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Business Income and Business Taxation in the United States since the 1950s

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Executive Summary

In theory, the US tax system aims to attribute and tax all business income to individuals, but the tax treatment of this income varies. Pass-through income is taxed when earned, capital gains income is taxed when realized, dividends when distributed, and other forms of business income may escape taxation entirely. Business owners have control over the timing and character of their income: they can often choose, for example, between reporting business income or deducting it as wages or fringe benefits. And laws change, changing the incentive and ability to shift income between the individual and corporate sectors.

We integrate a wide variety of tax data to document the large long-run changes in the structure of business income and business taxation in the United States. These changes include the degree to which business incomes are taxed on a realization versus an accrual basis, the extent to which taxation is deferred, and the share of business income that is ultimately subject to taxation. We highlight the evolving relevance of retained earnings in the changing corporate sector and its relationship to equity values and unrealized capital gains. We also document the evolution of individual income components—profits of pass-through entities, dividends, and capital gains (both taxable gains and those escaping taxation through step-up). As a result of these changes, business incomes are increasingly taxed through personal income taxes instead of a combination of corporate and personal taxes. In particular, this implies that observability of business incomes on personal income tax returns has improved over time, a fact that has implications for measuring and understanding the income distribution.

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I. Introduction

Most economic activity is organized through businesses. As a result, the compensation of business owners—whether they are entrepreneurs or other equity holders—is a major part of national income. But businesses can be organized and can compensate their owners in a variety of complex and shifting ways. Importantly, the structure of business organizations and the style of owner compensation are sensitive to tax incentives. In this paper, we document long-term trends in the structure and composition of business income in the United States. Many of these trends are shaped by tax law. We highlight the shift from corporate to pass-through taxation that started with legal changes in the second half of the twentieth century, was fueled by tax incentives embedded in the Tax Reform Act of 1986 (which encouraged a shift from C to S corporations), and has continued unabated since then—with partnerships growing considerably in importance since the 1990s. As a result of these changes, "business incomes" are increasingly taxed through personal income taxes rather than through a combination of corporate and personal taxes. This shift from corporations to pass-throughs also suggests changes in the timing of business taxation and, in particular, a shift toward taxation based on accrual rather than realization.

These broad shifts have wide implications for how tax data is used in economics research. For example, tax data is a natural starting point for studying the income distribution, but tax concepts are not the same as economic concepts. The sheer multitude of business forms available—and the availability of alternative ways of compensating investors—puts researchers in a bind. Researchers must either engage in the daunting task of identifying the underlying economic (rather than tax) income characteristics they want to study—and then try to tease those characteristics out of the data—or they must rely on a broad definition of income that combines all tax categories. The latter path is followed by Piketty and Saez (2003) and many others. But this path is still riddled with difficulties.

By focusing on the shifting composition of business income, we highlight three difficulties of using tax data to study economic income concepts. The first problem is timing. Large shifts in how firms are organized, how capital gains are realized, and which firms pay dividends have produced substantial changes in the timing of taxable income. A second problem is the rise of nontaxable or tax-advantaged owners. Tax-exempt institutions, tax-advantaged retirement accounts,

and foreign individuals have generally grown in importance—and this secular growth has challenged the comprehensiveness of the tax base. On the other hand, we also document a major shift *away* from the retention of earnings in the corporate sector; this shift may suggest that personal income taxation better targets business income than it used to. A third problem is international comparisons. As figure 1 below points out, trends in business taxation vary across countries and, indeed, the United States may be distinct in the magnitude and direction of several important trends. These challenges and others make the measurement and interpretation of inequality data difficult. Our ongoing work (Clarke and Kopczuk 2016) and work in other countries (Alstadsæter et al. 2016; Fairfield and Jorratt De Luis 2016; Wolfson et al. 2016) explores the implications of these changes for the measurement of income and income inequality.

We are by no means the first to notice these broad trends in business income and business taxation.[1] But we attempt to systematically document the magnitude and importance of these issues in one place and over a relatively long time period, using a variety of aggregate and microdata. We offer a systematic account of the ways in which the organizational structure and tax status of the business sector has changed over the second half of the twentieth century and the start of the twenty-first. Understanding these trends matters for many reasons—among them, understanding the consequences of tax-policy changes of the last several decades and informing policy debates concerning business taxation that are around the corner. They also matter for understanding the individual income distribution. Large changes in US business taxation have occurred alongside major changes in America's individual income distribution, and shifts in the structure and tax status of the corporate sector interact with the taxation and visibility of incomes that appear on individual tax returns. As a result, understanding the nature and distribution of income requires a careful exploration of changes in business taxation.

We proceed as follows. In section II, we provide a short historical and conceptual overview of business taxation in the United States. After discussing our data sources in section III, we document organizational trends in section IV, highlighting the shift to S corporations after 1986, the growth of partnerships since the early 1990s, and changes in the relative sizes of various types of firm. Then, in section V, we document the extent to which various types of business income (dividends, partnership income, and S corporation profits) are visible on personal

income tax returns. In section VI, we focus on the timing of corporate income: the magnitude of (and changes over time in) retained earnings, the relationship between retained earnings and equity value, and the importance of unrealized capital gains. In section VII we briefly comment on the role of tax-exempt and tax-advantaged entities. We conclude in section VIII by highlighting the potential implications of these trends for the measurement of inequality.

II. A Rough Guide to Business Taxation in the United States

Businesses can be organized in many different ways: as sole proprietorships, as partnerships with or without limited liability, as closely held corporations, or as publicly traded corporations with several different classes of shareholders. Many factors influence the choice of organizational form, including liability, financing, and managerial decision making. But taxation is also crucial, for the obvious reason that different organizational forms are taxed in different ways.

Broadly speaking, there are two main approaches to taxing business incomes. One is to impose an entity-level tax, like the US corporate tax, that takes a bite out of firm-level income as it is earned. These entity-level taxes are usually combined with a system of taxing income as it is distributed to owners. The second approach is to allocate income to shareholders as it is earned. This approach—which integrates business taxation with personal income taxation—is commonly referred to as "pass-through" taxation, and we follow that convention here.

Both systems of business taxation can be seen as responses to the same dilemma. Most jurisdictions tax income when realized, presumably as a reasonable and administratively convenient way of getting at individual increases in wealth or ability to consume. But we also allow individuals to start separate, fictive legal entities (firms), which can also earn income. If we taxed income only when dollars entered individual bank accounts, it would be too easy for individuals to defer taxation[2] or avoid it entirely by keeping their income inside firms (Schizer 2016; Graetz 2008). As a result, shareholder-level taxation is supplemented by a separate entity-level tax—a tax that is an administratively blunt and distributively ambiguous tool. On the other hand, treating all entities as pass-throughs would raise problems of its own: we would face the invidious task of allocating firm-level income in large, complex entities to many dispersed owners.[3] And so, in countries like the United States, the system is mixed: some firms are treated more like separate taxable

entities, and others are treated more like aggregations of taxable individuals.

A corporate tax is an entity-level tax imposed on (appropriately defined) profits. In the United States, the corporate tax applies almost exclusively to a particular form of corporation—an entity called the C corporation because it is taxed under subchapter C of the Internal Revenue Code. Shareholders of these corporations are then additionally taxed either when money leaves the firm through dividends, or when the shareholders sell their equity stake and are subject to capital gains taxation. Blurring the line between dividends and capital gains are share repurchases, which give shareholders cash that is taxable as a capital gain. These instruments do not, by any stretch of a tax planner's imagination, exhaust all possible channels for getting money out of a firm. Businesses may be financed through debt; interest expenses can thus be an alternate way of compensating investors. Instruments that blur the line between equity and debt can allow businesses to achieve both tax efficient and profitable objectives, and are subject to a bewildering variety of legal rules. Active shareholders may also simply be compensated as employees through wages or through other instruments, including incentive pay, fringe benefits, and rents. Finally, abusing tax law may allow for consumption within a firm: owners can try to deduct their private consumption expenses as legitimate business costs. And, even when such moves are not illegal, they point toward the conceptual difficulty of distinguishing between consumption and expenses.

Pass-through treatment applies to a wide variety of organizational forms, including sole proprietorships, partnerships, limited liability companies, and corporations taxed under subchapter S of the Code ("S corporations"). Income of each of these types of firms is typically not taxed at all at the entity level; instead, profits are allocated to owners as they are earned.

This distinction—between pass-throughs and C corporations—has two noteworthy implications.[4] First, different forms of entity taxation suggest that businesses may choose an organizational form to minimize the tax consequences. While there are, as mentioned above, other considerations in play in the choice of the organizational form, differently taxed organizational forms are often close substitutes. In particular, for firms with a small but still sizable (up to 100) number of common shareholders, there are few differences between S and C corporate form, other than tax treatment. Second, at least on the surface, pass-through entities are taxed on an accrual basis, while C corporations are only

partially taxed on accrual through the corporate tax—and, especially in international context, deferral possibilities loom large—and then taxed again at a future time that is often up to the discretion of the owners. Indeed, the owners of small firms often have near-complete control over the timing of profit distributions or capital gains realizations.

The mix of incentives to pick different entities for tax reasons has varied immensely over the last 60 years. Two big things have changed. The first is the combination of corporate and individual rates. Before the Tax Reform Act (TRA) of 1986, the top corporate tax rate was considerably lower than the top individual tax rate. This meant that individuals in a high bracket had an incentive to use C corporations to defer individual taxes: firms could be used to earn and reinvest money without paying the high individual rate (Warren 1981). The tax reform changed these incentives by inverting the individual and corporate rates: for the first time in modern US tax history, the top individual rate fell below the top corporate rate. This gave those same investors an incentive to switch out of C corporations and into pass-through entities, which they did in droves. The C corporations have diminished in importance since then; now, the great bulk of C corporate income is earned by a very small number of large publicly traded firms, which cannot convert to S corporate status because S corporation stock cannot be listed on a public exchange. For this reason, it it sometimes said that the modern corporate tax can be conceptualized as a tax on firms that are publicly traded.

The second important change is less remarked upon, but perhaps equally important to the trajectory of modern US business taxation: other legal changes, beyond TRA 1986, that made differently taxed legal entities closer economic substitutes. An important early change was the Subchapter S Revision Act of 1982, which made S corporations a more plausible substitute for a much wider swath of existing C corporations—and thus enabled the great migration from C to S that occurred after TRA 1986. The original S corporation was a restrictive entity, designed to spare only the smallest business entities from double taxation: it could have a maximum of 10 shareholders, for example (Coven and Hess 1983). The Revision Act expanded this cap to 35, which was expanded once again to 75 in 1996 and to 100 in 2004. A second change was the creation of the modern LLC, a state law entity that is taxed like a partnership but reaps the benefits of limited liability (Hamill 2005). The first LLC statute was passed in the state of Wyoming in 1977, but it would take 11 years for the IRS to issue a stable revenue ruling stating that such entities would be entitled to partnership tax treatment

despite their limited liability. A third important change was the rise of so-called "check the box" rules, which, starting in 1997, allowed entities to elect whether they would be taxed as partnerships or corporations. These three changes made the relatively rapid and large-scale shifting between entities a reality.

