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NEW YORK UNIVERSITY
SCHOOL OF LAW

“Who’s Left to Tax? US Taxation of Corporations and Their
Shareholders.”

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Urban-Brookings Tax Policy Center

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Via Zoom

Time: 2:00 – 3:50 p.m. EST

Week 10

SCHEDULE FOR FALL 2020 NYU TAX POLICY COLLOQUIUM

(All sessions meet online on Tuesdays, from 2:00 to 3:50 pm EST)

1. Tuesday, August 25 – Steven Dean, NYU Law School. “A Constitutional Moment in Cross-Border Taxation.”
2. Tuesday, September 1 – Clinton Wallace, University of South Carolina School of Law. “Democratic Justice in Tax Policymaking.”
3. Tuesday, September 8 – Natasha Sarin, University of Pennsylvania Law School. “Understanding the Revenue Potential of Tax Compliance Investments.”
4. Tuesday, September 15 – Adam Kern, Princeton Politics Department and NYU Law School. “Illusions of Justice in International Taxation.”
5. Tuesday, September 22 – Henrik Kleven, Princeton Economics Department. “The EITC and the Extensive Margin: A Reappraisal.”
6. Tuesday, September 29 – Leandra Lederman, Indiana University Maurer School of Law. “Of Risks and Remedies: Best Practices in Tax Rulings Transparency.”
7. Tuesday, October 6 – Daniel Shaviro, NYU Law School. “What Are Minimum Taxes, and Why Might One Favor or Disfavor Them?”
8. Tuesday, October 13 – Gabriel Zucman, University of California, Berkeley. “The Rise of Income and Wealth Inequality in America: Evidence from Distributional Macroeconomic Accounts.”
9. Tuesday, October 20 – Michelle Layser, University of Illinois College of Law. “How Place-Based Tax Incentives Can Reduce Economic Inequality.”
10. Tuesday, October 27 – Steve Rosenthal and Theo Burke, Urban-Brookings Tax Policy Center. “Who’s Left to Tax? US Taxation of Corporations and their Shareholders.”
11. Tuesday, November 10 – Owen Zidar, Princeton Economics Department. “The Tax Elasticity of Capital Gains and Revenue-Maximizing Rates.”
12. Tuesday, November 17 – Abdoulaye Ndiaye, NYU Stern Business School. “Redistribution With Performance Pay.”
13. Tuesday, November 24 – Lilian Faulhaber, Georgetown Law School. “Searching for Coherence: The Overuse of Excess Returns and Excess Profits.”
14. Tuesday, December 1 – Erin Scharff, Arizona State Sandra Day O’Connor College of Law. “Revisiting Local Income Taxes.”

Who's left to tax? US taxation of corporations and their shareholders¹

I. Introduction

We usually say that corporate earnings are subject to two levels of income tax: first, the corporation pays an income tax on earnings and, second, the shareholders pay an income tax on the dividends they receive and capital gains they realize. The story now is illusory: We tax earnings twice, but badly.

A half century ago, the US corporate income tax was a major source of revenue. Since then, the corporate tax base has eroded and, in 2017, the corporate tax rate was cut sharply from 35 to 21 percent. As a result, corporate tax receipts dropped from 3.6 percent of GDP in 1965 to 1.5 percent in 2017 to 1.1 percent in 2019.² Because of the COVID-19 pandemic, and the resultant economic collapse, corporate tax receipts fell further, finishing below 0.8 percent of GDP for the fiscal year 2020, which ended on September 30 (and will finish lower still for the calendar year 2020).³

Over the same half century, the shareholder tax base also dwindled. In a 2016 article, we estimated that US taxable accounts only held about a quarter of US portfolio stock down from almost 80 percent 50 years prior.⁴ In a 2017 article, we estimated foreign investors held about 35 percent of US corporate stock, including both foreign direct and portfolio investments.⁵

After the 2017 cuts in corporate tax rates, there have been calls to raise them. Most recently, for example, former Vice President Biden proposed to raise the corporate income tax rate from 21 to 28 percent.⁶

This article updates our previous estimates of the shifting ownership of US corporate equity and describes continuing trends. We find that foreigners now hold about 40 percent of total US equity, retirement accounts about 30 percent, and taxable accounts about 25 percent. We then discuss the implications of the ownership trends for tax policy, both for raising taxes on corporations and shifting more taxes to shareholders. Overall, we find that foreigners and the richest Americans incur the burden of increasing corporate taxes—and reap the benefit of cutting them.

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² <https://www.taxpolicycenter.org/statistics/source-revenue-share-gdp>

³ <https://www.cbo.gov/topics/taxes>.

⁴ See Rosenthal and Austin, "The Dwindling Taxable Share of US corporate Stock," Tax Notes, May 16, 2016. See also Burman, Clausing, and Austin, "Is US Corporate Income Double-Taxed?" 70 Natl Tax J. 675 (2017) (corroborating original estimates by Rosenthal and Austin).

⁵ See Rosenthal, "Slashing Corporate Taxes; Foreign Investors are Surprise Winners," Tax Notes, Oct. 23, 2017.

⁶ <https://www.taxpolicycenter.org/publications/analysis-former-vice-president-bidens-tax-proposals>

