

## WHAT IS THE US TAX ADVANTAGE OF STOCK BUYBACKS OVER DIVIDENDS?

Thomas Brosy and Steve Rosenthal  
March 2024

### ABSTRACT

In this brief, we describe the features of the US tax system that favor buybacks over dividends. We also estimate the size of those tax advantages. In the absence of any excise taxes, we calculate the US tax advantage for buybacks over dividends would be 7.2 percent. About two-thirds of the total US tax advantage is attributable to foreign shareholders. We test the sensitivity of our estimates to various assumed parameters and estimate the range of the tax advantage at between 6 and 10 percent. Even the lower bound of this range is significantly larger than the 1 percent excise tax under current law or a 4 percent rate proposed by the Biden Administration. Our estimates are static, and we do not attempt to estimate the general equilibrium effects of a change in the buyback excise (i.e., the effects on investment and distribution after corporations and investors have adjusted to the new tax rules). Subject to these caveats, our estimates suggest that increasing the buyback excise tax could raise additional federal revenue and still leave a tax advantage for buybacks.

The Inflation Reduction Act (IRA) of 2022 introduced a 1 percent excise tax on the value of stock repurchases (also known as stock buybacks) by US publicly traded corporations. A rationale for this new tax is that it reduces the tax advantages of stock buybacks over dividends.<sup>1</sup>

In its 2025 fiscal year budget, the Biden administration explained that stock repurchases, with a 1 percent excise tax rate, still are tax-favored over dividends.<sup>2</sup> It proposed to increase the excise tax on stock repurchases to 4 percent, asserting that “increasing the tax rate on buybacks would reduce this disparity.”<sup>3</sup>

This paper describes the features of the US tax system that favor buybacks over dividends. It also estimates the size of those tax advantages as of 2022.

The tax rates on capital gains and dividends received by US individual shareholders have been the same since 2003. But, with buybacks, a portion of the cash received by individuals is a recovery of invested capital (i.e., cost basis) and is not taxable while, with dividends, the entire cash received is taxable. In addition, capital gains only are recognized by US individuals that choose to sell, while dividends go proportionately to all shareholders. For foreign shareholders, the US generally does not tax their capital gains but imposes a “gross basis” withholding tax on the dividends paid to them (“gross basis” is gross income without deductions).<sup>4</sup>

We estimate, in the absence of any excise taxes, the US tax advantage for buybacks over dividends would be 7.2 percent.<sup>5</sup> About two-thirds of the total US tax advantage is attributable to foreign shareholders. We test the sensitivity of our estimates to various assumed parameters and estimate the range of the tax advantage at between 6 and 10 percent. Even the lower bound of this range is significantly larger than the 1 percent excise tax under current law or the four-percent rate proposed by the Biden administration.

Limitations to this analysis follow. First, we implicitly assume that neutrality in the taxation of dividends and buybacks would be desirable, so an excise tax that reduced or eliminated any tax preference would be desirable. Still, there might be good reasons for favoring one mode of distributing profits or the other. For example, as we discuss below, corporate executives may resist paying dividends because they reduce stock prices, which diminishes the value of executive stock options. If corporate buybacks were discouraged, companies might tend to retain earnings even if their Internal investment opportunities are limited. So, encouraging buybacks could raise market efficiency if shareholders channel the money to more productive investments.

More generally, we do not attempt to estimate the general equilibrium effects of a change in the buyback excise (i.e., the effects after corporations and investors have adjusted to the new tax rules). This has implications for both the efficiency effects of any policy changes and the revenue gained. The present analysis should only be interpreted as a static measure of the how much current law (or, technically, the law prior to enactment of any excise tax) favors buybacks over dividends, in much the same way that tax expenditure estimates provide a dollar measure of the value of tax subsidies before considering most behavioral

responses. Subject to these caveats, our estimates suggest that increasing the buyback excise tax could raise additional federal revenue and still leave a tax advantage for buybacks.

## ECONOMIC BACKGROUND OF BUYBACKS

When a corporation makes a profit, it generally chooses among three options: (1) retain and reinvest the profit, (2) pay dividends to their shareholders, or (3) buy back stock from their shareholders.

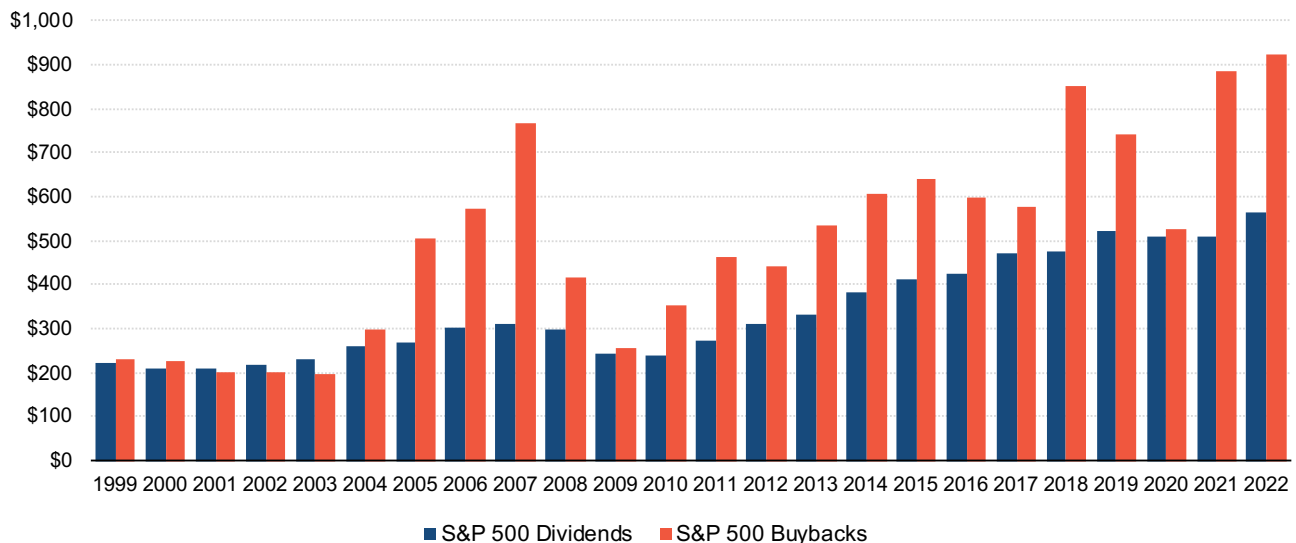
A comprehensive review of the corporate finance literature is beyond the scope of this paper, but scholars often disagree on what determines optimal investment and choice of distribution. The choice to distribute profits, rather than retain (and reinvest) them, has been labelled the “primary puzzle” in the economics of corporate finance.<sup>6</sup> A second puzzle is why dividend distribution is still widespread, despite the various advantages of buybacks noted in the literature. This paper does not consider these issues. Rather, it develops a simple methodology to explore the US tax advantages of a buyback over a dividend to distribute profits.