III. Data and Coverage

We start many of our data series in 1958. The choice of a starting point will always be a little arbitrary. For many of the issues we study, the available data extend back farther in time—in some cases to the beginning of the twentieth century, if not earlier. But our choice is not random. The S corporation—a pass-through entity that is now the most common business organization in the United States, and that now accounts for a fifth of all business-level income—first debuted in 1958. Subchapter K, the portion of the internal revenue code that governs partnership taxation, was adopted in 1954 after a prolonged debate. The IRS began publishing its annual Corporation Income Tax Return Report the same year. Many of the other data series on which we rely also begin in the 1950s and 1960s. In short, many of the tax changes we study—tax changes that found their crucible in the reforms of the 1980s—have roots that extend back to the 1950s. A minor revolution in tax data began around the same time. These features make the 1950s the natural place to begin our story of broad changes in business structure and taxation.

In what follows, we rely largely on publicly available IRS reports, NIPA tables, and public-use individual tax return microdata to collect and illustrate trends in business incomes and the corresponding tax base. While almost all of the data we use is publicly available, much of what we describe is assembled here for the first time. We provide a fuller description of this data in a short appendix. We also make a limited use of the Statistics of Income (SOI) microdata that starts in 1960 and continues until 2010. Finally, we will also take advantage of the Survey of Consumer Finances between 1989 and 2013 to study unrealized capital gains.

IV. Trends in Organizational Form

To set the stage, figure 1 shows a comparison of the share of the overall business income that is subject to entity-level taxation in the United

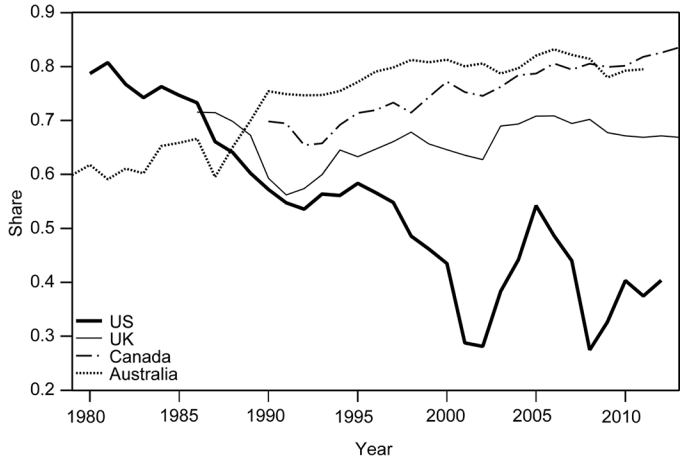

Fig. 1. Share of business income subject to entity-level tax

Note: Share of business income subject to entity-level taxation as reported to individual governments. See appendix for details.

States, United Kingdom, Australia, and Canada. Several features are immediately obvious. First, the corporate tax today applies to a much smaller share of income in the United States than in the other three countries. (Although the United States is not necessarily an outlier in a broader set of economies—the Joint Committee on Taxation [2013] notes that Japan and Germany have an even smaller corporate tax, at least in the small number of years studied in that report.) Second, the United States has undergone a massive change between the early 1980s, when the majority of all business income was in C-corporate form, and 2012, when a majority of business income is earned by pass-through entities.[5] This shift is large and, when compared to the other industrialized English-speaking countries in the figure, distinctive.

The magnitude and distinctiveness of these trends in US business taxation is the primary focus of what follows. In figure 2 and table A1, we document basic facts about the number and income of various types of business entities (other than sole proprietorships) over time. Interestingly, the number of partnerships and C corporations were actually about the same in 1958. But the growth of partnerships did not keep pace with C corporations in the decades that followed: while the number of both types of entity grew, by the mid-1980s there were 50% more C corporations than partnerships. At the same time, the number of S corporations increased from nonexistent before 1958 to 800,000 in 1986.

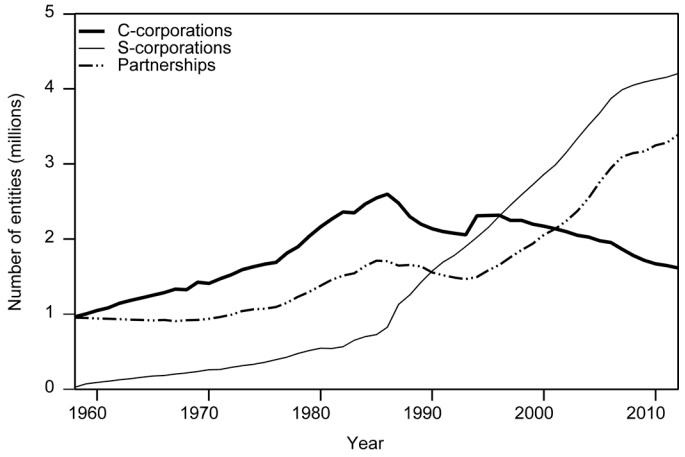

Fig. 2. Number of active business entities

Note: Number of active business entities. See appendix for details.

As a result of this rise, the number of C corporations and the combined number of pass-through entities (S corps or partnership) was about the same by the time of the 1986 Tax Reform Act. But, in the aftermath of TRA 1986, the number of S corporations increased by over 35% while the number of C corporations declined for the first time. That initial decline has continued. By 2012, the number of C corporations was down to 1.6 million from the peak of 2.6 million in 1986, while the number of S corporations has quintupled since 1986, and is now over four million. The consistent growth in S corporations after 1986 was at first accompanied by a slight decline in the number of partnerships, but since the mid-1990s their ranks have increased steadily—doubling to over three million by 2012. As mentioned above, the rise of partnerships is partly a consequence of the introduction of limited liability partnership (and limited liability corporation) statues in almost all states. In particular, in 1993 (the first year in which IRS reports the number of LLCs), there were just 17,000 LLCs constituting less than 2% of total partnerships. By 2012, the number of LLCs increased to 2.2 million, or about two-thirds of all partnerships (and the number of all other types of partnerships has declined). As a result of these changes—and in stark contrast to the lay of the land in the pre-1986 era—there were by 2012 over four times as many pass-through entities as C corporations.

Before 1987, tax incentives for successful firms tilted toward organizing a firm as a C corporation and this is reflected in net income data

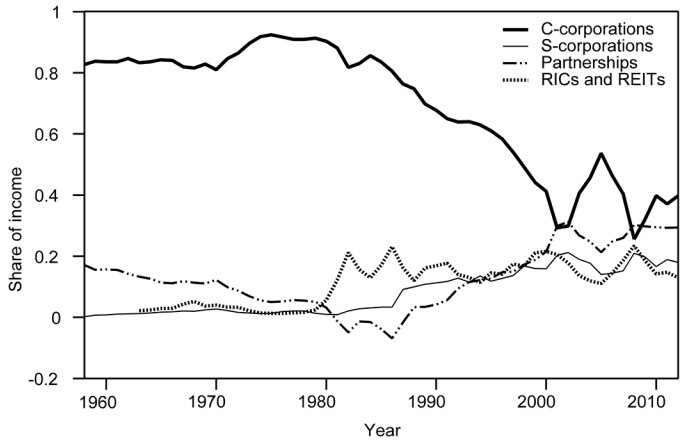

Fig. 3. Share of business income accounted for by different types of entities
Note: Share of income from C corporations, S corporations, and partnerships as reported in table A2. See appendix for details.

presented in table A2 and figure 3, which shows the composition of income from C and S corporations and partnerships. We also singled out Regulated Investment Companies (RICs) and Real Estate Investment Trusts (REITs).

The RICs and REITs are harder to categorize. The primary distinguishing feature of these entities is that they are exempt from corporate income taxation to the extent that they distribute their current profits to shareholders. Entities can elect this tax treatment as long as they earn at least 90% of their income from certain qualifying sources—broadly, investment income—and also meet certain reporting requirements, diversification requirements, and distribution requirements.

The RICs, in particular, have grown rapidly over the last 30 years. Most mutual funds are regulated investment companies, and the growth of RICs is intertwined with the rapid growth in mutual funds. In the 1990s, US households increasingly selected diversified and indirect investments through such funds, a trend that has been examined (and critiqued) exhaustively elsewhere (Malkiel 2013; Greenwood and Scharfstein 2013).

Before TRA 1986, the net income of C corporations was much larger than that of pass-through entities, despite the fact that there were a similar number of C corps and pass-throughs. All C corporations combined had $200 billion profits in 1986, compared to just $8 billion for

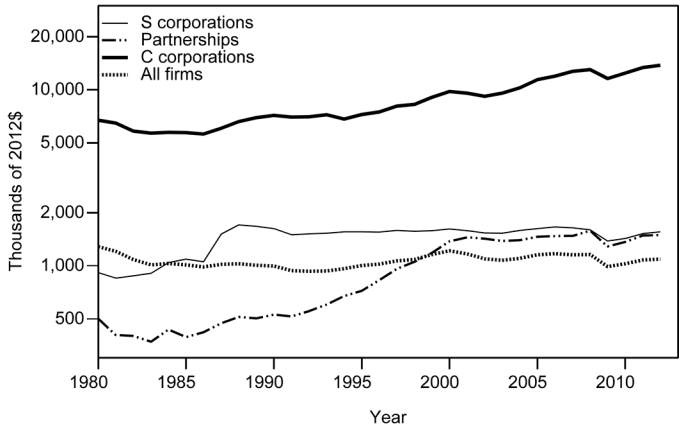

Fig. 4. Average receipts by entity type

Source: Receipts by firm from the SOI integrated business data. "All firms" include sole proprietorships. See appendix for details.

S corporations, negative net income for all partnerships, and $60 billion for REITs and RICs. The net income of S corporations more than tripled from 1986 to 1987 and partnership net income began to rise in the aftermath of the reform as well. By the late 1990s, the net income of pass-through entities matched that of C corporations; today, pass-through income is larger.

Partnerships and S corporations tend to be smaller, on average, than C corporations. Figure 4 shows the average receipts of different types of entities (using a log scale to increase transparency). Beside the fairly obvious difference in the scale of C corporations compared to other types of entities (large publicly traded firms are predominantly C corporations, after all), two other observations jump out. First, TRA 1986 created a significant change, not in the number, but also in the composition of S corporations: the average receipts per firm nearly doubled after the act. Second, the shift toward partnerships since the 1980s also corresponds to a massive increase in their size, largely as a result of more private equity firms organizing as partnerships in the last several decades. Nowadays S corporations and partnerships have similar per-firm receipts. Relative to the average size of a business in the United States (an average that also includes sole proprietors) each of these three categories is large.