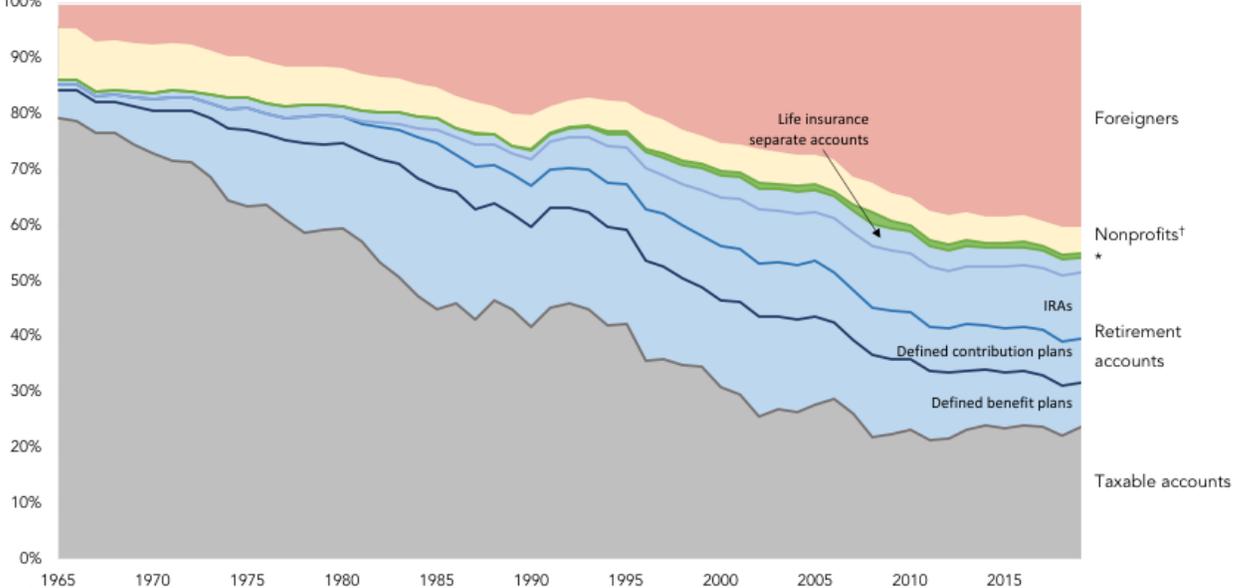
II. The shifting ownership of US corporate equity

In recent years, the foreign share of US corporate equity has ballooned, as reflected in data from the financial accounts of the US from the Federal Reserve (the “Fed”).⁷ Foreigners held just 4 percent of US equity in 1986, but their share rose steadily to 11 percent by 1980, 25 percent by 2000, and 40 percent today.

Figure 1: Ownership of U.S. Corporate Stock, 1965-2019

Direct and Indirect Holdings

Percent of U.S. Corporate Equity



Source: Board of Governors of the Federal Reserve System, “Financial Accounts of the United States;” Tax Policy Center Calculations

† Dashed lines indicate TPC estimates

* Federal, state and local government holdings, including equity in 529 college savings plans

Foreigners own US corporate equity two ways: (i) foreign direct investment (“FDI”), which is voting stock of 10 percent or more or (ii) portfolio stock for less than 10 percent of voting stock.⁸ For example, Siemens AG, a German multinational, might wholly own Siemens USA, a “direct” investment. Or the Norwegian sovereign wealth fund might own Apple stock as a portfolio investment.

Both the direct and portfolio investment by foreigners in US equities increased dramatically over the last two decades.⁹ And the spurts appears unrelated to changes in the US corporate tax rates.¹⁰

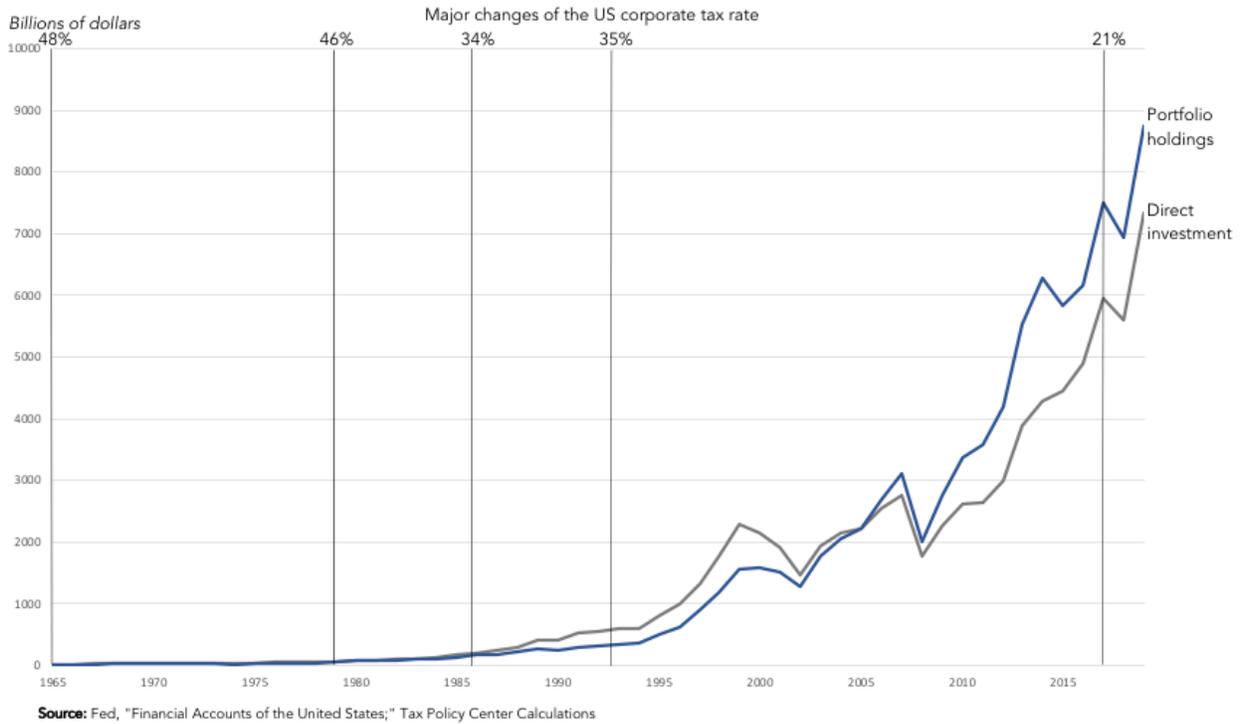
⁷ Federal Reserve, “Financial Accounts of the United States: Flow of Funds, Balance Sheets, and Integrated Macroeconomic Accounts, Second Quarter 2020” (Sept. 21, 2020).

⁸ Foreign direct investment in the US is the ownership or control, by a foreign person of 10 percent or more of the voting securities of an incorporated US business enterprise or the equivalent interest in an unincorporated US business enterprise. Quijano, “A Guide to BEA Statistics on Foreign Direct Investments in the United States.” Foreign investment that is not direct investment is portfolio investment

⁹ We reduce the foreign share of FDI to reflect US holdings of the foreign corporations that make the FDI. (See Appendix for methodology.)