Until 1980, US publicly traded firms distributed their earnings principally through dividends. In the mid 1980s, firms increased buybacks slightly, but still mostly distributed earnings through dividends.<sup>7</sup> By the 1990s, these firms balanced buybacks and dividends but, by 2000, they distributed more as buybacks than dividends. For the latest year available, 2022, large US corporations distributed \$560 billion in dividends but over \$900 billion in buybacks (figure 1).

**FIGURE 1**

### Stock buybacks and dividends

Billions of dollars adjusted for inflation



**Source:** Edward Yardeni, Joe Abbott and Mali Quintana. 2023. "Corporate Finance Briefing S&P 500 Buybacks and Dividends." Accessed at (<https://archive.yardeni.com/pub/buybackdiv.pdf>).  
**Note:** Values are adjusted for inflation using 2021 as the base year.

Proponents argue that buybacks are more flexible than dividends. They observe that companies buy back their stock episodically but, because of market expectations, rarely reduce their dividend distributions. Although both buybacks and dividends follow earnings and business cycles, figure 1 illustrates how much more volatile buybacks are year to year compared with dividends.

Critics of buybacks argue that executives may use them, in lieu of paying dividends, to prop up stock prices, sometimes to increase the value of their equity options or achieve performance targets. (As noted below, after a dividend, the price of a stock usually falls. By contrast, a buyback does not mechanically reduce a stock's price.<sup>8</sup>)

Some observers also have posited that the US tax advantages of buybacks, especially for foreign investors, have fueled the rise in buybacks.<sup>9</sup> Below, we estimate the US tax advantage of buybacks over dividends separately for domestic and foreign investors. We also discuss how different assumptions about shareholders and their behaviors affect our estimates.

## **US TAXATION OF DIVIDENDS AND BUYBACKS**

In this section, we estimate the average marginal tax rate for dividends and buyouts, which we base on a weighted average of: (1) the marginal tax rates on dividends and stock sales for three groups of shareholders, and (2) the dividends and stock sales for each group of shareholders.

Corporations have diverse shareholders. For our purpose, we will define three main groups of shareholders, all of which face different tax treatment:

1. Individual US shareholders who face US income taxes on their dividends and realized capital gains
2. Tax indifferent US shareholders, including pension funds, individuals investing through IRAs and qualified employer-sponsored defined contribution plans, and tax-exempt organizations (like universities, foundations, and other qualifying institutions)
3. Foreign shareholders who are subject to varying withholding tax rates on the dividends they receive from US corporations depending on their status and any relevant treaty provisions; foreign shareholders generally do not pay US capital gains tax on the sale of shares in US corporations (capital gains generally are sourced to the country of residence), and foreign investors may pay taxes in their home country, often with a credit for US taxes paid (but we do not estimate foreign taxes, as we explain later)

### ***The taxation of dividends***

US individual shareholders are taxed on the qualified dividends they receive at rates that range from 0 to 20 percent (compared with 0 to 37 percent for nonqualified dividends). A dividend generally is qualified if a shareholder has held the stock for at least 61 days in the 121-day period that began 60 days before the ex-

dividend date.<sup>10</sup> In addition, dividends of taxpayers with income above a threshold also are subject to a net investment income tax (NIIT) of 3.8 percent.

According to the Tax Policy Center’s microsimulation model, the average effective tax rate on dividends of US individual shareholders is 18.5 percent between 2017 and 2022.<sup>11</sup> IRS data reveals that dividends are predominantly qualified, not ordinary.<sup>12</sup>

For foreign shareholders, the US imposes a withholding tax on cross-border periodic payments, which include dividends on portfolio stocks. The standard withholding rate on cross border payments is 30 percent for dividends. However, tax treaties with many countries lower the rate to 15 percent. Foreign shareholders also may be taxed on dividend distribution according to the tax rules of their home country, which typically include a credit for any US taxes withheld. We generally ignore foreign taxes, as we explain later.

To estimate the effective withholding rates on dividend distributions to foreign shareholders, we use data from the Treasury International Capital (TIC) system on portfolio holdings of US financial assets. The data includes total portfolio equity holding by country.<sup>13</sup> We compute a weighted average for the withholding rate, using applicable treaty rates weighted by a country’s total portfolio equity holdings, and taking the average between 2017 and 2022. We estimate an average US withholding rate on dividend distributions of 17.1 percent.<sup>14</sup>

TIC data includes investment by foreign official entities (mainly, sovereign wealth funds), which are exempt from US withholding taxes.<sup>15</sup> TIC only reports the share of stock held by foreign official investors in the aggregate, not by country. Between 2015 and 2021, foreign official entities held an average of 13 percent of foreign holdings of US stock. Accounting for the “0” withholding tax rate for foreign official entities, we reduce the average withholding rate on dividend distributions to 14.8 percent.

### ***The taxation of capital gains***

US taxable shareholders are taxed on capital gains from selling stock in a buyback. They must report the capital gain (or loss) on the difference between the amount they receive for their stock and their cost basis. The tax rates on short-term capital gains are the same as the tax rate on ordinary income, ranging from 0 to 37 percent (short term is one year or less). The tax rates on long-term capital gains are the same as the tax rates on qualified dividends, ranging from 0 to 20 percent. Short-term and long-term capital gains of high-income taxpayers are also subject to the NIIT of 3.8 percent.