While receipts are one useful way of comparing the scale of firms—comparing receipts may create fewer worries about income allocation and shifting[6]—an alternative is to look directly at firms' income, which

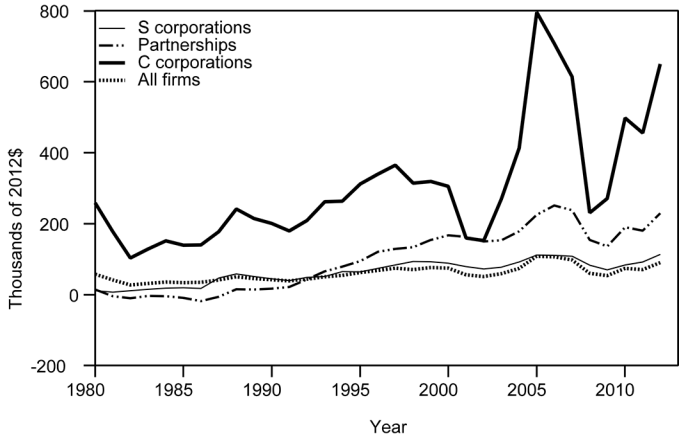

Fig. 5. Average net income by entity type
Source: Data from SOI integrated business statistics. See appendix for details.

we do in figure 5. Here we see much larger fluctuations over time, especially in the C-corporate sector. These changes are both cyclical and reflective of changing tax incentives, such as the 2004 tax holiday that allowed for the repatriation of foreign profits of multinationals. Strong trends can also be seen in partnerships. The trend in the size of partnership income is very strong starting in the 1990s; in fact, the average partnership today has a higher net income than the average S corporation. Even this simple approach of looking at firm income shows an impact of the 1986 reform: the average profits of both C and S corporations increase in the aftermath of reform. This is because smaller C corporations become S corporations, but these relatively small former C corporations are still large enough to bring up the S corporation average.

V. The Taxability of Business Incomes

In table A3 and in figure 6 we compare IRS reports of the net income from pass-through entities' business tax returns with reports on personal income tax returns. These two sources of information need not match, and indeed do not match, for three possible reasons. First, some pass-through income may flow to nontaxable investors. Second, losses are fully reported on business tax returns but not necessarily fully deductible on personal income tax returns. Third, the net income of pass-through entities includes portfolio income that may pass through to

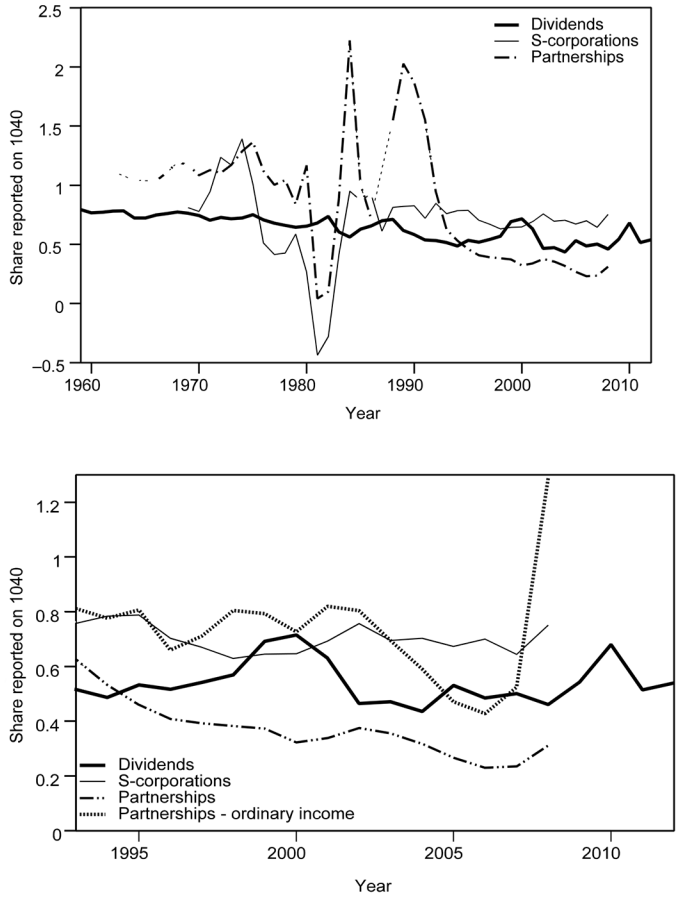

Fig. 6. Share of dividends and income from partnerships and S corporations reported on personal income tax returns.

Note: These tables combine SOI corporate aggregates and personal income categories in the SOI microdata. See appendix for details.

partners/shareholders, but appears on individual income tax returns as part of a different income category (like dividends or capital gains) rather than as partnership income. The top panel of figure 6 shows changes since the early 1960s and reveals wild fluctuations (which we explain below), while the lower panel shows the data since the 1990s with some additional decomposition.

We can generally observe about 70% of S corporation income on individual tax returns, with the exception of the late 1970s and early 1980s, when losses were unusually important.

Until 1991, the partnership income appearing on individual tax returns actually exceeded overall partnership net income reported at the entity level, with large fluctuations in the 1980s that were driven by aggregate reported losses. Unsurprisingly, this indicates the importance of nondeductible losses. Since 1991, partnership income showing up on Schedule E has become a much smaller share of the total entity-level income reported by the partnerships themselves. The primary reason for this is the increase in the importance of pass-through portfolio income, which now actually constitutes the bulk of partnership net income.

We can decompose partnership income more precisely starting in 1993.[7] However, the portfolio income of partnerships is much harder to track on individual income tax returns because it is (mostly) not reported on separate schedules. Cooper et al. (2016) were able to do so at a point in time using IRS administrative data, but no systematic time series exists. We document the relative importance of different components of partnership income in table A3 and figure 7, without being able to track them all in detail to individual tax returns. Ordinary income has been a decreasing part of overall partnership income since the early 1990s (when we have data that allows us to decompose partnership income) such that ordinary income now constitutes only about 30% of total partnership income. Long-term capital gains, interest income, and dividends are the largest components, with royalties and (net) short-term capital gains generally constituting a small share. This general pattern is broken during cyclical downturns, when capital gains turn low (or even negative), and the role of dividends, interest income, and royalties rises in relative terms, reflecting the smaller overall pie.

Because Schedule E of Form 1040 does not generally reflect partnership portfolio income (that income is instead reported separately and not identifiable in publicly available SOI data), taxable partnership income on individual tax returns should be compared to ordinary firm-level partnership income rather than total partnership income. We show this comparison as one of the series in the lower panel of figure 7. As with S corporations, personal income tax returns used to capture about 70 to 80% of ordinary partnership income, although the share has been smaller after 2000 and larger in 2008 (which may reflect individuals' inability to fully deduct losses).

On both panels of figure 7, we also document changes in the effective taxation of dividend income—the canonical way of compensating shareholders of C corporations. The share of corporate dividends that are taxable on personal income tax returns has been trending down-

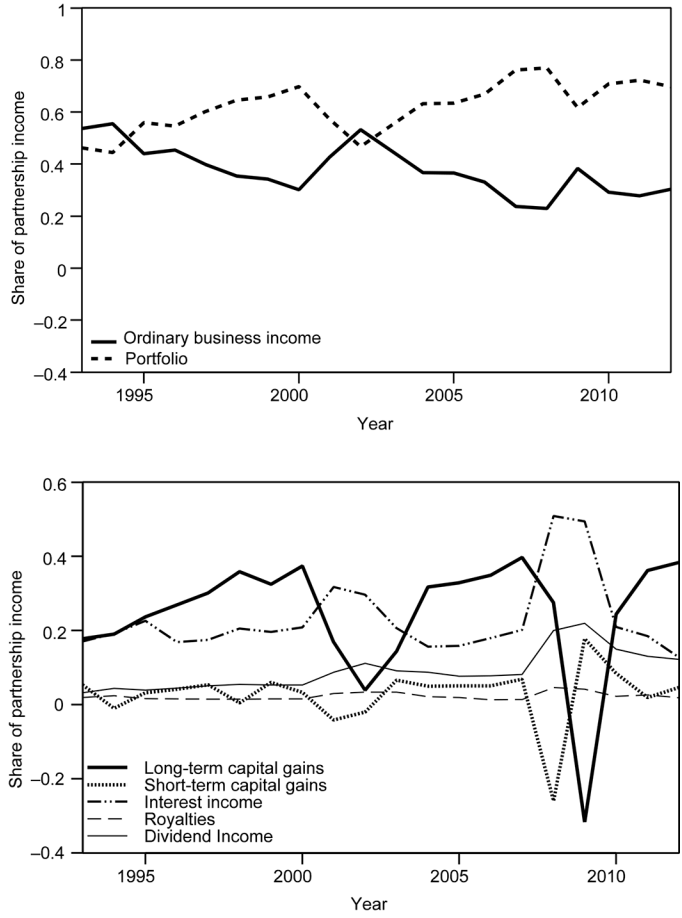

Fig. 7. Composition of partnership income

Note: See appendix for details.

ward over time from about 80% in the late 1950s to about 50% more recently. This is due in large part to changes in the characteristics of owners. Ownership of US equities of all kinds by foreigners (as measured by the Federal Reserve) has increased from about 2% in 1960 to over 16% in 2014. Another category of investors that are not subject to personal income taxation are tax exempt or advantaged ones, which we discuss in the next section.

Hence, it is clear that the importance of pass-through income has increased significantly over time and that, furthermore, the remaining

C-corporate income distributed to shareholders is taxed to a lesser extent through personal income taxation. The TRA 1986 was a turning point, but the changes we describe here are not a one-time level shift. Instead, there has been a long-term shift away from C-corporate form and toward pass-through income.

VI. The Timing of Taxation

The taxation of pass-through entities is—at least on the surface—pretty straightforward in terms of timing: income is supposed to be taxed when it accrues. (Although, of course, this still depends on the nature of the income; capital gains, for example, continue to be taxed at realization.) This is not the case with C corporations. A C corporation can retain its earnings instead of distributing them to shareholders. Figure 8 shows the aggregate importance of dividends for corporations (other than S corporations), expressed as a share of their current net income. Normalization by net income induces strong countercyclicality due to the well-known smoothness of dividend distributions over time, but nevertheless there is a marked increase in the level of dividends starting in the early 1980s. Prior to the 1980s, dividends were of the order of 20% of net profits, and rarely exceeded 30%. Afterward, they rarely fall under 40%. One important reason for this is the rise of RICs, which have distribution requirements, and thus are more likely to distribute their profits than other large corporations, but the SOI data do not allow us to decompose annual dividends in this level of detail.

