Business in the United States
WHO OWNS IT AND HOW MUCH TAX DO THEY PAY?

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*The views expressed here are the authors’ and do not necessarily reflect those of the Treasury Department.
The Rise of Pass-Throughs

![Graph showing the rise of pass-through entities over time.](image-url)
PASS-THROUGHS AND TOP-1% INCOME SHARE

10.1 p.p. increase since 1980

4.1 p.p. increase via pass-through business income
6.0 p.p. increase via salaries and other capital income

Actual
Pass-through income share fixed at 1980 level
We use administrative tax data from the U.S. in 2011 to:

1. Identify business owners
2. Estimate how much tax they pay
This Paper

We use administrative tax data from the U.S. in 2011 to:

1. Identify business owners
2. Estimate how much tax they pay

We find:

1. Pass-through business income is especially concentrated
2. Average federal income tax rate on pass-throughs is 19%
3. 30% of income earned by partnerships cannot be unambiguously traced to an identifiable, ultimate owner
1. Linking businesses to their owners
2. Who owns businesses in the pass-through sector?
3. Method for estimating average tax rates
4. Average tax rates on business income
1. Linking Businesses to Their Owners
Partnerships file a business inc. tax return...
Which lists allocations only by partner type...

<table>
<thead>
<tr>
<th>Analysis of Net Income (Loss)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>a</td>
</tr>
<tr>
<td>b</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>(i) Corporate</th>
<th>(ii) Individual (active)</th>
<th>(iii) Individual (passive)</th>
<th>(iv) Partnership</th>
<th>(v) Exempt organization</th>
<th>(vi) Nominee/Other</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
... but are reflected in **K-1s** (issued per partner)
Linking Partnerships to Partners

Data Challenge: Partners can be one of many entity types, and different kinds of returns are processed by different systems.

Our Procedure: Link K-1s to partnership returns by merging on the Document Locator Number (linking 25.5m K-1s to 3.6m partnerships)

High coverage:
- Match 97.7% of partnerships to a K1
- Match 98.2% of aggregate ordinary business income
Partnerships with Partnership Partners

- Partnerships can be owned by other partnerships
- Not problematic for sector-wide analyses
- Problematic for industry breakdowns and possibly audits
Partnerships with Partnership Partners

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- Not problematic for sector-wide analyses
- Problematic for industry breakdowns and possibly audits
- Use recursive algorithm to trace income through tiers until only “nontransparent” partnerships remain
### Classifying Partners

<table>
<thead>
<tr>
<th>Partner Type</th>
<th>Form Filed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual</td>
<td>1040</td>
</tr>
<tr>
<td>C- and other corporations</td>
<td>1120, 1120(j \in {F,PC,L,RIC,REIT,H,C,POL,ND,\text{SF},\text{FSC}})</td>
</tr>
<tr>
<td>S-corporations</td>
<td>1120S</td>
</tr>
<tr>
<td>Tax-exempt</td>
<td>990, 990(j \in {T,R,PF,ZR,C})</td>
</tr>
<tr>
<td>Estate/trust</td>
<td>1041</td>
</tr>
<tr>
<td>Foreign person/entity</td>
<td>1042, 1042S, 8805, 8288A</td>
</tr>
<tr>
<td>Partnerships</td>
<td>1065, 1065B, 1066</td>
</tr>
<tr>
<td>Unidentified EIN</td>
<td>Taxpayer identifier classifiable as EIN, but tax form unknown</td>
</tr>
<tr>
<td>Unidentified TIN type</td>
<td>Taxpayer identifier not classifiable</td>
</tr>
</tbody>
</table>
1. **S-Corporations**
   - Owners must not be other business entities
   - Link 1120S K1s to owner’s Form 1040

2. **Sole Proprietorships**
   - Income reported directly on Form 1040

3. **C-Corporations**
   - Owners are not identifiable
   - Use dividend income from Form 1040
2. Who Owns Businesses?
Number of K1s by Type of Partner