The Tax Policy Center microsimulation model can also estimate average marginal tax rates on the gain from a dollar of buyback to a US individual. The average marginal tax rate on short-term capital gains is 30.5 percent, and the effective rate on long-term capital gains is 20.5 percent between 2017 and 2022.

Foreign shareholders are not taxed by the US on selling stock (because the gains are sourced to the residence of the seller). Any gains of a foreign shareholder from selling stock may be taxable at applicable rates on capital gains in the investor’s home country.

**Summary tables**

In tables 1 and 2, we summarize the statutory and effective US tax rates for buyback and dividend distribution.<sup>16</sup> The US generally exempts both the capital gains and dividends of tax-exempt shareholders.

**TABLE 1**

**Statutory tax rate on dividends and capital gains in the United States**



	Dividends		Capital gains	
	Ordinary	Qualified	Short-term	Long-term
US taxable shareholders	0-40.8%	0-23.8%	0-40.8%	0-23.8%
US tax-exempt shareholders			Exempt	
Foreign shareholders	0-30%		Exempt	

**TABLE 2**

**Effective tax rate on dividends and capital gains in the United States**



	Dividends		Capital gains	
	Qualified		Short-term	Long-term
US taxable shareholders	18.5%		30.5%	20.5%
US tax-exempt shareholders			Exempt	
Foreign shareholders	14.8%		Exempt	

**Source:** US taxable shareholders effective tax rate are computed with TPC’s microsimulation model between 2017 and 2022. We estimate the average marginal tax rate on qualified dividend only. The average withholding tax on foreign shareholders is calculated by the authors with Treasury data (see text for details).

**CALCULATING THE US TAX ADVANTAGE OF BUYBACKS OVER DIVIDENDS**

To estimate the average US marginal tax rate on a buyback or dividend distribution, we answer the following question: how much tax is collected, on average, on an additional \$1 of buyback or dividend? We use average marginal tax rates, rather than maximum tax rates, to approximate the tax collected from the marginal dollar of distribution for each of the three group of investors.<sup>17</sup> Our calculations rely on a set of assumptions that we outline below.

## **Effective tax rate on capital gains for US taxable shareholders**

Only taxable shareholders pay US tax on stock sold in a buyback (as noted above, US tax-exempt and foreign investors are exempt).

We must first estimate how often stock that is sold in a buyback is held for a short- or long-term period (more than a year). We assume that overall market sales are representative of stock sales in a buyback and use as a proxy all stock sales by individuals between 2007 and 2015 published by the IRS Statistics of Income (SOI), the latest data available.<sup>18</sup> We find that short-term sales proceeds are 72 percent of all proceeds on average, while long-term sales proceeds are 28 percent (see table 1 in the Appendix).

Second, we must determine the average gains from short-term and long-term sales. Aggregate short-term net gains fluctuate around zero, so we assume, on average, they generate a negligible amount of tax revenues. For long-term sales, we find an average net gain of 21 percent of sales proceeds.

This implies that a \$1 buyback will trigger on average 5.9 cents in capital gains ( $\$1 \times 28\% \times 21\%$ ). The Tax Policy Center simulation model estimates the effective marginal tax rate on long-term capital gains in 2023 at 20.5 percent. This implies a \$1 buyback will yield roughly 1.2 cents in taxes (from US taxable shareholders, not US tax-exempt shareholders or foreign shareholders).

## **Effective tax rate on dividends for foreign and taxable shareholders**

As described earlier, we estimate that the average marginal tax rate on dividends paid to foreign shareholders is 14.8 percent. For taxable shareholders, the rate on dividends depends on whether the dividends are qualified or not. We assume all dividends are qualified. This is a conservative assumption (i.e., understates the tax advantage of buybacks) because nonqualified dividend distributions would increase average dividend tax. The direct tax on \$1 distributed as dividend is thus simply 18.5 cents ( $\$1 \times 18.5\%$ , the amount distributed times the effective tax rate).

However, a decline in a stock's price after a dividend distribution to US taxable shareholders may generate future tax savings (by lowering future capital gains or increasing future losses). For simplicity, we assume that a \$1 dividend lowers the value of shares by \$1 as well.<sup>19</sup> In practice, the fall in stock price could be lower if the dollar is valued more outside the company than inside.<sup>20</sup> We also assume that taxpayers can use the losses to offset gains.<sup>21</sup> Again, our assumptions are conservative.

For illustration, we assume dividends are paid quarterly which, by far, is most common.<sup>22</sup> To estimate the future reduction in capital gain taxes, we consider a shareholder's actions after a company distributes a dividend:

- The stock is sold later in a short-term transaction.
- The stock is sold later in a long-term transaction.

- The stock is held until death, with unrealized gains and losses eliminated (i.e., basis is reset to market price).

We use IRS SOI data to estimate the fraction of future short-run and long-run sales, and how long before a sale. We discard sales with holding period of less than 2 months.<sup>23</sup> To estimate the fraction of stocks held until death, we use \$37 billion, the average value of portfolio stocks in estates from the SOI between 2007 and 2015.<sup>24</sup>

In table 2 in the appendix, we estimate that, on average, stock sold later in short-term transactions represent 5.6 percent of stock holdings, stock sold later in long-term transactions are 63.4 percent, and stock held until death is 31 percent. We do not discount the future tax savings for short-term transactions but discount long-term transactions. We also do not count any tax savings for stock held until death, because there are no capital gains or losses at death. As a result, a \$1 distributed as dividend reduces gains (or increases losses) by about 5.6 cents for short-term holdings and 63.4 cents for long-term transactions. Using a 7 percent discount rate, the 63.4 cents translates to a present value of 31 cents.<sup>25</sup>

This implies a future tax savings of 1.7 cents from short-term transactions ( $\$0.056 \times 30.5\%$ ) and future tax savings of 6.3 cents from long-term transactions ( $\$0.031 \times 20.5\%$ ).