Profitable corporations that do not pay out dividends need to retain their income instead. Figure 9 shows the ratio of the stock of accumulated retained earnings to net income for C corporations (and RICs) and S corporations separately and for the whole corporate sector. This is one way of illustrating how the role of retained earnings changed over time. Overall, the stock of retained earnings is nowadays much lower than it was in the 1970s. However, this decrease followed a period of very tumultuous changes. The measure of normalized aggregate earnings in figure 9 increased massively in the early 1980s and started falling (with large fluctuations) afterward. The pattern is about the same in aggregate and for C corporations alone. In contrast, for S corporations—entities for which retained earnings do not have first-order tax consequences—the level has been much lower and the pattern has been much more stable.

A different way of normalizing the level of retained earning is by comparing the stock of such earnings to the total value of corporate eq-

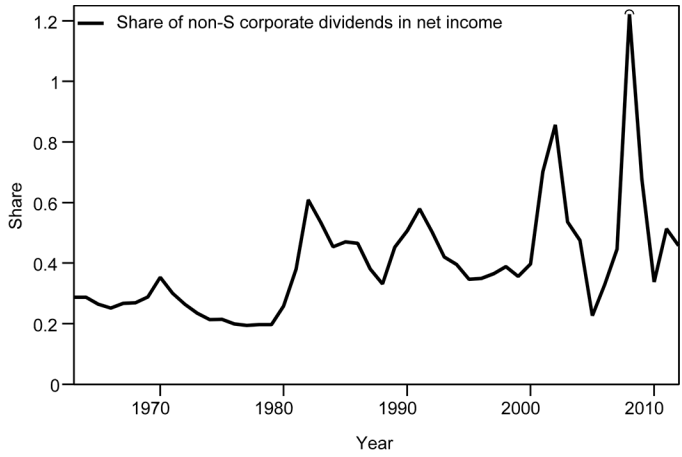

Fig. 8. Share of non-pass-through corporate net income paid out in dividends
Note: Corporations other than S corps. See appendix for details.

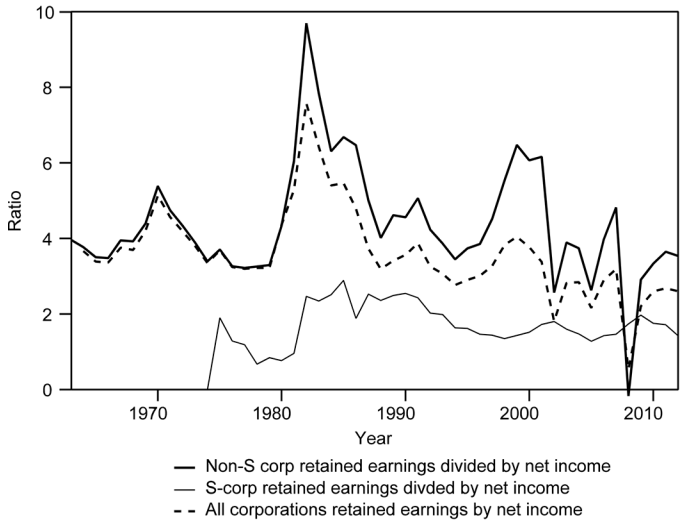

Fig. 9. The stock of retained earnings relative to net income of corporations
Source: Firm net income and the stock of retained income from SOI annual reports. See appendix for details.

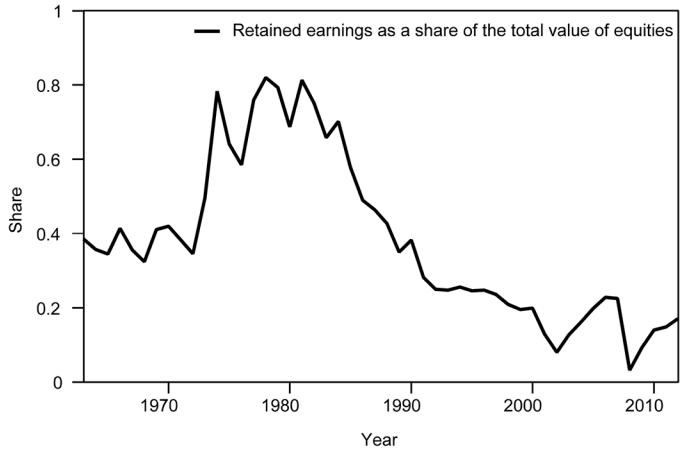

Fig. 10. The stock of retained earnings relative to the value of corporate equity
Sources: Retained income from SOI annual reports. Equity value data taken from table L.223 of the Federal Reserve Z.1 release. See appendix for details.

uities, as we do in figure 10. This figures makes clear that the late 1970s and 1980s were a very unusual period in which retained earnings corresponded to a massive share of the value of corporate equities. Since then, the prominence of retained earnings has notably declined.

Finally, yet another way of presenting the importance of retained earnings is to compare them to household income rather than to corporate equities. This presentation abstracts from the dynamics of the corporate sector and instead illustrates the potential quantitative importance of retentions for thinking about the individual income distribution.

Figure 11 shows a much more dramatic evolution in the overall series since the 1990s. While accumulated retentions became smaller relative to the aggregate value of corporate equities, retentions remained large relative to household income, with a great deal of volatility. However, even this normalization reveals some increase in the early 1980s and a rapid decline until the early 1990s, before the massive fluctuations of the late 1990s and early twenty-first century and the secular growth of large corporate firms created sharp cyclical movements in this series.

Taken together, these figures suggest that the important changes in the accumulation of retained earnings actually precede the Tax Reform Act of 1986, and instead have their origins in the changes in incentives that began in the 1970s and early 1980s. These figures also indicate the

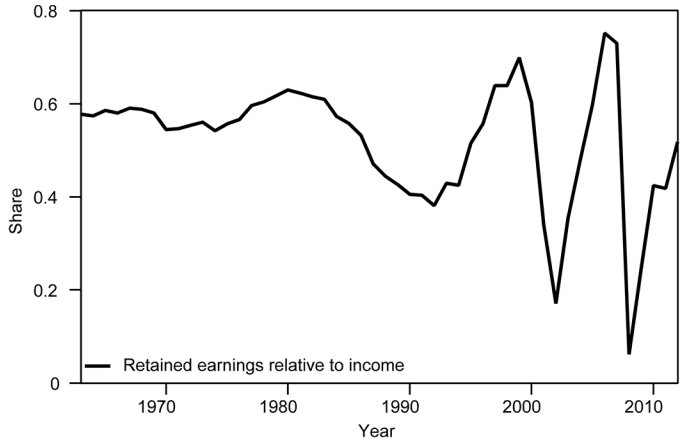

Fig. 11. The stock of retained earnings relative to total household income
Sources: Retained income from SOI annual corporate reports. Household income from Piketty and Saez (2003). See appendix for details.

qualitatively different cyclical dynamics in the importance of retained earnings since the 1990s, compared to earlier decades. Finally, these figures reveal that accumulated retained earnings are large relative to both the value of equities and household income, although the importance of accumulated retained income has declined over time. Because retained earnings reflect income that is not directly paid to shareholders as dividends, they are either missed on the individual side or (at least partially) accounted for through capital gains. We will discuss capital gains realizations and provide some information about unrealized capital gains in what follows, but first we are going to document that retained earnings are in fact relevant for equity values.

If businesses retain rather than distribute earnings, those retentions should correspond to changes in equity valuation. In figures 12 and 13, we show that over a longer term changes in equity values for the corporate sector as a whole actually follow reasonably well trends in earnings retentions. For the purpose of these figures, we shift focus to the flow of pretax retained earnings, constructed as the difference between corporate net income and corporate distributions.[8] Of course, this is a very simplistic way of thinking about equity values that does not take into account the value of future profits. Naturally, it also cannot explain the many large, short-term fluctuations in the equity market. Still, in the long run, increases in equity values have to reflect either reten-

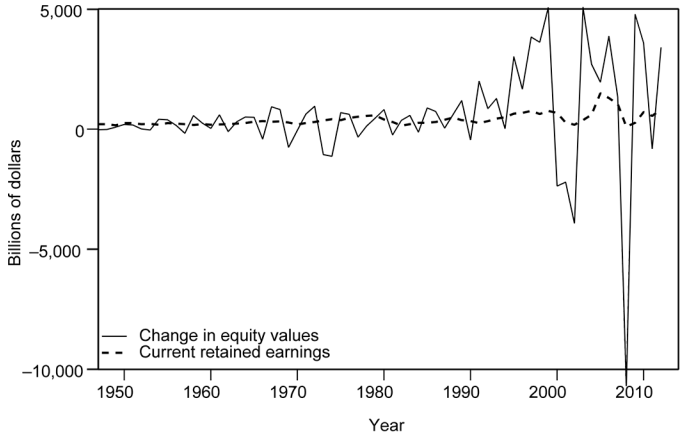

Fig. 12. Changes in equity value and current retained earnings

Sources: Change in equity value calculated using table L.223 of the Federal Reserve Z.1 release and current retained earnings. See appendix for details.

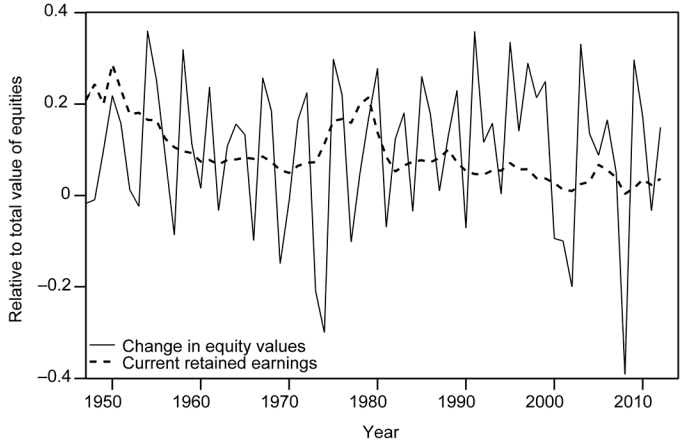

Fig. 13. Changes in equity value and current retained earnings, normalized by the total value of equities.

Note: Change in equity value calculated using table L.223 of the Federal Reserve Z.1 release and current retained earnings. See appendix for details.

tions or *changes* in the value of future investment opportunities. For the economy as a whole, this latter component is not necessarily large (or even positive). As the figure illustrates, changes in equity valuations fluctuate around but do not deviate from the path of changes in retained earnings. Between 1945 and 2012, the value of corporate equities

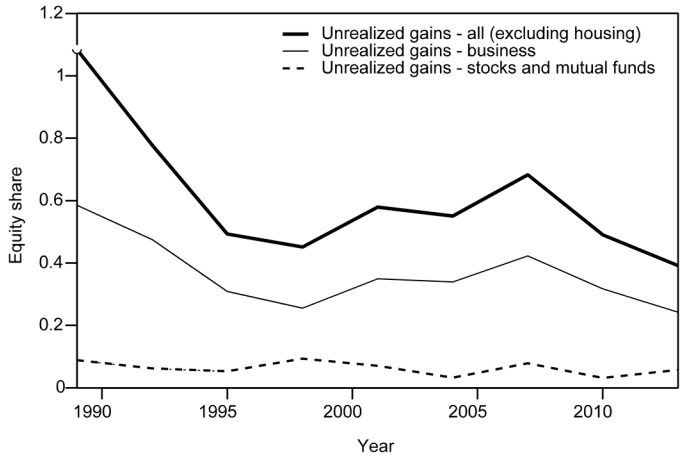

Fig. 14. Unrealized capital gains relative to the aggregate value of equities
Source: Survey of Consumer Finances, 1989–2013. Unrealized capital gains as a share of the aggregate value of US equities.

increased nominally by an average of about $386 billion a year; corporations retained an average of about $294 a year.