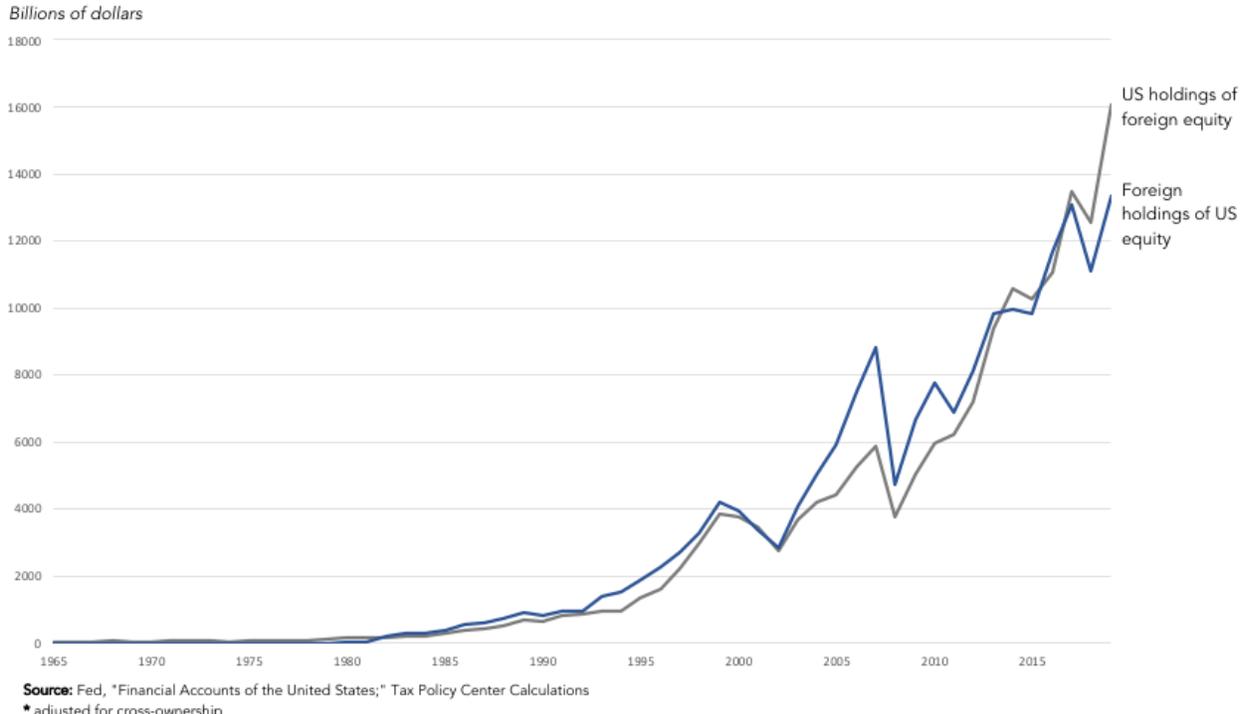
¹⁰ Trying to isolate the effect of changes in US corporate tax rates on inbound capital flows is beyond the scope of this paper.

Figure 2: Foreign Ownership of US Equity, 1965-2019



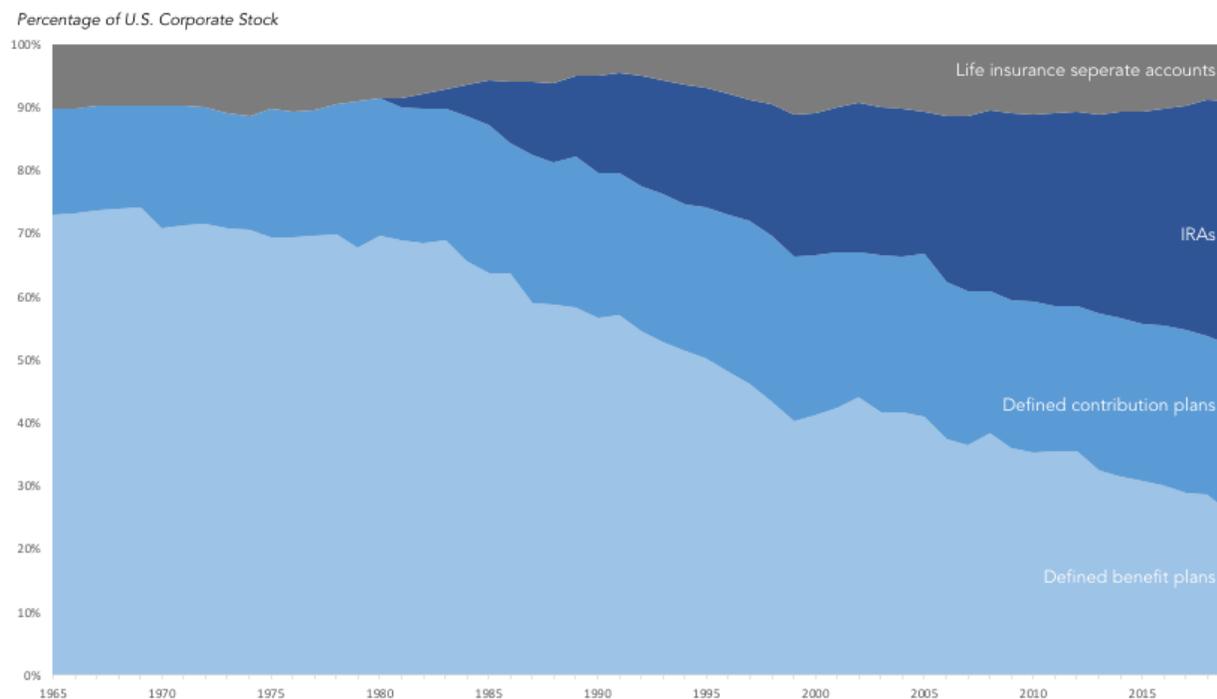
Over the same period, US ownership of foreign stock rose at a similar clip. This growth, by spurts, in cross-border investment is just one manifestation of globalization.