The total present value of future tax savings is 8 cents. As a result, we find the net tax savings following a \$1 dividend is 10.5 cents (18.5 cents - 8 cents).

### **The tax advantage of a buyback over a dividend**

Table 3 summarizes our estimates of the effective tax rate for buybacks and dividend, by shareholder class. The first and second column show the present value tax revenue from \$1 distributed as a buyback or dividend, respectively. The third column highlights the tax differential. The last column is our estimate of the percentage of US stock owned by each class in 2022.<sup>26</sup>

**TABLE 3**

Present value tax revenues for \$1 in buybacks or dividends by shareholder type



	Dividends	Buybacks	Difference	Percentage of US stocks ownership
US taxable shareholders	10.5 cents	1.2 cents	9.3 cents	28%
US tax-exempt shareholders	0	0	0	40%
Foreign shareholders	14.5 cents	0	14.5 cents	32%
<i>Average</i>	<i>7.6 cents</i>	<i>0.3 cents</i>	<i>7.2 cents</i>	

**Source:** Authors' calculations. See text for details.



US taxable shareholders strongly prefer buybacks from a US tax perspective, as they tend to reduce their tax liability by 9.3 percentage points, on average. US nontaxable shareholders are indifferent between dividends and buybacks, and foreign shareholders strongly prefer buybacks, which reduces their US tax liability by 14.5 percentage points.

The average difference in US taxes between dividends and buybacks across all shareholders is 7.2 cents for \$1 distributed for 2022.<sup>27</sup> For just US taxable shareholders, the difference is 2.6 cents (9.3 cents times 28 percent), and for foreign shareholders the difference is 4.6 cents (14.5 cents times 32 percent). This implies that roughly 36 percent of the dividend-buyback tax differential can be attributed to US taxable shareholders, while 64 percent of the differences can be attributed to foreign shareholders.

## **DISCUSSION AND SENSITIVITY ANALYSIS**

In this section, we discuss our results and how the tax advantage of buybacks over dividends is affected by different assumptions about our parameters.

### ***Foreign taxes***

We estimate the US tax advantage of buybacks over dividends at 7.2 percent. Foreign countries, also often favor buybacks over dividends, which could further widen the total tax advantage of buybacks over dividends.<sup>28</sup> We assume US policymakers consider US taxes, but not foreign ones, so we ignore any foreign taxes on distributions that are received by foreign shareholders.

### ***Clientele effects***

To compute the US tax advantage, we weighted the average tax advantage for each category of shareholder by their ownership percentage of US stocks. But foreign and US taxable shareholders may favor stocks in companies that make buyback distributions rather than dividends. That simply increases the tax advantage of buybacks, which could justify a greater excise tax.

Table 4 shows the US tax advantage for all shareholders as US taxable shareholders and foreign taxable shareholders increase their ownership of stocks that make buybacks. Because we expect some shareholder

sorting into stocks with preferred distributions, our baseline estimate of 7.2 percent advantage is a lower bound (and conservative estimate of the advantage).

**Discount rate and long-term holdings**

**TABLE 4**

Present value tax revenues for \$1 in buybacks or dividends by shareholder type



US taxable ownership	Foreign ownership		
	Buyback stock: 32% Dividend stock: 32%	Buyback stock: 42% Dividend stock: 22%	Buyback stock: 52% Dividend stock: 12%
Buyback stock: 28% Dividend stock: 28%	7.2%	8.7%	10.1%
Buyback stock: 38% Dividend stock: 18%	8.4%	9.8%	11.3%
Buyback stock: 48% Dividend stock: 8%	9.6%	11.0%	12.5%

**Source:** Authors' calculations.

**Note:** The percentage reflects the estimated average share of tax revenue collected by the US government for \$1 in buyback, depending on the composition of stock ownership. The shares of US taxable and foreign ownership represent the assumed shares used when calculating tax collections for buybacks versus dividends

To find the present value of future tax gains and losses, we assumed a discount rate of 7 percent. But investors may have lower or higher discount rates, depending on their other investment opportunities, inflation, and interest rates. We estimate the tax advantage with a discount rate of 4 and, alternatively, 10 percent. The effective tax rate on buyback does not change because they will trigger immediate capital gains. The net taxation of dividends for US taxable shareholders in present value declines from 10 to 8.5 percent with the lower discount rate and climbs to 11.7 percent with the higher discount rate. The overall tax differential decreases from 7.2 to 6.7 percent with the lower rate and increases to 7.6 percent with the higher rate.

**Treatment of losses**

Our baseline estimate assumed that taxable shareholders could use capital losses to reduce capital gains. We also can estimate the tax advantage under the opposite assumption that shareholders cannot use capital losses to offset gains. Our data indicates an average gross long-term gain of 31.7 percent between 2007 and 2015, compared with a net long-term gain of 20.6 percent. The average short-term gross gain is 2.9 percent of the sales price.

Under this assumption, the effective taxation of buybacks is slightly higher, 2.5 compared with 1.2 percent because the fraction of stocks repurchased that trigger a loss has no impact on taxes collected. We also would reduce the present value taxation of dividends, if the \$1 reduction in stock prices would trigger a future loss

that could not offset future gains. We estimate the reduction in present value taxation for dividends would roughly offset the increase in effective taxation for buybacks, and the final tax differential remains the same, at 7.2 percent.

**Share of short-term sales and gains, long-term sales and gains, and held until death**

Our estimate will vary if we assume a greater or smaller fraction of shares held long-term or until death, or when we assume a larger share of gains from selling shares.

First, we adjust the share of short-term and long-term transactions. Assuming a smaller share of long-term transactions decreases the effective tax rate of buybacks and increases the effective tax rate of dividends. If the share of long-term holdings was half of what we assume (14.2 percent of yearly transactions, rather than 28.5 percent), the tax differential for US taxable shareholder would be 13 percent, and the overall differential would be 8.3 percent. If the share of long-term holdings was 50 percent larger (42.7 percent of yearly transactions), the US taxable shareholder differential would be 5.5 percent, while the overall differential would be 6.2 percent.