When firms do not distribute their earnings, shareholders that want to cash out can do so by realizing capital gains. As mentioned above, the value of those firms should correspond to the stock of unrealized capital gains. We can assess the importance of unrealized capital gains to households by relying on the Survey of Consumer Finances that allows us to construct an estimate of unrealized capital gains every three years starting in 1989.

Figure 14 shows the estimated stock of capital gains relative to the value of overall equities. The SCF contains only limited details about the different categories of capital gains, but it does distinguish between business, housing, and stock/mutual fund capital gains. Appreciation in the value of businesses is by far the largest component of these gains; publicly traded stocks and mutual funds are only a small share. This suggests that unrealized capital gains primarily reflect direct (private) ownership rather than ownership through publicly traded equities. And, consistent with the pattern of retained earnings in figure 10, unrealized capital gains fell in importance (relative to equities) in the early 1990s.

However, even though retained earnings and unrealized capital gains declined relative to the aggregate value of equities, this pattern is mis-

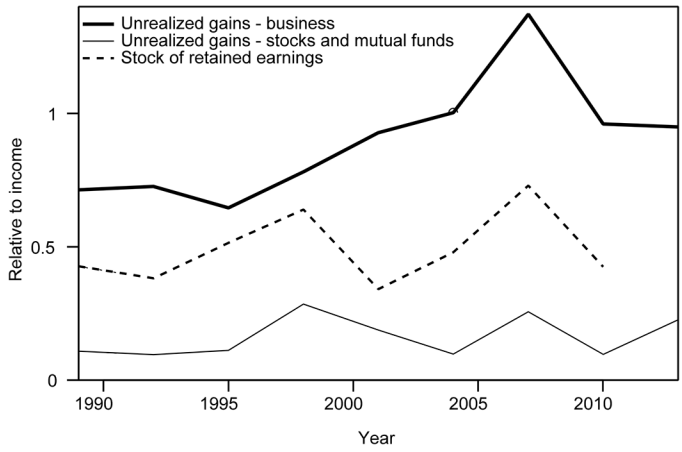

Fig. 15. Unrealized capital gains and retained earnings relative to household income
Source: Survey of Consumer Finances, 1989–2013. Unrealized capital gains as a share of the value of aggregate equities.

leading for thinking about the importance of unrealized gains relative to *household income*: over the period we study, equity values have increased much faster than household incomes. As figure 15 documents, unrealized capital gains have actually become more important relative to household income during the first decade of the twenty-first century.

Figure 15 also compares the magnitude of retained earnings to unrealized capital gains. The aggregate retained earnings measure cannot fully account for the stock of unrealized gains, indicating that this is not the only source of appreciation of businesses. In fact, because some capital gains are realized, one might expect that the remaining unrealized gains could be actually smaller than the stock of retained earnings, but figure 15 indicates that this effect does not seem strong enough and that, in fact, unrealized capital gains are even more important than retentions could have suggested. For practical purposes, systematically observing the stock of unrealized capital gains is not possible beyond years covered by the SCF, so the stock of retained earnings can at least be a useful guidance for the magnitudes involved.

Obviously, some capital gains are realized. How large are capital gains realizations? Figure 16 shows taxable capital gains realizations from the IRS data expressed as a share of the aggregate value of equities. It also shows net capital gains realizations from the IRS "Sales of Capital Assets Reported on Individual Tax Returns" studies that incorporate

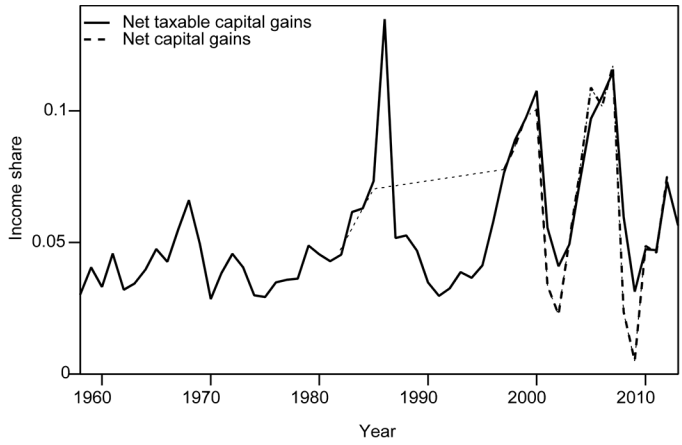

Fig. 16. Capital gains realizations as a share of household income
Sources: IRS "Sales of Capital Assets Reported on Individual Tax Returns" and Piketty and Saez (2003, table A6).

losses *without* limiting them by the (net) $3,000 deductibility limit. In normal years, that distinction is not huge, but the deductibility of losses plays a large role in down-market years (2001, 2002, 2008, and 2009).

The important point for our purposes is that capital gains realizations increased dramatically in the early 1980s. This followed a period of significant increase in retained earnings that we documented in figures 10 and 11 and that coincides with the declining importance of retained earnings visible in these figures in the 1980s. This suggests that capital gains realizations unlocked retained earnings, and also that these realizations reflected the accumulated stock of earnings rather than current earnings. Hence, it seems likely that increased capital gains realizations in the early 1980s (at least partially) reflected income that had been accruing over a number of previous years. If so, these realizations are likely not best conceptualized as a single lump of income concentrated in a small number of years. Ideally, one would allocate these gains over the previous years (and perhaps even decades) during which they accrued.

Of course, capital gains realizations do not correspond only to the sales of equities. In figure 17 we show, relying on Sales of Capital Assets reports, the role that different categories of capital gains play. We focus on decomposing business-related assets. Corporate stock (including nonbond mutual funds) has always accounted for about half

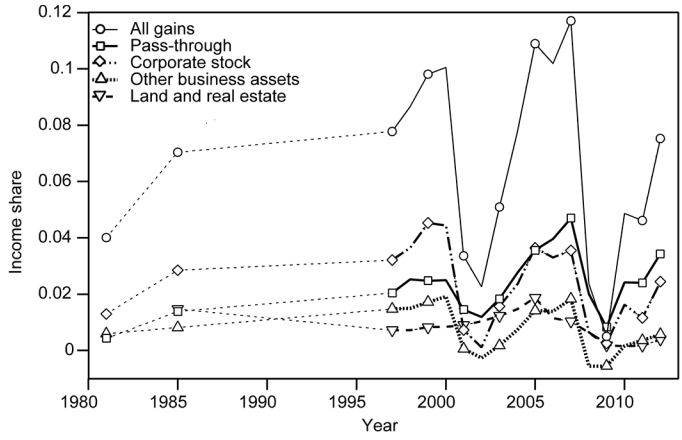

Fig. 17. Composition of capital gains realizations

Sources: Capital gains realizations from SOI data. Equity value data taken from table L.223 of the Federal Reserve Z.1 release.

of capital gains realizations. The "other business-asset" categories include the sales of partnerships, S corporations, estate or trust interests, depreciable business property, and capital gain distributions. Capital gains that are passed through (and whose details are not known) are an increasingly large share of total capital gains, and in recent years have been larger than the gains from the direct sale of corporate stock. Taken together, these three business-related categories of assets constitute the bulk of capital gains realizations. The main remaining component is real estate (residential and rental) and land. This category is small relative to the other business-related categories, but it is not as cyclical: it constitutes a larger share of overall capital gains realizations when capital gains are otherwise small.

As documented before, unrealized capital gains are very large relative to household income, with unrealized business capital gains approximately as large as the aggregate household income. Some of these capital gains are realized by taxpayers, but others can benefit from step-up in basis and escape individual income taxation altogether. In figure 18, we show the importance of unrealized capital gains at death. In order to do so, we follow the approach of Poterba and Weisbenner (2001) and Kopczuk (2017), who construct such estimates by applying mortality rates to the SCF sample in order to obtain the flow of capital gains benefiting from step-up. Interestingly, despite the large magnitude of unrealized gains, stepped-up gains appear to be smaller

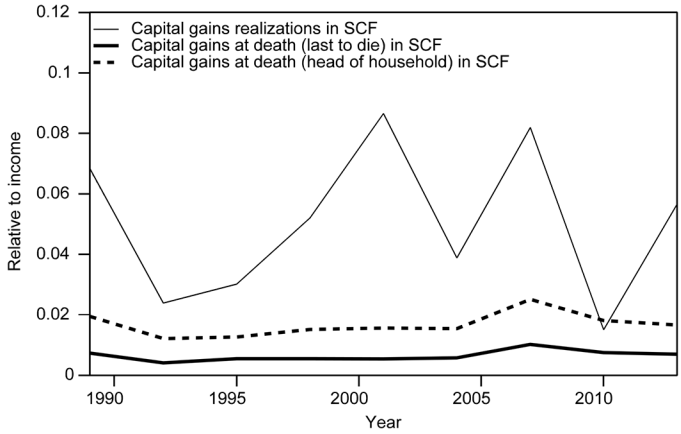

Fig. 18. Capital gains realizations in life and at death

Sources: Survey of Consumer Finances, 1989–2013. Capital gains as a share of household income. See the appendix and Kopczuk (forthcoming) for the construction of the estimate of capital gains at death.

than actual taxable realizations. The precise estimate will depend on the assumptions about the tax treatment of the first spouse to die. Nevertheless, the flow of unrealized capital gains escaping taxation is still of the order of one-quarter or one-half of actual realizations in most years.

VII. Tax-Exempt Entities and Tax-Advantaged Accounts

If the personal income tax system is not capturing all of the income of business entities, where does it go? One possibility is tax-advantaged investors. There are two kinds of owners with a tax-advantaged status: tax-exempt entities and individuals with tax-advantaged retirement accounts. While we do not attempt to provide a comprehensive take on tax-exempt and tax-advantaged owners here, we offer a general overview of some of the more important issues.

The modern structure governing tax-exempt entities dates back to the Revenue Acts of 1950 and 1954, which narrowed the purposes for which tax-exempt entities could be formed, and established the first 501(c) tax-exempt organizations. Most tax-exempt organizations are now organized under section 501(c) of the Internal Revenue Code, which currently lists 29 categories of organization that are exempt from federal income taxation. The largest and most common form of these organizations is the 501(c)(3), which exempts from income taxation en-

tities that are "organized and operated exclusively for religious, charitable, scientific" and a variety of other purposes (e.g., "to foster national or international amateur sports competition").