Figure 3: Cross-border Equity Investment*, 1965-2019



Stock that is not held by foreigners is increasingly held in tax-advantaged retirement accounts, now about 30 percent of total US equity. Retirement accounts include defined benefit (“DB”) plans (8 percent of the total US equity), defined contribution (“DC”) plans (8 percent), individual retirement accounts (“IRAs”) (12 percent), and life insurance separate accounts (3 percent), which are reserves that fund annuity and life insurance policies.

Figure 4: U.S. Corporate Stock in Retirement Accounts, 1965-2019



Source: Fed, "Financial Accounts of the United States;" Tax Policy Center Calculations

The oldest retirement plans, DB plans, started in the mid-19th century, as some employers paid employees a percentage of their salary after disability or retirement. Today, DB plans make annuity payments to retired workers based on years of work and earnings. To qualify under the tax rules, a DB plan can pay a maximum \$235,000 annually after retirement.

Both private and public employers can offer DB plans. However, over time, most private employers turned away from DB plans, because of their large long-term funding burdens.¹¹ As a result, the share of US equities held by DB plans fell from a high of 22 percent in 1985 to 16 percent by 2005. The trend continued, abetted by a state and local DB plan shift from direct equity holdings to alternative investments, including hedge funds, private equity funds, real estate, and commodities.¹² By 2019, the share of US equities held by DB plans had declined to 8 percent.

¹¹ Bomey "It's really over" Corporate pensions head for extinction as nature of retirement plans changes." USA Today (Dec. 31, 2019). <https://www.usatoday.com/story/money/2019/12/10/corporate-pensions-defined-benefit-mercator-report/2618501001/>

¹² Aubry, Chen, and Munnell, "A First Look at Alternative Investments and Public Pensions," Center for Retirement Research at Boston College (July 2017). Curiously, the Fed counts private equity held by DB plans as direct equity, which we follow.

Defined contributions (DC) plans permit an employer and/or its employees to make fixed contributions to a retirement plan. The maximum combined employer and employee contribution is \$57,000 annually for 2020, with an extra \$6,500 “catch up” contribution by employees age 50 or over, for a total of \$63,500.¹³ The employee owns the account and the balance in the account depends on the size of past contributions and accumulated investment returns.

DC plans grew in popularity starting in 1980, when Congress first authorized 401(k)s. Since then they have remained popular and have held around 10 percent of US equity for the last four decades. DC plans now include 401(k) plans, similar 403(b) plans for nonprofit employees, 457(b) plans for state and local government employees, and the federal government’s Thrift Savings Plan.

Congress introduced Individual Retirement Accounts (“IRAs”) in 1978, which are like DC plans, but without an employer’s participation. IRAs, the newest category of retirement plans, grew steadily in popularity since then and now hold 12 percent of US equity. Congress initially set the IRA contribution cap at \$1,500, but it’s now \$6,000 with an extra \$1,000 “catch up” contribution, for a total of \$7,000. The largest increase occurred in 2001, when Congress increased the limit from \$2,000 to \$5,000, with a five-year phase-in, and added the extra \$1,000 catch-up. However, most of the growth in IRAs holdings has been fueled by rollovers of large balances in employer plans, which is permitted upon job changes.¹⁴

Life insurance companies secure their annuities for contract holders and beneficiaries with separate accounts. Annuities are contracts that pay out a fixed or variable income stream for a set period or over the lifetimes of the contract holders or beneficiaries. Their holdings have shown little change over the period we studied.

The share of holdings of US equity by the last category, taxable accounts, fell more than two-thirds over the last half century, from about 80 percent in 1965 to 25 percent in 2019. This slide ended in 2008 and flattened afterwards (as stock prices rebounded after the great recession).

III. Who bears the burden of higher corporate income tax rates?

Shareholders, in the short run and, mostly, in the long run, bear the burden of higher corporate tax rates. Thus, for example, shareholders would largely bear the burden of an increase in corporate income taxes from 21 to 28 percent, as proposed by former Vice President Biden. Conversely, they previously benefitted from the corporate tax cuts in the Tax Cuts and Jobs Act (“TCJA”).¹⁵

In 1962, Arnold C. Harberger first modeled the dynamics of an increase in corporate taxes.¹⁶ He described how an increase in a corporate income tax initially reduces the after-tax returns for capital invested in the corporate sector which, later, lowers pre-tax returns for capital invested elsewhere. That is because the capital that is invested in the corporate sector, which is taxed more heavily, may be shifted to the non-corporate sectors, reducing returns to capital there. A corporate tax increase also might reduce returns to labor, as workers in the corporate sector might earn less if there were less

¹³ The maximum employee contribution is \$19,500, with an extra \$6,500 “catch up” of contribution by employees age 50 or older for a total of \$26,000.

¹⁴ Holden, Sarah, and Daniel Schrass, “The Role of IRAs in US Households’ Saving for Retirement, 2018.” ICI Research Perspective 24, no. 10 (Dec. 2018). Available at www.ici.org/pdf/per24-10.pdf.

¹⁵ See Rosenthal, “Slashing Corporate Taxes: Foreign Investors are Surprise Winners.” (2017)

¹⁶ Harberger, Arnold C., “The Incidence of the Corporate Income Tax,” *Journal of Political Economy* 70(3), (1962).

capital for them to work with. (The reverse also would be true: a decrease in corporate taxes could increase returns to corporate capital and labor.)

In the short run, however, shareholders bear higher corporate income taxes--and benefit from lower taxes.¹⁷ As Harberger emphasized in 2008, “The idea always has been that the owners or shareholders of an enterprise . . . initially bear the incidence of a new [corporate] tax wedge.”¹⁸

And the short run could last a long time, as capital may shift slowly. As Alan J. Auerbach observed, “[w]hile computers can be moved from one office to another, it is considerably more difficult to turn a nuclear power plant into a tractor.”¹⁹ Or as Paul Krugman explained: “One does not simply unbolt machines in other countries from the floor and roll them into America the next week.”²⁰ Krugman suggested the path to the long run could last decades.

Moreover, long-run models generally assume only the taxation of normal returns to capital, not supernormal returns (or rents), which are returns in excess of the normal returns. To the extent corporate income tax is collected from supernormal returns, the corporation’s owners would bear it, even in the long run. That is because the corporation’s owners would not shift their investments, notwithstanding higher or lower corporate taxes.