The average net long-term gain in our data was 20.6 percent of sale proceeds. If the average long-term gains were 40 percent, the US taxable buyback-dividend differential would be 8.1 percent, while the overall differential would be 6.9 percent. If the average long-term gains were only 10 percent of sales proceeds, the differential for US taxable shareholders would be 9.9 percent, and the overall differential 7.4 percent.

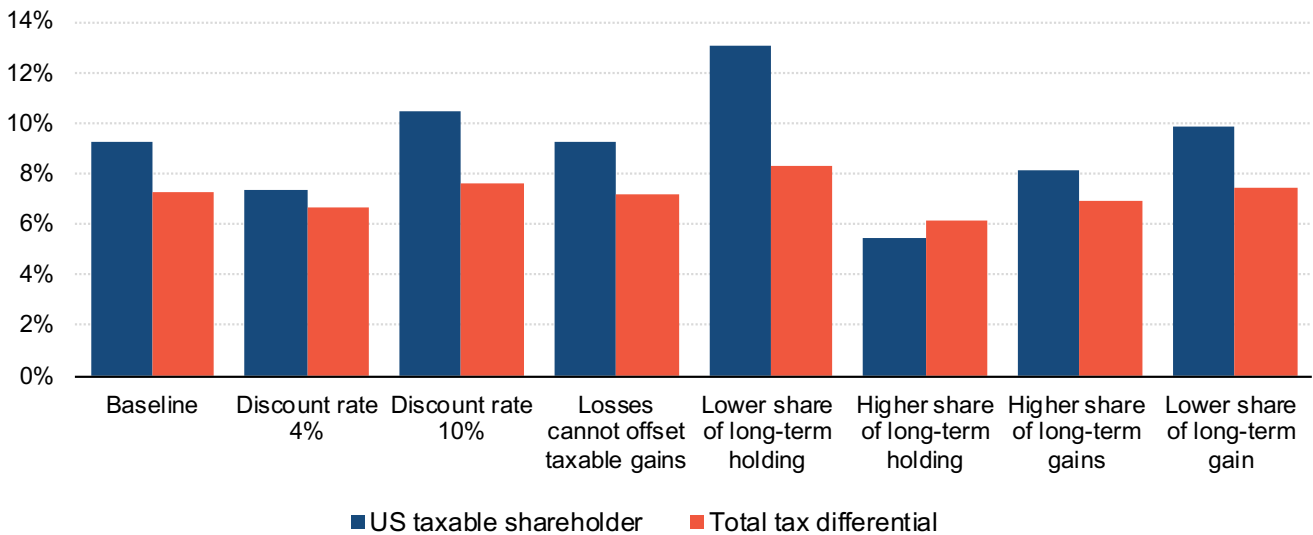
FIGURE 2

**Buyback-dividend average tax differential**

**Sensitivity Analysis**



Percent



Source: Authors' calculations.

## CONCLUSION

Figure 2 highlights our findings under our baseline assumptions and different assumptions. We find, on average, US taxable shareholders enjoy a tax advantage a 9.3 percent for buybacks over dividends.

The US tax advantages for buybacks over dividends are even larger for foreign shareholders. Their tax advantage for buybacks over dividends is 14.5 percent of dividends distributed to foreign shareholders in withholding taxes.

From forthcoming work, we estimate that US taxable shareholders owned 28 percent of US public-traded stocks in 2022 and foreign shareholders owned 32 percent. This implies average tax differential across all shareholders in 2022 of 7.2 percent.

We relax our baseline assumptions and perform several sensitivity analyses. If US taxable or foreign shareholders sort into owning firms that primarily distribute earnings in the forms of buybacks, the tax differential goes up. Overall, under different assumptions, we estimate that the current tax advantage of buybacks for US shareholders ranges from above 4 percent to 14 percent. The overall tax advantage ranges from 6 percent to 10 percent.

The 1 percent excise tax on stock repurchases slightly reduces the current tax advantage of buybacks over dividends, and our estimates show that a 4 percent rate would reduce it more.

## APPENDIX

Table A1 shows the amount of short-term and long-term sales proceeds of US public stocks between 2007 and 2015 (columns 1 and 2), as well as the net short-term and long-term reported gains by year.

Table A2 presents estimations of the average holding period, average number of transactions, average proceeds, and estimated amount of stock held, which we use to derive the distribution of capital gains taxed as short-term, long-term or untaxed (held until death). To compute table A2, we first estimate the average holding period as the midpoint of each holding bracket. For example, in the two- to three-year holding period, we assume the average holding period is 2.5 years. The average holding period (column 1) is the average holding period weighted by sales proceeds for short-term and long-term holdings. The number of expected transactions in a year for each holding bracket is the inverse of the average holding period. For example, if the average holding period is six months, we expect to observe two transactions per year for stocks in that bracket.

Table A3 displays the number of expected transactions per year for each holding bracket, and the average sales proceeds. To estimate the value of stock holdings each year, we divide total sales proceeds in that year by the number of expected transactions. For example, if an investor buys and sells \$100 worth of stocks twice in a year, the number of transactions will be two and total sales proceeds will be \$200.

The last column shows the distribution of holdings for each bracket. It is the value of stock holding for each bracket divided by total estimated holdings in a year.

Table A4 shows our calculations for present-value adjustment of long-term holding. The first column shows the share of holdings for each bracket, calculated in table A3. The second column reports the average holding period for each bracket. The third column computes the present value adjustment based on the average holding period.

Finally, the last column computes the present value decline of future capital gain (or increased loss) for each bracket (column 3), weighted by the share of each bracket in total long-term sales (column 1). The total adds up to 31 cents, which means that a drop of \$1 in the value of long-term stocks today results in reduced capital gains or increased capital losses of 31 cents. In the text, we multiply by 20.5 percent, to determine the future tax savings.