The IRS first started compiling asset data from tax-exempt entities in the mid-1970s, and did so in a systematic fashion in the mid-1980s. These data show a large increase in the assets held by tax-exempt organizations (column [2] of table A5). What is less obvious from the SOI data is whether these entities own an increasingly large share of total corporate equity. In the second column of table A5, we report the share of assets of 501c(3) entities that is held in the form of equities—that share has been relatively stable. However, despite the large nominal growth, the size of the overall sector relative to the overall size of equities does not appear to have increased over time.

A more rapid and proportionally meaningful change seems to have occurred with the assets in tax-advantaged accounts. The two most important categories here are IRAs and 401(k)s (and related) accounts. This does not include all the categories of tax-advantaged retirement savings, but it includes the major categories. Government pension funds that cover many groups of federal, state, and local employees are also exempt from taxation. Assets controlled by these funds are nowadays of the same order of magnitude as those in individual retirement accounts, but they have been growing somewhat more slowly. Taken together, tax-exempts and tax-advantaged accounts are an obviously important component of equity ownership.

VIII. Conclusions and Implications for Inequality Measurement

We document trends in composition of organizational forms of businesses in the United States and changes in how entrepreneurs and investors are compensated, highlighting in particular the role of tax incentives in shaping the trends.

In the introduction, we noted the importance of the form of taxation for measurement of inequality. While tracing the full implications for inequality is beyond the scope of this paper, in figure 19 we show the magnitude of the *flow* of retained earnings relative to the prominent estimates of top income shares from Piketty and Saez (2003). This illustrates the potential that allocating corporate income can have on the individual income distribution. Indeed, because retentions in the US corporate sector are very large, accounting for corporate income can have a large effect on our understanding of the individual income dis-

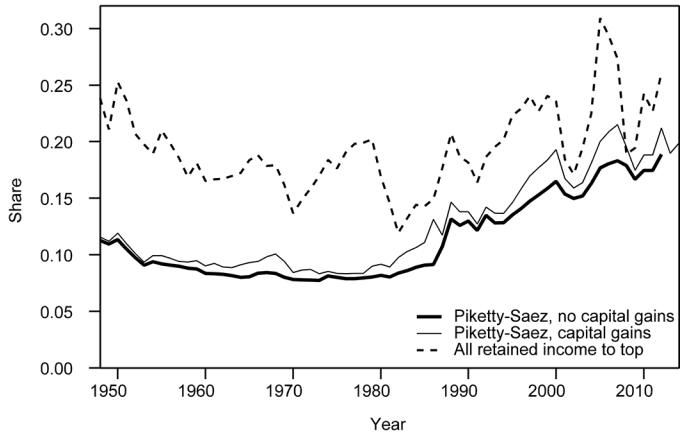

Fig. 19. The potential role of retained earnings in top income shares
Note: See appendix for details.

tribution.[9] We show the potential magnitude of the corporate sector by hypothetically allocating the flow of retained earnings to the top 1% of the distribution. While this is not a realistic allocation—it is obviously unlikely that all corporate retentions really correspond to the very top of the income distribution—it shows an upper bound for the role of the corporate sector.

This upper-bound allocation has a large effect on observed income inequality. Current retained earnings can constitute as much as 13% of the combined household and corporate income in a given year. This bound fluctuates a lot and it also has changed over time. Retained earnings were on average over 9% of combined household and corporate income before 1987 and just 6.58% afterward, although this share is volatile in both periods. And, in contrast to the Piketty and Saez inequality series, the volatility of retained earnings is high across all of the second half the twentieth century, and not just in the thirty years since 1986.

The Piketty and Saez (2003) approach to account for corporate income that does not give rise to dividends is to rely on capital gains realizations.[10] Figure 19 also shows the Piketty and Saez (2003) series that includes capital gains. Two points are worth noting. First, starting in the 1990s, the Piketty and Saez series including capital gains and our series with retained income move together, although the level of capital gains series is, of course, much lower. (It is worth underscoring again that we do not think assigning *all* of retained earnings to the top is the

right approach; it is an upper bound of what retained earnings may contribute.) In fact, a simple correlation of the contribution of capital gains to the top 1% and the flow of retained earnings after 1987 is 0.58—positive and large.

In contrast, before 1987—when retained earnings were even higher on average—capital gains contributed almost nothing to the top income share, except for a few years in the early 1980s. Retained earnings were volatile, but this volatility did not seem to translate into any volatility in the Piketty and Saez estimate of the top 1%'s share of national income, with or without capital gains. To underscore this point: a simple correlation of the contribution of retained earnings and that of capital gains before 1987 is actually *negative* and large at –0.56![11] Hence, these large changes in the volume and volatility of retained earnings—and their wildly different correlations with capital gains before and after 1987—suggest that personal income tax data varies in its ability to account for nonrealized accrual. In particular, it raises the possibility that pre-1987 personal income tax data may not adequately reflect the annual accrual of income.

Tables Appendix

Table A1
Number of Active Business Entities

Year	C Corporations	S Corporations	Partnerships	Self-Proprietors
1958	965,178	25,203	953,840	8,799,711
1959	1,002,980	71,140	949,396	9,142,359
1960	1,050,353	90,221	940,560	9,089,985
1961	1,084,240	106,046	938,966	9,241,755
1962	1,144,376	123,666	932,181	9,182,586
1963	1,184,085	139,112	924,276	9,135,954
1964	1,215,662	157,855	922,160	9,192,746
1965	1,250,570	173,410	914,215	9,078,466
1966	1,286,874	181,851	922,680	9,086,714
1967	1,333,576	200,784	906,182	9,126,082
1968	1,324,486	217,184	917,500	9,211,613
1969	1,425,014	233,806	920,831	9,429,822
1970	1,408,002	257,475	936,133	9,399,653
1971	1,471,264	262,068	958,912	9,744,640
1972	1,524,854	287,906	992,012	10,172,792
1973	1,591,590	313,080	1,039,092	10,648,202
1974	1,632,795	333,099	1,062,268	10,873,822
1975	1,665,234	358,413	1,073,094	10,881,969
1976	1,690,500	391,700	1,096,441	11,358,235
1977	1,813,683	428,204	1,153,398	11,345,616

(*continued*)

Table A1
Continued

Year	C Corporations	S Corporations	Partnerships	Self-Proprietors
1978	1,898,100	478,679	1,234,157	12,017,953
1979	2,041,887	514,907	1,299,593	12,329,982
1980	2,163,458	545,389	1,379,654	8,931,712
1981	2,268,966	541,489	1,460,502	9,584,790
1982	2,359,272	564,219	1,514,212	10,105,515
1983	2,348,162	648,267	1,541,539	10,703,921
1984	2,465,843	701,339	1,643,581	11,262,390
1985	2,549,091	724,749	1,713,603	11,928,573
1986	2,598,271	826,214	1,702,952	12,393,700
1987	2,480,440	1,127,905	1,648,032	13,091,132
1988	2,299,896	1,257,191	1,654,245	13,679,302
1989	2,199,081	1,422,967	1,635,164	14,297,558
1990	2,136,032	1,575,092	1,553,529	14,782,738
1991	2,098,641	1,698,271	1,515,345	15,180,722
1992	2,077,518	1,785,371	1,484,752	15,495,419
1993	2,055,982	1,901,505	1,467,567	15,848,119
1994	2,310,703	2,023,754	1,493,963	16,153,871
1995	2,312,382	2,153,119	1,580,900	16,423,872
1996	2,317,886	2,304,416	1,654,256	16,955,023
1997	2,248,065	2,452,254	1,758,627	17,176,487
1998	2,249,970	2,588,088	1,855,348	17,408,809
1999	2,198,740	2,725,775	1,936,919	17,575,643
2000	2,172,705	2,860,478	2,057,500	17,904,731
2001	2,136,756	2,986,486	2,132,117	18,338,190
2002	2,100,074	3,154,377	2,242,169	18,925,517
2003	2,047,593	3,341,606	2,375,374	19,710,079
2004	2,027,613	3,518,334	2,546,877	20,590,691
2005	1,974,961	3,684,086	2,763,625	21,467,566
2006	1,955,147	3,872,766	2,947,116	22,074,953
2007	1,865,232	3,989,893	3,096,334	23,122,698
2008	1,782,478	4,049,944	3,146,006	22,614,483
2009	1,715,306	4,094,562	3,168,728	22,659,976
2010	1,671,149	4,127,554	3,248,481	23,003,656
2011	1,648,540	4,158,572	3,285,177	23,426,940
2012	1,617,739	4,205,452	3,388,561	23,553,850

Notes: See notes to figure 2 in data appendix.

Table A2
Net Income Less Deficit of Business Entities

Year	C Corporations	S Corporations	Partnerships	RIC & REIT	Self-Proprietors	Total
1958	39,200,000	88,890	8,116,274		20,777,789	68,182,953
1959	47,700,000	395,299	8,844,708		21,516,876	78,456,883
1960	44,500,000	382,479	8,360,373		21,067,090	74,309,942
1961	47,000,000	564,447	8,688,622		22,696,990	78,950,059

(*continued*)