The Treasury’s Office of Tax Analysis found that excess profits had grown from 60 percent to about 75 percent of the US corporate tax base over the period 1992-2013.²¹ Edward Fox likewise determined, over a longer period, 1957 -2013, that the US corporate income tax was collected predominantly from excess profits.²² Fox found the US corporate income tax mimics a cash flow tax, which is a tax on a business’s receipts less its costs of materials, capital investments, and labor. Under longstanding views, a cash flow tax is imposed only on a business’s supernormal returns, and falls on the business’s owners.²³ Both Treasury’s and Fox’s studies examined periods before the 2017 Tax Cuts and Jobs Act (“TCJA”), which allowed businesses to completely write-off their expenses until 2022, and at least temporarily shifted the US corporate income tax even closer to a cash flow tax.²⁴

IV. Who are the shareholders?

As we described above, foreign investors, retirement accounts, and taxable accounts predominantly own US equity and, thus, bear the increase or decrease in corporate taxes, in the short run and, for the large part, in the long run.

¹⁷ For existing shareholders, the effect is instantaneous, through the process of capitalization, as a stock’s price rises to reflect anticipated higher after-tax earnings (or falls to reflect lower after-tax earnings).

¹⁸ Harberger, “Corporation Tax Incidence: Reflection on what is Known, Unknown, and Unknowable.” In *Fundamental Tax Reform Issues, Choices, and Implications*, at 302 (2008).

¹⁹ Auerbach, “Who Bears the Corporate Tax? A Review of What We Know,” 20 *Tax Pol’y & Econ.* 1, 10 (2006).

²⁰ Krugman, “[The Transfer Problem and Tax Incidence \(Insanely Wonkish\)](#)” *NYT* (Oct. 5, 2017)

²¹ Power and Frerick, “[Have Excess Returns to Corporations been Increasing Over Time?](#)” *National Tax Journal* 69(4), 831-846 (2016).

²² Fox, “Does Capital Bear the US Corporate Tax After All? New Evidence from Corporate Tax Returns.” 17 *J. Empirical Legal Stud.* 71 (2020). See also Fox and Liscow, “A Case for Higher Corporate Tax Rates,” *Tax Notes* (June 22, 2020).

²³ E. Cary Brown, “Business-Income Taxation and Investment Incentives,” in *Income, Employment and Public Policy: Essays in Honor of Alvin E. Hansen* (1948).

²⁴ The write-off of business investments will phase out from 2022 to 2026. It’s unclear what will replace it.

Foreigners hold the largest chunk of US equity, about 40 percent, with 18 in direct investment and 22 in portfolio holdings. The 40 percent combined foreign ownership translates, proportionately, to 40 percent of the burden from an increase in corporate taxes.

Foreign direct investment (“FDI”) is often neglected in considering foreign ownership. It’s easy to miss, as the Fed reports direct investments on a table separate from other holdings of corporate equity.²⁵ Foreign multinational corporations often make these investments into controlled US subsidiaries.²⁶ But whether a US corporation is controlled by a foreign corporation, or is partially held in a foreign portfolio, its earnings would be taxed at the same rate and be borne by shareholders.²⁷

Some hypothesize that foreign-controlled US corporations might, effectively, pay taxes at a lower rate than non-controlled US corporations, so a tax increase on foreign-controlled US corporations might have less effect. Perhaps, for example, foreign-controlled US corporations could more easily shift their income abroad (at least before the recent US and international reforms to limit base erosion and profit shifting). Although this difference is plausible, it does not appear to be significant.²⁸

Moreover, based on the most recent IRS data, foreign-controlled US corporations paid slightly more than their proportionate share of US corporate taxes. That is, in 2016, foreign-controlled US corporations paid 17 percent of all taxes paid by US corporations, while they had only 13 percent of the assets and 16 percent of the gross receipts of all US corporations.²⁹

The next largest category of holders of US stock is retirement accounts which, by size, are: Individual Retirement Accounts (“IRAs”), defined contribution (“DC”) plans, defined benefit (“DB”) plans, and life insurance company separate accounts.

With IRAs and DC plans, participants elect to contribute and, typically, select their investment. They later benefit directly from the returns on their contributions, allowing them to withdraw more money later.

Because contributions are elective, households with the most resources are most likely to contribute to IRAs and DC plans and allow their balances to grow.³⁰

²⁵ L.230, Direct Investment, not L.223, Corporate Equities of the financial accounts of the Fed.

²⁶ The set of US corporations that are more than 50-percent controlled by foreigners is more than 90 percent of the foreign direct investment, by employment and assets. See BEA, “International Economic Accounts.”

²⁷ When we initially calculated ownership of US corporate equity, we focused on the dwindling share of US stock by US taxpayers—and we focused only on portfolio holdings (predominantly interests in publicly traded companies). In our later article, we focused on foreign ownership of US equity and we added foreign direct investment.