We assume a holding period of 25 years for assets held until death. The present value loss of capital gain following a \$1 drop in the value of a stock held until death is 18 cents. But assets held until death do not trigger any capital gains, which means there is no associated tax loss following dividend distribution either.

TABLE A1

## Sales proceeds of long-term and short-term stocks

Billion USD



	Short-term sales proceeds	Long-term sales proceeds	Fraction of sales proceeds that are long term	Short-term net gains	Long-term net gains
2007	1872	705	27.4%	5	223
2008	1555	605	28.0%	-80	100
2009	1396	439	23.9%	-2	8
2010	1445	622	30.1%	5	95
2011	1492	572	27.7%	-7	81
2012	1170	526	31.0%	0	160
2013	1047	448	29.9%	9	100
2014	1320	494	27.2%	6	139
2015	1289	573	30.8%	-14	141
Average	1399	554	28.4%	-9	116

**Source:** IRS statistics of income (SOI), Short-Term and Long-Term Capital Gains and Losses, by Asset Type 2007-2015 (<https://www.irs.gov/statistics/soi-tax-stats-sales-of-capital-assets-reported-on-individual-tax-returns>).

TABLE A2

## Average distribution of stock holdings by length of holding period



	Average holding period	Average transactions per year	Average proceeds (USD billion)	Amount of stock held (USD billion)	Distribution
Short-term holdings	0.6 yr	1.66	279	167	5.6%
Long-term holdings	5.6 yrs	0.18	333	1890	63.4%
Held until death	25 yrs	0.04	37	923	31.0%

**Source:** IRS statistics of income (SOI), Short-Term and Long-Term Capital Gains and Losses, by Asset Type 2007-2015 (<https://www.irs.gov/statistics/soi-tax-stats-sales-of-capital-assets-reported-on-individual-tax-returns>). IRS statistics of income (SOI), Estate Tax Data Tables, 2007-2015 (<https://www.irs.gov/statistics/soi-tax-stats-estate-tax-filing-year-tables>).

**Note:** The first column computes the average holding period for short and long-term assets. We assume an average holding period of 25 years for stocks held until death. The second column estimates the average number of observed transactions per year for each holding length category, weighted by sales. The third column averages sales proceeds of US stocks between 2007 and 2015. The fourth column estimates the value of stock holdings by holding period by dividing average sales proceeds (column 3) by the number of transactions each year for each category (column 4). The last column represents the estimated average distribution by holding category for who sells shares during a buyback.

# APPENDIX

**TABLE A3**

Average distribution of stock holdings by length of holding  
2007-2015



	# Transactions per year	Average proceeds (\$b)	Stock holding value (\$b)	Distribution
<b>Short-term holdings</b>				
2 months under 3 months	4.80	38	8	0.22%
3 months under 4 months	3.43	33	9	0.32%
4 months under 5 months	2.67	23	9	0.29%
5 months under 6 months	2.18	22	10	0.34%
6 months under 7 months	1.85	31	17	0.56%
7 months under 8 months	1.60	18	11	0.38%
8 months under 9 months	1.41	18	12	0.42%
9 months under 10 months	1.26	14	11	0.38%
10 months under 11 months	1.14	16	14	0.46%
11 months under 12 months	1.04	16	15	0.52%
1 year	1.00	50	50	1.69%
2 months under 3 months	4.80	38	8	0.22%
3 months under 4 months	3.43	33	9	0.32%
<b>Long-term holdings</b>				
Under 18 months	0.80	88	109	3.67%
18 months under 2 years	0.57	39	69	2.31%
2 years under 3 years	0.40	50	124	4.17%
3 years under 4 years	0.29	30	106	3.57%
4 years under 5 years	0.22	21	93	3.13%
5 years under 10 years	0.13	51	380	12.75%
10 years under 15 years	0.08	22	270	9.08%
15 years under 20 years	0.06	11	185	6.20%
20 years or more	0.04	22	553	18.56%
<b>Held until death</b>	0.04	37	923	30.98%

**Source:** IRS statistics of income (SOI), Short-Term and Long-Term Capital Gains and Losses, by Asset Type 2007-2015 (<https://www.irs.gov/statistics/soi-tax-stats-sales-of-capital-assets-reported-on-individual-tax-returns>). IRS statistics of income (SOI), Estate Tax Data Tables, 2007-2015 (<https://www.irs.gov/statistics/soi-tax-stats-estate-tax-filing-year-tables>).

TABLE A4

Share of stocks by holding period and present value adjustment of long-term future capital gains savings.



	<i>Share of long-term holdings (2007-2015)</i>	<i>Average holding period assumed</i>	<i>Present-value adjustment</i>	<i>Tax loss from \$1 drop in stock (in cents)</i>
<b>Holding period</b>				
<i>Under 18 months</i>	0.04	1	1	3.4
<i>18 months under 2 years</i>	0.02	2	1	2.1
<i>2 years under 3 years</i>	0.04	3	1	3.5
<i>3 years under 4 years</i>	0.04	4	1	2.8
<i>4 years under 5 years</i>	0.03	5	1	2.3
<i>5 years under 10 years</i>	0.13	8	1	7.7
<i>10 years under 15 years</i>	0.09	13	0	3.9
<i>15 years under 20 years</i>	0.06	18	0	1.9
<i>20 years or more</i>	0.19	25	0	3.4
<b>Total</b>	0.63			31

**Source:** IRS statistics of income (SOI), Short-Term and Long-Term Capital Gains and Losses, by Asset Type 2007-2015 (<https://www.irs.gov/statistics/soi-tax-stats-sales-of-capital-assets-reported-on-individual-tax-returns>).