Table A2
Continued

Year	C Corporations	S Corporations	Partnerships	RIC & REIT	Self-Proprietors	Total
1962	50,800,000	681,950	8,531,019		23,894,781	83,907,750
1963	54,300,000	799,453	8,668,166	1,400,000	23,770,528	88,938,147
1964	61,333,000	1,040,197	9,244,464	1,767,000	25,555,837	98,940,498
1965	72,257,000	1,447,857	9,699,145	2,443,000	27,887,417	113,734,419
1966	78,496,738	1,655,084	10,445,061	2,803,262	30,030,195	123,430,340
1967	75,392,000	1,853,187	10,865,953	3,908,000	30,407,572	122,426,712
1968	82,273,000	1,947,530	11,405,163	5,227,000	31,870,535	132,723,228
1969	78,569,000	2,247,184	10,486,453	3,531,000	33,867,537	128,701,174
1970	64,790,000	2,173,592	9,790,396	3,210,000	33,214,737	113,178,725
1971	78,800,000	2,100,000	9,146,110	3,100,000	34,450,038	127,596,148
1972	95,904,000	1,795,873	9,618,447	3,596,000	39,113,220	150,027,540
1973	119,730,000	1,888,607	9,216,034	2,870,000	46,673,063	180,377,704
1974	145,925,000	1,947,275	8,864,873	2,275,000	45,855,023	204,867,171
1975	143,900,000	2,003,254	7,737,570	2,100,000	44,611,260	200,352,084
1976	183,990,000	3,671,196	10,422,811	2,610,000	49,500,188	250,194,195
1977	215,880,000	4,750,479	13,264,168	3,620,000	51,388,971	288,903,618
1978	242,979,438	5,348,741	14,446,809	4,420,562	59,027,286	326,222,836
1979	275,625,000	3,795,578	15,205,908	7,375,000	60,758,789	362,760,275
1980	236,487,630	2,518,912	8,248,656	14,671,749	54,947,219	316,874,165
1981	185,868,913	1,870,746	–2,734,897	25,909,303	53,071,628	263,985,693
1982	120,180,204	3,047,943	–7,314,587	31,105,996	50,573,163	197,592,719
1983	154,156,433	5,075,351	–2,610,041	29,082,144	60,359,153	246,063,040
1984	196,435,483	6,906,667	–3,500,024	29,558,446	70,766,610	300,167,182
1985	192,991,940	7,602,450	–8,883,674	39,524,630	78,772,578	310,007,924
1986	203,018,630	8,293,241	–17,370,860	58,218,369	90,423,763	342,583,143
1987	250,706,247	30,017,036	–5,419,105	53,365,950	105,460,627	434,130,755
1988	327,131,666	43,536,518	14,493,114	52,447,631	126,323,251	563,932,180
1989	289,721,555	44,779,347	14,099,275	66,819,244	132,737,680	548,157,101
1990	270,925,138	44,831,241	16,609,540	67,457,384	141,430,193	541,253,496
1991	248,113,316	44,745,093	21,406,607	67,671,565	141,515,783	523,452,364
1992	291,866,888	58,329,739	42,916,649	63,933,826	153,960,246	611,007,348
1993	368,912,105	66,233,497	66,652,288	75,113,178	156,458,803	733,369,871
1994	426,082,290	91,676,443	82,183,076	77,243,699	166,798,668	843,984,176
1995	514,751,182	99,128,672	106,829,196	122,543,160	169,262,336	1,012,514,546
1996	574,553,924	125,245,496	145,218,248	138,792,224	176,755,693	1,160,565,585
1997	607,541,446	153,063,011	168,240,726	196,132,514	186,643,910	1,311,621,607
1998	532,246,228	181,788,303	186,704,627	181,117,938	202,274,720	1,284,131,816
1999	535,289,061	193,756,411	228,438,105	256,317,862	207,946,977	1,421,748,416
2000	517,937,235	198,535,888	268,990,758	270,479,156	214,715,298	1,470,658,335
2001	270,774,336	187,686,917	276,334,824	190,296,836	217,385,116	1,142,478,029
2002	258,673,938	183,478,933	270,667,169	154,371,152	221,113,286	1,088,304,478
2003	455,433,845	213,681,780	301,398,218	152,980,175	230,308,100	1,353,802,117
2004	709,985,922	275,398,651	384,738,394	184,327,903	247,567,189	1,802,018,058
2005	1,380,200,460	361,042,566	546,210,103	285,551,163	269,919,995	2,842,924,288
2006	1,247,874,961	386,202,310	666,718,610	389,570,016	278,032,643	2,968,398,540
2007	1,060,790,902	400,730,264	683,367,402	488,793,640	280,557,010	2,914,239,219
2008	388,739,523	317,090,536	458,185,323	355,576,129	264,508,362	1,784,099,872
2009	443,166,636	272,466,326	409,878,549	254,897,611	244,821,815	1,625,230,937
2010	800,837,632	334,093,927	593,727,733	286,646,613	267,699,702	2,283,005,607
2011	737,025,579	375,437,189	580,896,723	293,475,191	282,649,926	2,269,484,608
2012	1,051,906,039	475,998,050	777,924,476	344,010,230	304,895,911	2,954,734,706

Notes: See notes to figure 3 in data appendix.

Table A3
Firm Tax Returns Versus Personal Income Tax Reports of Pass-Through Income

Year	S Corp.—Total	S Corp.—PIT	Share (%)	Part.—Total	Part.—PIT	Share (%)
1959	395,299			8,844,708		
1960	382,479			8,360,373		
1961	564,447			8,688,622		
1962	681,950			8,531,019	9,515,036	111.5
1963	799,453			8,668,166		
1964	1,040,197			9,244,464	9,646,222	104.3
1965	1,447,857			9,699,145		
1966	1,655,084	1,581,048	95.5	10,445,061	10,822,635	103.6
1967	1,853,187	1,524,263	82.3	10,865,953	12,036,145	110.8
1968	1,947,530			11,405,163	13,629,558	119.5
1969	2,247,184	1,819,254	81.0	10,486,453	12,287,954	117.2
1970	2,173,592	1,689,522	77.7	9,790,396	10,609,042	108.4
1971	2,100,000	1,979,080	94.2	9,146,110	10,314,584	112.8
1972	1,795,873	2,220,079	123.6	9,618,447	10,633,211	110.6
1973	1,888,607	2,212,917	117.2	9,216,034	10,787,828	117.1
1974	1,947,275	2,712,006	139.3	8,864,873	11,407,353	128.7
1975	2,003,254	2,023,950	101.0	7,737,570	10,550,195	136.4
1976	3,671,196	1,875,725	51.1	10,422,811	11,681,707	112.1
1977	4,750,479	1,974,025	41.6	13,264,168	13,311,856	100.4
1978	5,348,741	2,284,272	42.7	14,446,809	15,044,481	104.1
1979	3,795,578	2,230,700	58.8	15,205,908	12,772,478	84.0
1980	2,518,912	670,167	26.6	8,248,656	9,618,001	116.6
1981	1,870,746	–816,257	–43.6	–2,734,897	–112,948	
1982	3,047,943	–854,479	–28.0	–7,314,587	–731,790	
1983	5,075,351	2,089,095	41.2	–2,610,041	–2,319,481	
1984	6,906,667	6,570,254	95.1	–3,500,024	–7,777,096	
1985	7,602,450	6,624,897	87.1	–8,883,674	–8,939,052	
1986	8,293,241	7,678,491	92.6	–17,370,860	–12,492,759	
1987	30,017,036	18,354,700	61.1	–5,419,105	8,465,251	
1988	43,536,518	35,331,569	81.2	14,493,114	22,459,972	155.0
1989	44,779,347	36,801,499	82.2	14,099,275	28,585,207	202.7
1990	44,831,241	36,999,266	82.5	16,609,540	30,994,858	186.6
1991	44,745,093	32,248,009	72.1	21,406,607	33,193,502	155.1
1992	58,329,739	49,411,635	84.7	42,916,649	40,531,246	94.4
1993	66,233,497	50,233,285	75.8	66,652,288	41,726,692	62.6
1994	91,676,443	71,869,598	78.4	82,183,076	43,780,598	53.3
1995	99,128,672	78,102,196	78.8	106,829,196	49,105,591	46.0
1996	125,245,496	88,092,104	70.3	145,218,248	59,329,804	40.9
1997	153,063,011	102,583,171	67.0	168,240,726	66,054,249	39.3
1998	181,788,303	114,472,839	63.0	186,704,627	71,414,238	38.2
1999	193,756,411	124,986,203	64.5	228,438,105	85,194,498	37.3
2000	198,535,888	128,349,218	64.6	268,990,758	86,715,885	32.2
2001	187,686,917	130,049,750	69.3	276,334,824	93,629,463	33.9
2002	183,478,933	139,000,444	75.8	270,667,169	101,476,293	37.5
2003	213,681,780	148,667,629	69.6	301,398,218	107,191,948	35.6
2004	275,398,651	193,824,854	70.4	384,738,394	122,014,498	31.7

(*continued*)

Table A3
Continued

Year	S Corp.—Total	S Corp.—PIT	Share (%)	Part.—Total	Part.—PIT	Share (%)
2005	361,042,566	243,003,818	67.3	546,210,103	145,647,212	26.7
2006	386,202,310	270,514,591	70.0	666,718,610	153,019,987	23.0
2007	400,730,264	258,088,167	64.4	683,367,402	160,546,280	23.5
2008	317,090,536	238,299,123	75.2	458,185,323	142,753,098	31.2
2009	272,466,326			409,878,549		
2010	334,093,927			593,727,733		
2011	375,437,189			580,896,723		
2012	475,998,050			777,924,476		

Notes: See notes to figure 6 in data appendix. Taxable share omitted when the total is negative.

Table A4
Composition of Partnership Income

Year	Ordinary	PIT Share (%)	Portfolio	Portfolio—Non CG	Short-Term CG	Long-Term CG
1993	51,418,125	81.2	44,314,395	22,152,787	5,170,055	16,991,553
1994	56,304,445	77.8	45,105,521	26,895,306	–1,054,112	19,264,327
1995	60,858,305	80.7	77,342,327	40,135,924	4,495,804	32,710,599
1996	89,857,772	66.0	108,149,024	46,776,289	8,123,363	53,249,372
1997	92,866,348	71.1	140,336,774	57,508,865	12,518,579	70,309,330
1998	88,767,531	80.5	161,897,547	70,733,949	1,147,207	90,016,391
1999	107,481,261	79.3	206,713,189	85,641,114	18,891,946	102,180,129
2000	119,168,367	72.8	275,827,300	114,870,157	13,134,895	147,822,248
2001	114,217,614	82.0	152,983,983	118,901,383	–11,062,075	45,144,675
2002	126,212,499	80.4	110,667,014	106,280,157	–4,764,774	9,151,631
2003	154,485,912	69.4	188,901,446	116,698,706	22,681,210	49,521,530
2004	206,502,522	59.1	355,581,512	149,290,946	27,837,829	178,452,737
2005	308,977,137	47.1	535,267,067	215,051,948	42,563,416	277,651,703
2006	357,055,417	42.9	722,426,524	291,617,721	54,613,689	376,195,114
2007	305,747,126	52.5	980,860,693	382,248,320	87,431,982	511,180,391
2008	110,805,898	128.8	370,840,964	363,558,164	–125,438,062	132,720,862
2009	137,813,309		222,071,989	271,912,958	64,099,636	–113,940,605
2010	254,553,535		618,879,004	332,751,900	73,322,513	212,804,591
2011	255,751,530		665,684,115	314,788,089	17,653,581	333,242,445
2012	392,228,047		903,348,369	347,672,413	59,443,290	496,232,666

Notes: See notes to figure 7 in data appendix.