- **Individuals**: 78.3% (Without Partnership Partners) 73.9% (With Partnership Partners)
- **Unidentified TIN type**: 7.9% (Without) 7.4% (With)
- **Partnerships**: 5.6% (Without) 5.0% (With)
- **Estate/trust**: 5.3% (Without) 5.0% (With)
- **Unidentified EIN**: 2.2% (Without) 2.1% (With)
- **Foreign person/entity**: 1.9% (Without) 1.8% (With)
- **S-corporations**: 1.7% (Without) 1.6% (With)
- **Tax-exempt**: 1.4% (Without) 1.3% (With)
- **C- and other corporations**: 1.3% (Without) 1.3% (With)

The chart illustrates the percentage distribution of K1s by type of partner, comparing those with and without partnership partners.
Partnership Income Shares by Industry

<table>
<thead>
<tr>
<th>Industry</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mining, Oil &amp; Gas</td>
<td>3.5%</td>
</tr>
<tr>
<td>Health Care</td>
<td>4.1%</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>4.6%</td>
</tr>
<tr>
<td>Other</td>
<td>7.0%</td>
</tr>
<tr>
<td>Professional Services</td>
<td>10.8%</td>
</tr>
<tr>
<td>Finance &amp; Holding Cos</td>
<td>70.0%</td>
</tr>
</tbody>
</table>

Note: “Finance & Holding Cos” includes real estate and rental partnerships (≈ 3.1% of total)
Business Participation Rates by AGI Pctile

Share with positive income (%)

AGI percentile

Sole proprietorship income
C-corporation income
S-corporation income
Partnership income
Partnership Income Shares by AGI Pctile

Three Sample Industries

Accommodation and Food Service (NAICS 72)
Professional Services (NAICS 54)
Finance, Holding Companies (NAICS 52, 55, and 531)
Tax Rates on Income Distributed to Partners
Calculated Rates

\[
T_{ik} = \begin{cases} 
T_{OTA} & \text{if } k \text{ files } \text{form} \in \{1040, 1120, 1120S\} \\
T_{Assigned} & \text{otherwise}
\end{cases}
\]

where

- \( T_{ik} \equiv \text{tax rate on income type } i \text{ to partner } k \text{ from all partnerships } p \)
- \( i \equiv \text{income type in } \{\text{capital gains, dividends, ordinary business income, interest}\} \)
- \( Y_{ik} \equiv \text{sum of payment of income type } i \text{ to partner } k \text{ from all partnerships} \)
- \( \text{TAX}_{ik} \equiv \text{change in tax liability from the OTA tax calculator} \)
**Tax Rates on Income Distributed to Partners**

**Assigned Rates**

\[
T_{ik}^{\text{Assigned}} = \begin{cases} 
T_{i,1040}^{\text{OTA}} & \text{if } \text{form} \in \{\text{1120-RC}, \text{1120-REIT}, \text{1066}, \text{1041}\} \\
T_{i,1120}^{\text{OTA}} & \text{if } \text{form} \in \{\text{1120}\} \forall j \in \{\text{F}, \text{PC}, \text{L}, \text{H}, \text{C}, \text{POL}, \text{ND}, \text{SF}, \text{FSC}\} \\
.025 & \text{if } \text{form} \in \{\text{8805}, \text{1042S}, \text{8288A}, \text{1042}\} \\
0 & \text{if } \text{form} \in \{\text{990}, \text{990}j\} \forall j \in \{\text{T}, \text{R}, \text{PF}, \text{ZR}, \text{C}\} \\
.025 + \frac{T_{i,1120}^{\text{OTA}}}{2} & \text{if } k \text{ has unidentified EIN or tin type}
\end{cases}
\]

where

- \textit{form} is the tax form partner \(k\) files
- \(T_{i,1040}^{\text{OTA}}\) is the tax rate for individuals from the OTA tax calculator for income type \(i\)
- \(T_{i,1120}^{\text{OTA}}\) is the tax rate for C-corporations
**Aggregating Tax Rates**

