization: the role of rising imports

- Substantial increase in imports in the United States in the last few decades.
- Part of this rise is a consequence of *vertical specialization*, which occurs when countries specialize in particular stages of a good’s production sequence (Yi, 2003).

Assume \( y = F(k, m) \). Under constant returns:

\[
\frac{\partial \ln \lambda}{\partial \ln m} = -(1 - \lambda) \mu (\rho_{lm} - \rho_{km})
\]

where \( \rho_{lm} \) and \( \rho_{km} \) index the substitutability of labor and capital with respect to imported inputs, and \( \mu \) is the share of \( m \) in \( y \).

- Increased import exposure will reduce labor’s share if imported intermediates are more substitutable with labor than they are with capital, \( \rho_{lm} > \rho_{km} \).
Globalization: the role of rising imports

- Compute *import exposure* for each industry by asking the following question:
  - If the U.S. were to produce domestically all the goods that it imports, how much additional value added would each industry have to produce?
  - For example, if all U.S. imports of clothes were produced domestically, how much would value added increase in sectors like retail, textile manufacturing, and so on.

- Import exposure is expressed as the percentage increase in value added needed to satisfy U.S. final demand if the U.S. would produce all its imports domestically.

- Use the annual input-output matrices that are available from 1993 to 2010 from the BLS.
Globalization: the role of rising imports

A strong negative relationship.
## Regression analysis

<table>
<thead>
<tr>
<th>Dependent variable: Δ payroll share (%-point), '87-'11</th>
<th>I</th>
<th>II</th>
<th>III</th>
<th>IV</th>
<th>V</th>
</tr>
</thead>
<tbody>
<tr>
<td>Change in equipment price (%), '87-'11</td>
<td>-1.52</td>
<td>-1.03</td>
<td>-0.90</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.78)</td>
<td>(0.72)</td>
<td>(0.74)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Change in unionization coverage rate (%-point), '87-'11</td>
<td>0.22</td>
<td>0.01</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.14)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Change in import exposure (%-point), '93-'10</td>
<td>-0.87**</td>
<td>-0.81***</td>
<td>-0.82**</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.21)</td>
<td>(0.22)</td>
<td>(0.24)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$R^2$</td>
<td>0.06</td>
<td>0.04</td>
<td>0.22</td>
<td>0.25</td>
<td>0.25</td>
</tr>
<tr>
<td>No. of observations</td>
<td>59</td>
<td>56</td>
<td>59</td>
<td>59</td>
<td>56</td>
</tr>
</tbody>
</table>

Note: Significance levels * p<5%, ** p<1%, *** p<0.1%. All results are obtained using weighted least squares with an industry’s average value-added share over 1987-2011 as the weight.

- Increases in import exposure of U.S. businesses can account for 3.3 ppts of the 3.9 ppt decline in the U.S. payroll share.
- Our interpretation: Reflects offshoring of the labor intensive part of the U.S. supply chain
- Explanations not mutually exclusive: “IT-enabled restructuring of production process”
Reconsidering the use and interpretation of the labor share
The most straightforward interpretation of the labor share is as a measure of the distribution of income between capital and labor.

- The most common application of factor income shares is in growth and development accounting, in particular in the measurement of TFP.
- Are the recent movements in the U.S. labor share of an order of magnitude that justifies a reconsideration of the assumption of approximate constancy of factor shares?
- Recalculate Fernald’s (2012) measure of TFP growth with the labor share held constant at its postwar average.
Measured and counterfactual TFP growth

Quarterly observations; growth rates are annualized log changes

Log points Percent

TFP growth

Counterfactual TFP growth

Source: Fernald (2012) and authors' calculations
Proxy for wage markups and resource slack.

- Decline renders labor share non-stationary, King and Watson (2012)
- Imperfect proxy for inflationary pressures. Many parts of the labor share are not a part of firms' marginal costs, Gali and Gertler (1999) and Sbordone (2002).
- This is even true for the payroll share. Some components, such as stock options, are not linked to the quantity of labor used by the firm.
- The labor hare is not a satisfactory measure of the wedge between the marginal cost and marginal product of labor.
Proxy for inequality

International Labor Organization (2013) interprets the recent decline in the labor share as an indication of inequitable growth.

- The period during which the U.S. labor share declined was accompanied by a substantial increase in income inequality.
- The increase in inequality within labor income dwarfs the movements in the labor share.
- Labor share has in fact been propped up by the labor income of very highly paid individuals in recent decades. Labor’s share has declined despite the increased earnings of the super-rich.
Labor share by income fractile

NFB Labor share of the top 10% income earners
Quarterly data; seasonally adjusted; payroll and prop.inc w/o IVA and CCA

Conclusions

- Around one third of the decline in the published labor share due to the imputation of the labor income of the self-employed.
- Substantial, though offsetting, movements in labor shares within industries before 1997.
- By contrast, the recent decline has been dominated by trade and manufacturing.
- Limited support for neoclassical explanations based on the substitution of capital for labor to exploit technical change embodied in new capital goods.
- Institutional explanations based on the decline in unionization also receive weak support.
- Leading potential explanation for the decline: offshoring of the labor-intensive component of the U.S. supply chain.
Cyclical fluctuations in the payroll share

Accounted for entirely by cyclical fluctuations within industries.

Variance decomposition of annual changes in the aggregate payroll share, 1948 to 2011.

<table>
<thead>
<tr>
<th>Major Sector</th>
<th>SIC '49 to '87</th>
<th></th>
<th>NAICS '87 to '11</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>Shift</td>
<td>Share</td>
<td>Total</td>
</tr>
<tr>
<td>Nonfarm business sector</td>
<td>100</td>
<td>102</td>
<td>-2</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-9</td>
</tr>
<tr>
<td>Natural resources and mining</td>
<td>4</td>
<td>-1</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
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Source: Bureau of Economic Analysis, Bureau of Labor Statistics, and authors’ calculations.

Note: Percentage point contributions to the variance of changes in the aggregate payroll share.
Labor share in the 1998-2003 period

Nonfarm business labor share
Quarterly observations; seasonally adjusted

Source: Bureau of Labor Statistics, Bureau of Economic Analysis, and authors' calculations
Contributions of tech and finance sectors

- Large rise and fall in the payroll share in the turn of the 21st century.
- Since stock options are counted as part of compensation when the employees exercise them, payroll share increased at the height of the tech bubble.
- Around half of the rise and subsequent fall in the aggregate payroll share between 1998 and 2003 can be attributed to changes in the payroll share of tech and finance sectors.
Contributions of tech and finance sectors

Shift-contributions by tech and finance to payroll share

Annual data; shift-contributions to percentage point changes in share

Source: Bureau of Labor Statistics, Bureau of Economic Analysis, and authors’ calculations

Mehran and Tracy (2001), Himmelberg, Mahony, Bang, and Chernoff (2004)
The shortfall in supplemental compensation growth

Nonfarm business sector

Source:

Fraction of value added

Wages and salaries share

Supplements share pre 1990

Supplements share 1990+

Contribution of financial payrolls to labor share
Quarterly observations; seasonally adjusted; share includes prop inc. w/o IVA and CCA

Source: Bureau of Economic Analysis
Alternative measures of the labor share—Kravis (1959)

Alternative measures of NFB labor share
Quarterly observations; seasonally adjusted

- Published - "Labor basis"
- "All-to-Labor basis"
- "Economy-wide basis"
- MFP - "Asset basis"

Source: Bureau of Labor Statistics, Bureau of Economic Analysis, and authors' calculations