- <sup>1</sup> Steven M. Rosenthal. "New Buyback Excise Tax Snares Foreign Investors." Tax Policy Center. *TaxVox* (blog), August 16, 2022. <https://www.taxpolicycenter.org/taxvox/new-buyback-excise-tax-snares-foreign-investors>.
- <sup>2</sup> US Department of the Treasury. 2025. "[General Explanation of the Administration's Fiscal Year 2025 Revenue Proposals](#)." Washington, DC: US Department of the Treasury.
- <sup>3</sup> Senators Brown and Wyden likewise have introduced legislation to increase the buyback excise tax to 4 percent. See Sherrod Brown. "Brown, Wyden Introduce Legislation to Increase Tax on Stock Buybacks | Senator Sherrod Brown." Sherrod Brown, US Senator for Ohio, accessed February 29, 2024, <https://www.brown.senate.gov/newsroom/press/release/sherrod-brown-wyden-introduce-legislation-increase-tax-stock-buybacks>.
- <sup>4</sup> Sections 871(a) and 881(a) of the Internal Revenue Code.
- <sup>5</sup> By comparison, Penn Wharton estimates the tax advantage to buybacks at 4.6 percent with a stylized model that ignores US tax advantages to foreign shareholders. See Penn Wharton Budget Model. "The Excise Tax on Stock Repurchases: Effects on Shareholder Tax Burdens and Federal Revenues," March 9, 2023. <https://budgetmodel.wharton.upenn.edu/issues/2023/3/9/the-excise-tax-on-stock-repurchases-effects>. The Congressional Research Service estimates the tax advantage to buybacks at 9.875 percent, without reducing for future tax savings as we do. See Gravelle, Jane G. 2023. "The 1% Excise Tax on Stock Repurchases (Buybacks)." Washington, DC: Congressional Research Service. <https://crsreports.congress.gov/product/pdf/R/R47397/5>.
- <sup>6</sup> See Feldstein, Martin, and Jerry Green. 1983. "Why Do Companies Pay Dividends?" *American Economic Review* 73 (February): 17–30. In general, economic theory suggests that when internal investment opportunities are poor, a firm should distribute its earnings to its shareholders, who can redirect capital toward other investments (or consumption).
- <sup>7</sup> Zeng, Liyu, and Priscilla Luk. 2020. "[Examining Share Repurchasing and the S&P Buyback Indices in the US Market](#)." New York, NY: S&P Dow Jones Indices.
- <sup>8</sup> Donald Marron, "Three Things You Should Know about the Buyback Furor," Tax Policy Center, *TaxVox* (blog), April 12, 2018, <https://www.taxpolicycenter.org/taxvox/three-things-you-should-know-about-buyback-furor>.
- <sup>9</sup> See Steven M. Rosenthal, "Tackling Stock Buybacks: Too Little, Too Late from Foreign Investors," Tax Policy Center, *TaxVox* (blog), February 21, 2019, <https://www.taxpolicycenter.org/taxvox/tackling-stock-buybacks-too-little-too-late-foreign-investors> (emphasizing tax advantages of buybacks to foreign investors).  
  
See also Polsky, Gregg, and Daniel Hemel. 2021. "Taxing Buybacks." *Scholarly Works* 38 (January): 246. [https://digitalcommons.law.uga.edu/fac\\_artchop/1398](https://digitalcommons.law.uga.edu/fac_artchop/1398) (emphasizing tax advantages of buybacks both to US individual shareholders and foreign investors).
- <sup>10</sup> The ex-dividend date is the date that determines the shareholders who will receive the dividend. All shareholders who held the stock at the end of the trading day on the ex-date will receive a dividend.
- <sup>11</sup> For 2022: T22-0114-Effective Marginal Tax Rates on Wages, Salaries and Capital Income, By Expanded Cash Income Percentile, 2022. "Tax Model Resources," Tax Policy Center, accessed February 29, 2024, <https://www.taxpolicycenter.org/model-estimates/baseline-effective-marginal-tax-rates-october-2022/t22-0114-effective-marginal-tax>
- <sup>12</sup> About 75 percent of dividends reported to the IRS are qualified (See Rettig, Charles P., and Barry W. Johnson. 2020. "Statistics of Income—2020 Individual Income Tax Returns." Publication 1304 (Rev. 11-2022). Washington, DC: IRS. The remaining 25 percent includes mainly money market interest and mutual fund short-term gain distributions (See "Instructions for Form 1099-DIV (01/2024) | Internal Revenue Service," IRS, accessed February 29, 2024, <https://www.irs.gov/instructions/i1099div>.)

## NOTES

<sup>13</sup> “U.S. Liabilities to Foreigners from Holdings of U.S. Securities,” U.S. Department of the Treasury, February 28, 2024, <https://home.treasury.gov/data/treasury-international-capital-tic-system/us-liabilities-to-foreigners-from-holdings-of-us-securities>.

The data on the portfolio holdings is by primary holder, not ultimate beneficiary. For example, if a French investor holds US stocks through a Cayman hedge fund, the data will list the Cayman Islands as the owner. This reporting matches the US withholding tax, which is based on nominal, not beneficial, ownership.

<sup>14</sup> By comparison, for 2019, the IRS reports that the effective tax rate for dividend income subject to withholding was 18.2 percent (see Luttrell, Scott. 2023. “*Foreign Recipients of US Income, Calendar Year 2019*.” Washington, DC: IRS.) The IRS estimate is based on foreign recipients subject to withholding only, which excludes foreign official entities. If we were to add income to foreign official entities (with zero withholding taxes) to the IRS data, we would lower average withholding rate on total dividend distributions from portfolio stocks but still above our estimate from the TIC data, also adjusted for holdings by foreign official entities. Thus, we believe using TIC data, adjusted for foreign official entities, is a conservative estimate for the average withholding rate.

<sup>15</sup> See “List of Certain Foreign Institutions classified as Official for Purposes of Reporting on the Treasury International Capital (TIC) Forms,” US Department of the Treasury, <https://ticdata.treasury.gov/resource-center/data-chart-center/tic/Documents/foi-Nov2022.pdf>. Official institutions also include retirement funds of government entities, like Norway’s Government Pension Fund.

<sup>16</sup> We examine only US taxes, as we explain later.

<sup>17</sup> Our use of average marginal tax rates is similar to CBO’s approach to estimate the cost of capital. Of course, “true” marginal tax rates may depart from average marginal tax rates. See Burnham, Paul, and Dorian Carloni. 2022. “*CBO’s Model for Estimating the Effect That Federal Taxes Have on Capital Income from New Investment*.” Washington, DC: Congressional Budget Office.