**Partnership Rates**

\[ T_p = \left( \sum_{i \in I} \sum_{k \in K} T_{ik} Y_{ikp} \right) \]

where

- the numerator is the sum of tax liabilities over income types \( i \) and partners \( k \) associated with payments from partnership \( p \)
- the denominator is the total payments from partnership \( p \)

**Partnership Sector Rate**

\[ T = \left( \frac{\sum_{i \in I} \sum_{k \in K} \sum_{p \in P} T_{ik} Y_{ikp}}{Y} \right) \]

where

- the numerator is the sum of tax liabilities from payments from partnerships
- the denominator is the total payments from all partnerships
Tax Rates on Other Business Types

1. S-Corporations
   - $TAX_S \equiv$ Actual tax minus hypothetical tax with zero 1120S income
   - Tax rate is $TAX_S$ divided by actual 1120S income

2. Sole Proprietorships
   - Same method as S-Corporations

3. C-Corporations
   - $TAX_{C1} \equiv$ Actual taxes paid
   - First layer is $TAX_{C1}$ divided by taxable income
   - $TAX_{C2} \equiv$ Estimate from Poterba (2004) for dividend+cap gains tax times income net of first layer of tax
   - Final rate combines first and second layer of tax
4. Average Tax Rates on Business Income
Tax Rate by Entity Type

- **Sole Proprietorships**: 13.6%
- **Partnerships**: 15.9%
- **S-corps**: 25.0%
- **C-corps**: 31.6%

The diagram illustrates the average tax rates and payout tax rates for different types of entities.
Tax Rates on Partnership Income
By Type of Partner

- S-corporations: 22.0%
- Individuals: 21.0%
- C- and other corporations: 20.1%
- Estate/trust: 16.5%
- Total Excluding Partnerships: 15.9%
- Unidentified TIN type: 12.6%
- Unidentified EIN: 11.7%
- Foreign person/entity: 2.5%
- Tax-exempt: 0.0%
Tax Rates on Partnership Income
By Industry

<table>
<thead>
<tr>
<th>Industry</th>
<th>Tax Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional Services</td>
<td>22.4</td>
</tr>
<tr>
<td>Health Care</td>
<td>22.3</td>
</tr>
<tr>
<td>Other</td>
<td>22.1</td>
</tr>
<tr>
<td>Mining, Oil &amp; Gas</td>
<td>18.5</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>16.6</td>
</tr>
<tr>
<td>Finance &amp; Holding Cos</td>
<td>14.7</td>
</tr>
</tbody>
</table>

Note: “Finance & Holding Cos” includes real estate and rental partnerships (≈ 3.1% of total)
Partnership Income Type Distribution
By Industry

Note: “Finance & Holding Cos” includes real estate and rental partnerships (≈ 3.1% of total)
Partnership Ownership is Opaque

1. 20% of income earned by unclassifiable partners
   ▶ Use income type allocations to “guess” applicable rate

2. Not all partnership income can be uniquely linked to an originating partnership
   ▶ Use recursive algorithm to trace income through tiers until only “nontransparent” partnerships remain
PARTNERSHIP OWNERSHIP IS OPAQUE
SOME FACTS ABOUT NONTRANSPARENT PARTNERSHIPS

1. Algorithm reaches fixed point after 22 steps
2. 22,417 nontransparent partnerships remain (out of 3.6M)
3. Unsolved partnerships issue 9.6M K1s (out of 25.5M)
4. $100B of taxable income in this group (out of $671B)
5. Tax paid on this income is 8.8% (compared to 17.1% for remaining $571B)

2. **Who Owns Them?**
   - 69% of pass-through income earned by individuals accrues to the top-1%
   - The union of income flowing (1) to unclassifiable partners and (2) through nontransparent partnerships is $200B, or 30% of income earned in the partnership sector overall.

3. **How Much Tax Do They Pay?** The average federal income tax rate on pass-through business income in 2011 is 19%.

4. **Implication**: With pass-through activity at 1980 levels:
   - Average rate in 2011 would have been 28% (instead of 24%)
   - Tax revenue would have been at least $100B higher