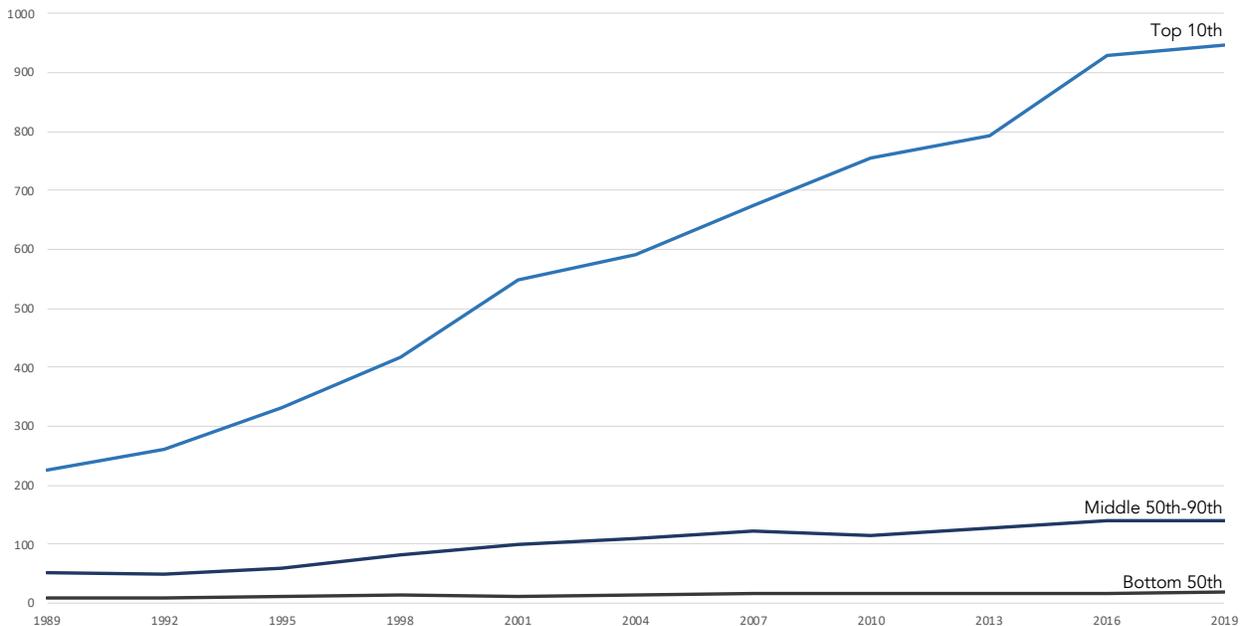
²⁸ US Treasury, “Report to the Congress on Earnings Stripping, Transfer Pricing and US Income Tax Treaties” (2007) <https://www.treasury.gov/resource-center/tax-policy/Documents/Report-Earnings-Stripping-Transfer-Pricing-2007.pdf>

²⁹ \$53.9 billion of the total \$316.3 billion of taxes paid by US corporations. <https://www.irs.gov/statistics/soi-tax-stats-foreign-controlled-domestic-corporations> Branch operations of foreigners paid another \$3 billion of taxes in 2016 (branch operations are taxed as corporations by the IRS—and counted as foreign direct investment by the Fed). But the IRS doesn’t separate their assets or receipts.

³⁰ Doran, “The False Promise of Portman-Cardin Pension Reform,” Tax Notes, June 10, 2019.

Figure 5: Average Assets in Retirement Accounts, 1989-2019
by Percentile of Net Worth

Thousands of 2019 dollars



Source: Fed Survey of Consumer Finances, Interactive Chartbook

Over the last 30 years, the average balance in retirement accounts (that is, IRAs and DCs) of the richest 10 percent of US households, by wealth, increased to about \$950,000, while balances for the bottom 50 percent increased slightly to around \$19,000, according to the 2019 Survey of Consumer Finance by the Fed.³¹ As a result, increases (or decreases) in corporate tax rates overwhelmingly burden (or benefit) the richest Americans, at least in the short run.

As noted in the earlier section, DB plans are less popular now—their share of US equity has fallen sharply. Despite a decline in stock holdings by DB plans, the Trump Administration promoted corporate tax cuts by emphasizing: “The biggest public pension funds are the biggest owners of equities in the world. They’re the policemen, they’re the firemen and the teachers . . . So yes we’re helping Americans by delivering returns back to them.”³²

Lowering corporate taxes does not deliver returns to policemen, firemen, teachers and other DB plan participants because an increase in the value of the assets in these plans does not increase the payments promised to the beneficiaries. Participants in DB plans, unlike participants in DC plans, do not benefit directly.³³ Rather, the employer benefits directly.

³¹ <https://www.federalreserve.gov/econres/scfindex.htm>

³² Gary Cohn, National Economic Council Director (Sept. 1, 2017) <https://www.cnbc.com/2017/09/01/first-on-cnbc-cnbc-transcript-national-economic-council-director-gary-cohn-speaks-with-cnbc-squawk-on-the-street-today.html>

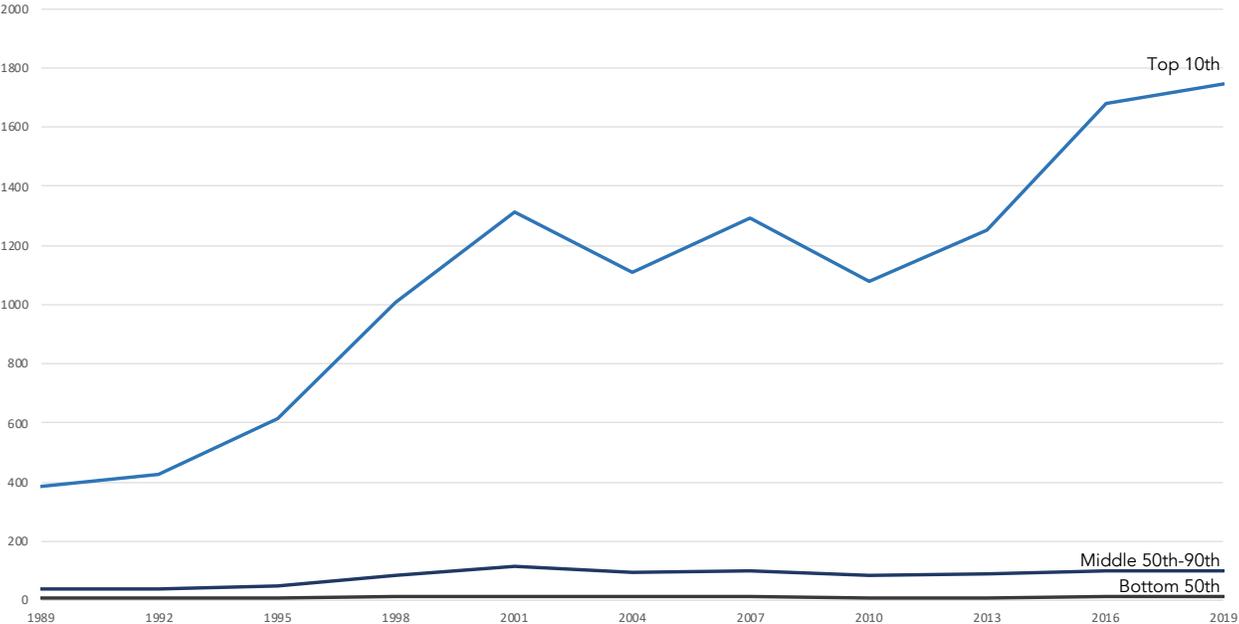
³³ There may be an increase in the likelihood that employers fulfill their obligations to employees if the employers realize higher returns.