<sup>18</sup> “SOI Tax Stats - Sales of Capital Assets Reported on Individual Tax Returns | Internal Revenue Service,” IRS, accessed February 29, 2024, <https://www.irs.gov/statistics/soi-tax-stats-sales-of-capital-assets-reported-on-individual-tax-returns>.

<sup>19</sup> “Three Things You Should Know about the Buyback Furor,” Tax Policy Center, TaxVox (blog), April 12, 2018, <https://www.taxpolicycenter.org/taxvox/three-things-you-should-know-about-buyback-furor>.

<sup>20</sup> Conceptually, imagine a company has 100 shares worth \$100 each. The company issues a new quarterly dividend of \$1. That means the value of each share will drop to \$99 when the dividend is issued. Each shareholder will have a capital gain lower by \$1, or an offsetting loss higher by \$1.

<sup>21</sup> Effectively, if a loss can be used to offset a gain, it generates a negative tax liability. Assuming all losses can be used to offset other capital gains leads to a smaller share of gains generated and a lower taxation of buybacks. We relax that assumption in the sensitivity analysis section.

<sup>22</sup> Data on average dividend distribution shows that quarterly is by far the most common, although a few companies distribute dividends annually or semiannually (See “Stock Screener,” Stock Analysis, accessed February 29, 2024, <https://stockanalysis.com/stocks/screener/>). Using quarterly dividends is also a conservative assumption. If dividends are annual, most short-term stockholders would not receive a dividend, and not see a fall in their stock price. Thus, the reduction of future capital gain taxes would be smaller, which means the effective taxation of dividends would be higher, and the tax advantage of buybacks over dividends larger.

<sup>23</sup> Shares that are held between two and three months may or may not receive a dividend but shares that are held for at least three months will receive the quarterly dividend. Although we miss some investors who receive dividends while holding the assets for less than two months, we also include transactions with holding periods between two and three months that receive no dividends.

<sup>24</sup> “SOI Tax Stats - Estate Tax Filing Year Tables | Internal Revenue Service,” IRS, accessed February 29, 2024, <https://www.irs.gov/statistics/soi-tax-stats-estate-tax-filing-year-tables>.

## NOTES

- <sup>25</sup> See table A2 in the appendix for more details. In line with our conservative assumptions, we chose a discount rate that is slightly higher than current discount rates published by the Federal Reserve. A higher discount rate reduces the value of future capital gains and increase the effective rate of dividends. We show results with a lower and higher discount rate in our sensitivity analysis in the next section.
- <sup>26</sup> For ownership calculations, see Rosenthal and Mucciolo, "Who's Left to Tax? Grappling With A dwindling Shareholder Tax Base." Tax Notes Federal, Volume 183, April 1, 2024.
- <sup>27</sup> The tax difference is the difference for US taxable multiplied by their percentage of US stocks ownership added to the difference for foreign owners multiplied by their percentage of US stock ownership:  $(9.3 \times 28\%) + (14.5 \times 32\%)$ .
- <sup>28</sup> Conversely, if foreign countries favor dividends over buybacks, US firms would, *ceteris paribus*, pay more dividends to foreign shareholders (and even more with a further increase in the US buyback excise tax). In this scenario, the US would withhold more taxes on dividends, which might please US policymakers (the US withholding tax on dividends is much greater than 1 or 4 percent). Many foreign investors could claim a credit in their home countries for those US withholding taxes but, again, we assume US policymakers weight US taxes, not foreign ones.

## ABOUT THE AUTHORS

**Thomas Brosy** is a senior research associate at the Urban-Brookings Tax Policy Center. He studies business and international taxation, as well as state and local taxes. Brosy works extensively on business tax modeling. Brosy's research and writing has covered the impact of state taxation on business dynamism, bonus depreciation, Pillar 1 and 2, the book minimum tax, the buyback excise tax, the relationship between property values and property taxes, commercial property taxes, the taxation of cryptocurrency, and federal business and international US tax reforms. Brosy holds a PhD in economics from the University of Michigan, a MS in economics from the University College London, and a BS in economics from the University of Lausanne, Switzerland.

**Steve Rosenthal** is a senior fellow in the Urban-Brookings Tax Policy Center at the Urban Institute. He researches, speaks, and writes on a range of federal income tax issues, with a particular focus on business taxes. In 2013, he also was the staff director of the DC Tax Revision Commission. Before joining Urban, Rosenthal practiced tax law in Washington, DC, for over 25 years, most recently as a partner at Ropes and Gray. He was a legislation counsel with the Joint Committee on Taxation, where he helped draft tax rules for financial institutions, financial products, capital gains, and related areas. He is the former chair of the Taxation Section of the District of Columbia Bar Association. Rosenthal holds an AB and JD from the University of California, Berkeley, and an MPP from Harvard University.

This report was funded by Arnold Ventures. We are grateful to them and to all our funders, who make it possible for the Urban-Brookings Tax Policy Center to advance its mission.

The views expressed are those of the authors and should not be attributed the Urban-Brookings Tax Policy Center, the Urban Institute, the Brookings Institution, their trustees, or their funders. Funders do not determine research findings or the insights and recommendations of our experts. Further information on Urban's funding principles is available at <http://www.urban.org/aboutus/our-funding/funding-principles>; further information on Brookings' donor guidelines is available at <http://www.brookings.edu/support-brookings/donor-guidelines>.

The authors thank Len Burman, Tracy Gordon, Donald Marron, and Eric Toder for their helpful comments and feedback. Copyright © 2024. Tax Policy Center. Permission is granted for reproduction of this file, with attribution to the Urban-Brookings Tax Policy Center.



The Tax Policy Center is a joint venture of the  
Urban Institute and Brookings Institution.



**BROOKINGS**

For more information, visit [taxpolicycenter.org](http://taxpolicycenter.org)  
or email [info@taxpolicycenter.org](mailto:info@taxpolicycenter.org)