Table A5
The Size of Tax-Exempt Sector Relative to Overall Equity Holdings

Year	501(c)(3) and Foundations	Share of Equities in 501(c)(3) (%)	501(c)(3) and Foundations Relative to All Equities (%)	IRAs	Other Tax Deferred Accounts	Government Plans	All Tax Exempts and Govt. Plans Relative to All Equities (%)
1974							
1975				3			
1976				6			
1977				9			
1978				14			
1979				20			
1980				25			
1981				38			
1982				68			
1983				107			
1984				159			
1985				241			
1986				329			
1987		0.3		404		1,592	
1988	826	0.3	0.3	469		1,702	
1989	923	0.3	0.2	546		1,908	
1990	986	0.4	0.3	636		2,041	
1991	1,102	0.4	0.2	776		2,191	
1992	1,196	0.4	0.2	873		2,471	
1993	1,297	0.4	0.2	993		2,627	
1994	1,395	0.4	0.2	1,056	980	2,794	1.0
1995	1,609	0.5	0.2	1,288	1,224	2,996	0.8
1996	1,828	0.5	0.2	1,467	1,468	3,293	0.8
1997	2,052	0.3	0.2	1,728	1,762	3,519	0.7
1998	2,049	0.4	0.1	2,150	2,072	3,787	0.7
1999	2,370	0.4	0.1	2,651	2,433	4,072	0.6
2000	2,363	0.4	0.1	2,629	2,367	4,273	0.7
2001	2,418	0.4	0.2	2,619	2,255	4,511	0.8
2002	2,550	0.4	0.2	2,533	2,102	4,739	1.0
2003	2,765	0.4	0.2	2,993	2,589	5,107	0.8
2004	2,993	0.4	0.2	3,299	2,904	5,643	0.8
2005	3,223	0.4	0.2	3,652	3,162	5,973	0.8
2006	3,674	0.1	0.2	4,220	3,632	6,372	0.7
2007	3,770	0.3	0.1	4,736	3,892	6,672	0.8
2008	3,433	0.4	0.2	3,572	2,968	6,807	1.1
2009	3,748	0.5	0.2	4,363	3,616	7,204	1.0
2010	4,127	0.4	0.2	4,839	4,096	7,933	0.9
2011	4,220	0.5	0.2	4,872	4,144	8,190	1.0
2012	4,559		0.2	5,407	4,572	8,501	0.9

Note: All numbers in billions of dollars. Total assets reported for each of the following categories: (1) the sum of all assets from all 501(c) categories for which data is available plus private foundations; (2) IRAs (Source: ICI, end of year data); and (3) 401(k), 403(b), and 457 plans. "All equities" are from Federal Reserve L.223 line 10 (all equity holdings at market value).

Data Appendix

This appendix provides an overview of our data sources. Much of our data is drawn from a variety of sources within the IRS Statistics of Income and the National Income and Product Accounts. In general, the most important source is the SOI's archived statistics on businesses, available at: https://www.irs.gov/uac/soi-tax-stats-archive-1929-to-1999-tax-information-from-businesses.

Much of the data is assembled from PDFs of the annual Corporation Income Tax Return Reports, which are available between 1954 and 1999 at: https://www.irs.gov/uac/soi-tax-stats-archive-1954-to-1999-corporation-income-tax-return-reports.

In more recent years, we compile our data from annually published IRS tables. The SOI's "integrated business data," also includes many of the measures we use between 1980 and 2012, and is available at: https://www.irs.gov/uac/soi-tax-stats-integrated-business-data.

We also rely on NIPA table 7.16, much of which is based on IRS data, for our measure of net corporate dividends. We accept NIPA's adjustment for IRS misreporting when calculating our measures of total corporate income.

A figure-by-figure accounting of our data sources is as follows:

Figure 1: Share of Business Income Subject to Entity-Level Tax.

We start with the definitions and categories in the Joint Committee on Taxation's 2013 report, "Foreign Passthrough Entity Use in Five Selected Countries." We extend that data for all of the English-speaking countries covered in the report. Data was obtained from the official taxation or statistics agencies of all respective countries.

Figure 2: Number of Active Business Entities.

We start with the SOI's integrated business data, which includes data on the number of active entities going back to 1980. We supplement that data with data on the number of active entities drawn from the SOI's annual corporate reports.

Figure 3: Share of Business Income Accounted for by Different Types of Entities.

We start with "net income less deficit" by firm type in the IRS integrated business data, and supplement it with annual data drawn from the SOI's annual corporate reports.

Figure 4: Average Receipts by Entity Type.

We obtain receipts by entity type from the SOI's integrated business data.

Figure 5: Average Net Income by Entity Type.

We obtain receipts by entity type from the SOI's integrated business data.

Figure 6: Share of Dividends and Income from Partnerships and S Corporations Reported on Personal Income Tax Returns.

The firm-side data from the SOI's integrated business data and the annual corporate reports. The individual tax data is from the SOI's public-use microdata files.

Figure 7: Composition of Partnership Income.

Our data is drawn from the SOI's annual partnership returns, available at: https://www.irs.gov/uac/soi-tax-stats-partnership-returns-historical-and-projected-data.

Figure 8: Share of Non-Pass-Through Corporate Net Income Paid Out in Dividends.

Our measures of corporate income starts with SOI "total receipts less deductions." We also accept the NIPA adjust for misreporting, which is reported in NIPA table 7.16. Our measure of corporate dividends starts with net corporate dividends reported in NIPA table 7.16. We then subtract S-corporate income and S-corporate dividends (from SOI's annual corporate reports) from both categories.

Figure 9: The Stock of Retained Earnings Relative to Net Income of Corporations.

Our measure of the stock of retained earnings is defined as the sum of unappropriated and appropriated retained earnings from the SOI annual corporate reports. Net income is as for figure 8.

Figure 10: The Stock of Retained Earnings Relative to the Value of Corporate Equity.

Once again, our measure of the stock of retained earnings is defined as the sum of unappropriated and appropriated retained earnings from the SOI annual corporate reports. For the total value of equities, we use line 10 of table L.223 of the Federal Reserve's Z.1 release. Historical data is available here: https://www.federalreserve.gov/releases/z1/current/data.htm.

Figure 11: The Stock of Retained Earnings Relative to Total Household Income.

Retained earnings is defined as above in the SOI annual corporate reports. Annual household income is as defined in Piketty and Saez (2003).

Figures 12 and 13: Changes in Equity Value and Current Retained Earnings.

Our measures of corporate income start with SOI "total receipts less deductions." We also accept the NIPA adjust for misreporting, which

is reported in NIPA table 7.16. We then subtract net corporate dividends (also reported in NIPA table 7.16) and S-corporate income (less dividends), which we obtain from the SOI's annual corporate reports. Change in the total value of equities is calculated using line 10 of table L.223 of the Federal Reserve's Z.1 release.

Figure 14: Unrealized Capital Gains Relative to the Aggregate Value of Equities.

Calculations based on the Survey of Consumer Finances, 1989–2013.

Figure 15: Unrealized Capital Gains and Retained Earnings Relative to Household Income.

Stock of retained earnings is from the SOI annual corporate reports, as above. Unrealized capital gains based on the Survey of Consumer Finances, 1989–2013.

Figure 16: Capital Gains Realizations as a Share of Household Income.

Net taxable capital gains are from Piketty and Saez, table A6. Net capital gains are drawn from the SOI's sales of capital assets reports (see below).

Figure 17: Composition of Capital Gains Realizations.

The decomposition of capital gains realizations is assembled from the SOI bulletins on the sales of capital assets, which are available at: https://www.irs.gov/uac/soi-tax-stats-sales-of-capital-assets-reported-on-individual-tax-returns.

Earlier reports were published irregularly, but are available going back to 1959.

Figure 18: Capital Gains Realizations in Life and at Death.

See Kopczuk (forthcoming) for the precise description of methodology. The approach makes socioeconomic adjustments of mortality rates for high net worth individuals based on actuarial tables for annuitants. The two realizations-at-death series correspond to measuring realizations corresponding to death of the last spouse to die (mimicking the effective estate tax treatment in practice) or to death of household head.

Figure 19: The Potential Role of Retained Earnings in Top Income Shares.

As in figures 12 and 13, our measure of corporate income starts with SOI "total receipts less deductions," accepts the NIPA adjust for misreporting, and subtracts net corporate dividends (also reported in NIPA table 7.16) and S-corporate income (less dividends). Income inequality series are from Piketty and Saez (2003, updated to 2012). Modified

income shares calculated as the share of the sum of corporate retained income and household income.

Endnotes

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1. See, for example, Gordon and MacKie-Mason (1994), MacKie-Mason and Gordon (1997), and Gordon and Slemrod (2000) for existing work on tax changes through the 1980s.

2. There are many reasons why deferring taxation can be advantageous. A nonexhaustive list might include: the nonneutral treatment of compounding, arbitrage across rates over time, option value due to idiosyncratic risk or policy uncertainty (changes in tax law, tax holidays, etc.), the availability of future tax preferences or deductible losses, or the ability to convert future income realizations to a different tax regime (e.g., capital gains). The incentive to defer is further strengthened by the "step-up" exemption of unrealized capital gains at death present in the US tax code.

3. One option (not in use in the United States) would be a corporate tax integration that would provide dividend recipients with a credit for corporate taxes paid. While this approach could in principle effectively eliminate "double taxation" of dividend income, it would still raise complicated deferral problems and other issues.

4. There are, of course, other tax considerations that may influence decisions. For example, income of partnerships is treated as self-employment compensation with Social Security/Medicare self-employment tax implications, while income of S corporations is not. The ability to deduct particular kinds of expenses and take advantage of tax credits may vary with the organizational form.

5. Much ink can be spilled over how to define "business income" and make it comparable across countries. We hope to avoid this inky quagmire by following (without defending at depth) the methodology of the Joint Committee on Taxation's (JCT 2013) report on comparative pass-through treatment, which offers a definition of business income and a snapshot of comparative data for one year (and in some cases two). We adopt the JCT's definition and extend their series back to the 1970s for all of the countries for which historical data is readily available. The JCT defines business income as follows: "The amount of business income shown as being received by individuals and corporations includes the allocable share of the business income of pass-through entities that they own. Moreover, all income, including interest income and capital gains, of corporations is deemed to be business income for purpose of the tables. Because rental income (largely from real estate) is a significant portion of corporations' income, rental income is also included in individuals' business income. Individuals' business income, however, does not include interest and capital gains, since a substantial portion of such income are received from passive investments" (3). The report further notes: "because available data do not allow interest and capital gains income to be separated into business and non-business components, and because a small portion of this income arises directly from business activity, the tables exclude all interest and capital gains income of individuals" (12).

6. This is because much income shifting occurs through deductions.

7. Following the SOI reporting conventions, firm-level partnership income in table A3 consists of ordinary business income and portfolio income without capital gains.

8. This is not the same as changes in the accounting concept of accumulated retained earnings reported to the IRS. The two series track each other closely until the 1990s, but have diverged since.

9. We construct the flow of retained earnings by taking net income of the corporate sector and eliminating distributions. We do not adjust it for corporate taxation. This is consistent with the treatment of other components of the Piketty and Saez (2003) series that are also reported on pretax basis. See appendix for details.

10. As we discussed before, the large stock of unrealized capital gains and discretionary nature of the decision to realize casts doubt on whether capital gains are an appropriate way of adjusting for unobserved accrual.

11. One should note though that the negative correlation is primarily driven by trends—that is, the slightly increasing role of capital gains and slightly reduced role of retained income over the whole period. Beyond that, capital gains contribution to the top 1% is just smooth and small, and did not closely track volatile retained earnings series.

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