Over the last half century, foreigners and retirement plans largely displaced taxable accounts as the owners of stock issued by US corporations. As a result, taxable accounts only owned about 25 percent of US equity in 2019, down from about 80 percent in 1965.

Moreover, stock held, directly and indirectly, in both taxable accounts and retirement accounts, now tilts overwhelmingly to the richest American. The top 10 percent of households, on average, own \$1.7 million of stock, directly and indirectly, while the bottom 50 percent only own about \$11,000.

Figure 6: Average Stock held in Retirement & Taxable Accounts, 1989-2019

by Percentile of Net Worth
Thousands of 2019 dollars



Source: Fed Survey of Consumer Finances, Interactive Chartbook

V. Shifting corporate taxes to shareholders directly

Some commentators believe high US corporate tax rates encourage US corporations to shift income offshore or to expatriate. They urge the US to end, or lower, taxes on corporations and increase taxes on shareholders, who are less mobile.

Eric Toder and Alan Viard proposed to eliminate the corporate tax and to increase the tax on dividends and stock gains.³⁴ Changes in the value of publicly traded stock would be marked-to-market in the hands of shareholders, if not sold during the year. (Mark-to-market is an accounting method that determines gains or losses on assets as if the assets have been sold at the end of the year.) Toder and

³⁴ See Toder and Viard, “Major Surgery Needed: A Call for Structural Reform of the US Corporate Income Tax. TPC Research Report. Urban-Brookings Tax Policy Center, Washington, DC. Toder and Viard later proposed to cut the corporate rate to 15 percent, not eliminate it. Toder and Viard, “Replacing Corporate Tax Revenues with a Mark-to-market ax on Shareholder income.” National Tax Journal, 69 (3), 701-732 (Sept. 2016).

Viard proposed to tax these returns as ordinary income, which is currently taxed at a 40.8 percent rate. In general, capital gains and dividends of individuals are taxed at a reduced rate of 23.8 percent. And, currently, unrealized stock gains are stepped up at death (and are never taxed).

Similarly, Harry Gruber and Rosanne Altshuler proposed to lower the corporate tax rate to 15 percent and increase the tax rate for dividends and gains to shareholders.³⁵ Rather than mark-to-market publicly traded stock, they would impose a deferred interest charge on gains from stock, when the stock is sold.

Given the dwindling base of taxable shareholders, both proposals are optimistic. For example, the gains of foreign shareholders are almost always exempt from taxation. Dividends that are paid to foreigners are subject to (i) a 30 percent US withholding tax for portfolio investments, which is typically reduced, by treaty, to 15 percent, and (ii) a 5 percent tax (or sometimes zero) for direct investment. Retirement accounts, and nonprofit institutions, are not taxed on either capital gains or dividends.

As a result, both proposals must collect a lot of tax from a shrinking base of taxable shareholders, which we estimate to be less than 25 percent. Collecting a large amount of tax from a shrinking base is economically challenging—and introduces distortions.

Another approach would be to “integrate” the US corporate and shareholder taxes, reducing two levels of tax to one. For example, the US could allow corporations to deduct dividends paid to shareholders, which would induce corporations to distribute their earnings as dividends to shareholders. For this approach to avoid losing revenue, the US must increase the tax on dividends that are received by shareholders, including foreigners, retirement accounts, and individuals.³⁶ These shareholders undoubtedly would object.

Alternatively, the United States might still tax corporations on their earnings but allow the shareholders a credit for the taxes paid (or, equivalently, permit a dividends-paid deduction coupled with a withholding tax on dividends paid to shareholders).³⁷ The credit or withholding tax would not be refundable to prevent a windfall for foreign investors or retirement accounts. But if these taxes were nonrefundable, some shareholders might pressure their corporations to shift income to lower-tax jurisdictions or move abroad.³⁸

VI. Conclusion

We posed a question in our title: “Who’s left to tax?” The answer is shareholders, who are predominantly foreigners and rich Americans. They received a windfall in 2017, when Congress slashed corporate tax rates to 21 percent so they can afford to contribute more now.

³⁵ See Gruber and Altshuler, *National Tax Journal*, 69(3), 643-676 (Sept. 2016).

³⁶ See Rosenthal, “Integrating the Corporate and Individual Tax Systems” the Dividends Paid Deduction Considered (May 17, 2016). <https://www.finance.senate.gov/imo/media/doc/16MAY2016Rosenthal.pdf> See also, Burman, et.al. at 694.

³⁷ Graetz and Warren, “Unlocking Business Tax Reform,” *Tax Notes*, Nov. 10, 2014.

³⁸ Congress might require retirement accounts, and other tax-exempt entities, to treat part or all of their dividends and capital gains from stock of foreign corporations as unrelated business taxable income to mitigate this problem.

Shareholders could be taxed either by raising corporate tax rates, or by integrating the corporate and shareholder tax, and expanding the shareholder taxable base. Given the dwindling corporate and shareholder tax base over the last half century, either step is crucial.

VII. Appendix: Overview of methodology

In the financial accounts of the US, the Fed counts all corporate equities that are issued in the US and some corporate equities that are issued abroad but held in the US. The Fed then allocates these issuances across various holder categories, ending with the Fed's residual category, the Household sector. In this manner, the Fed keeps total equity issuances equal to total equity holdings.

We follow a similar approach, starting with the Fed's corporate equities that are issued in the US, adjusting these issuances, and then allocating the adjusted issuances across holders by tax categories: foreigners, life insurance separate accounts, defined benefit plans, defined contribution plans, IRAs, government, nonprofits, and taxable accounts. We follow the same constraint as the Fed: total equity issuances for tax must equal total equities held for tax. But the equities issued for tax (the tax denominator) and equities held for tax (the tax numerators) differ somewhat from the Fed's, as we describe below.

Below we describe our approach: First, we calculate the tax denominator, and second, we calculate the tax numerators. All amounts below are market values (in billions of dollars) for 2019.

For the tax denominator, we transform total equity issuances reported by the Fed. We do this in four steps: (1) we subtract double-counted equity holdings i.e., (intercorporate holdings), (2) we subtract double-counted issuances (i.e., issuances by pass-through corporations, including S-corporations, exchange traded funds ("ETFs"), closed end funds ("CEFs"), and real estate investment trusts ("REITs")), (3) we subtract foreign-issued stock from the Fed's total for all equity issuances, and (4) we add foreign direct investment ("FDI") to our denominator, to reflect additional US equity that is held by foreigners. We're left with the tax denominator:

Table 1 US corporate equity issuances (tax denominator)

Step 1	Total corporate equity issuances (issued or held in the US)	\$54,984 ^a
	– Intercorporate holdings of corporate equity	(\$3,220) ^b
	= Equity issuances less intercorporate holdings	\$51,764
Step 2	– Pass-through issuances (tax-transparent)	(\$11,184) ^c
	= Equity issuances less intercorporate holdings, pass-through issaunces	\$40,581
Step 3	– Foreign-issued stock	(\$9,459) ^d
Step 4	+ Foreign direct investment (FDI)	\$8,764 ^e
	= Equity issuances less intercorporate holdings, pass-through issaunces, foreign issaunces + FDI	\$39,886

^aLine 1, Table L.223.

^bSum of lines 15, 16, 17, 18, 19, 26, and 27, Table L.223.

^cSum of lines 24, 25, and 31, Table L.223 and line 11, Table L.129.

^dLine 9, Table L.223.

^eLine 22, Table L.230.

Next, for the tax numerators, we transform equity holder categories reported by the Fed. We also adjust the amounts reported by the Fed to reflect the adjustments to the denominator in the four steps above. In this manner we ensure, for our tax calculations, total equity issued equals total equity held.

First, we remove financial and nonfinancial business holdings from the categories of tax holders. Otherwise, we believe the value of these holdings would be double counted. We then rework the remaining categories of equity holders reported in table L.223 of the *Flow of Funds* (on the left-hand side of table 2, in bold) into tax categories (right hand side of table 2, in bold).

Step 1. Transform Fed categories into tax categories for holders (numerators)

Table 2 Fed categories of equity holdings (in bold)		Tax categories of equity holdings (in bold)	
All equity issuances less intercorporate holdings	\$51,764	All equity issuances less intercorporate holdings	\$51,764
Rest of the world	\$8,197	Foreigners	\$8,197
Life insurance companies; separate accounts	\$541	Life insurance separate accounts	\$541
Private pension funds	\$3,136	DB plans	\$3,830
Private pension funds; DB plans (move to DB plan category)	\$1,316	Private pension funds; DB plans	\$1,316
Private pension funds; DC plans (move to DC plan category)	\$1,819	Federal government; DB plans	\$15
Federal government retirement funds	\$370	State and local government; DB plans	\$2,498
Federal government; DB plans (move to DB plan category)	\$15	DC plans	\$2,174
Federal government; DC plans (move to DC plan category)	\$355	Private pension funds; DC plan	\$1,819
State & local government; DB plans (move to DB plan category)	\$2,498	Federal government; DC plans	\$355
Federal government (move to government category)	\$33	IRAs	\$3,893
State & local governments (move to government category)	\$173	Government	\$440
Mutual funds (move to Indirect holdings category)	\$11,935	Assets in 529 college savings plans	\$234
Closed-end funds (move to Indirect holdings category)	\$107	Federal government	\$33
Exchange-traded funds (move to Indirect holdings category)	\$3,486	State & local governments	\$173
Household sector	\$21,287	Nonprofits	\$2,033
Assets in 529 college savings plans (move to Government category)	\$234	Taxable accounts	\$15,127
IRA self-directed accounts (make into IRAs category)	\$3,893	Indirect holdings through pass-through	\$15,528
Nonprofits (make into Nonprofits category)	\$2,033	Mutual funds	\$11,935
Taxable accounts (make into Taxable accounts category)	\$15,127	Closed-end funds	\$107
Financial & nonfinancial corporate business (remove as a category)	(\$3,220)	Exchange-traded funds	\$3,486

Mutual funds, ETFs, CEFs, and REITs are tax-transparent, and we look through these entities to allocate for tax. Thus, in step 2, we remove pass-through issuances from each holder category (other than mutual fund issuances, which the Fed had removed already) and add back the pass-through holdings of corporate equity.

Step 2. Remove pass-through issuances and allocate their holdings

Table 3	Direct equity holdings	- Pass- through	+ Indirect holdings (through mutual funds,	= All holdings
Remaining equity issuances	\$51,764	\$11,184	\$15,528	\$40,581
Foreigners	\$8,197	\$312	\$805	\$8,691
Life insurance separate accounts	\$541	\$555	\$1,434	\$1,421
DB plans	\$3,830	\$195	\$504	\$4,139
DC plans	\$2,174	\$1,535	\$3,657	\$4,297
IRAs	\$3,893	\$1,492	\$3,858	\$6,259
Government	\$440	\$32	\$82	\$491
Nonprofits	\$2,033	\$363	\$939	\$2,609
Taxable accounts	\$15,127	\$6,700	\$4,247	\$12,675
Indirect holdings through pass-throughs (tax transparent)	\$15,528			

This process establishes the direct and indirect equities held by each of the 8 tax categories. So, in step 3, we subtract foreign-issued equity, proportionately, for each category and, in step 4, we add, also proportionately, their respective holdings of FDI. Our final equity holdings now equal issuances (our original denominator).

Remove Foreign-issued stock from each category and add shares of FDI

Table 4	All portfolio equity	- Step 3. Foreign-issued	+ Step 4. Share of	= All US equity	Share of equity
Remaining equity issuances	\$40,581	\$9,459	\$8,764	\$39,886	
Foreigners	\$8,691		\$7,297	\$15,988	40%
Life insurance separate accounts	\$1,421	\$421	\$65	\$1,065	3%
DB plans	\$4,139	\$1,228	\$190	\$3,102	8%
DC plans	\$4,297	\$1,274	\$198	\$3,220	8%
IRAs	\$6,259	\$1,856	\$288	\$4,690	12%
Government	\$491	\$146	\$23	\$368	1%
Nonprofits	\$2,609	\$774	\$120	\$1,955	5%
Taxable accounts	\$12,675	\$3,760	\$583	\$9,498	24%