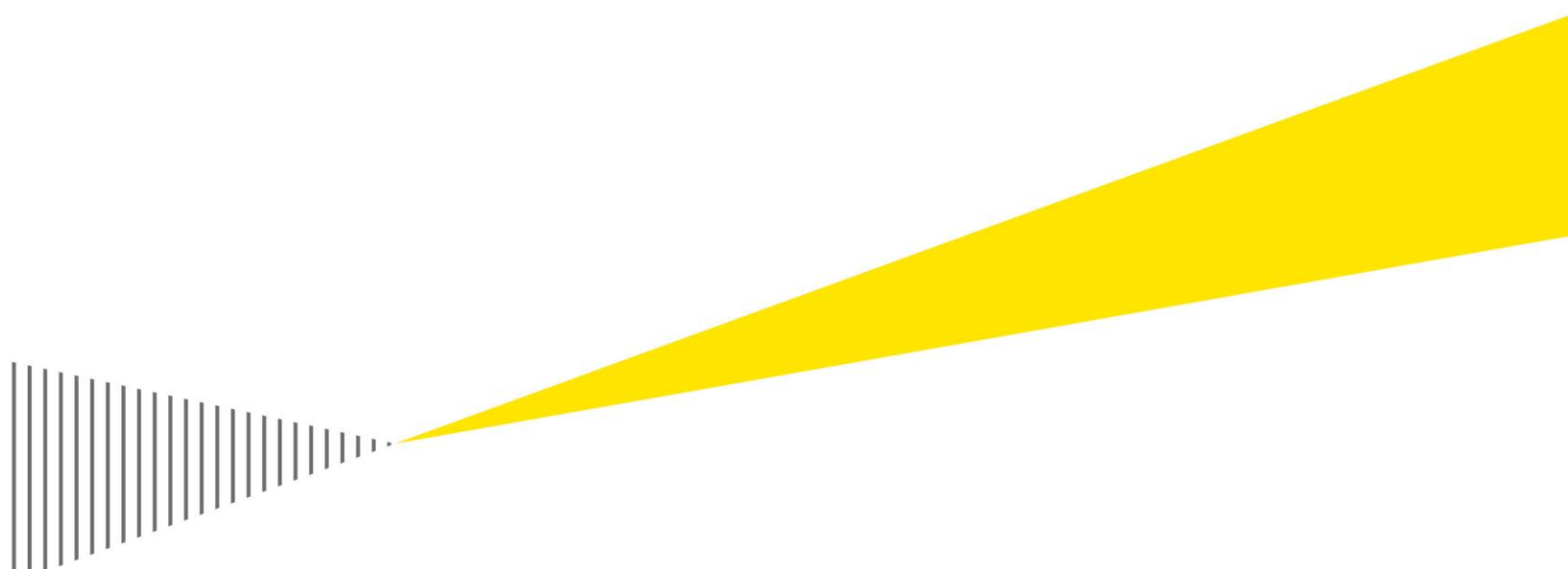


Repealing step-up of basis on inherited assets: Macroeconomic impacts and effects on illustrative family businesses

Prepared for the Family Business Estate Tax Coalition (FBETC)

April 2021



Building a better
working world

Repealing step-up of basis on inherited assets: Macroeconomic impacts and effects on illustrative family businesses

Executive summary

This report presents:

1. estimates of the impacts of repealing step-up of basis on the US economy and
2. case studies illustrating the potential impact of repeal on family-owned businesses.

Analysis shows that this tax increase, whether via tax at death or carryover of basis, will have negative impacts on family-owned businesses, US gross domestic product (GDP), and job creation both in the immediate and long term. Repeal of step-up of basis would impose a tax burden on top of the existing estate tax regime, further compounding these negative impacts.

Background

A capital gain is a measure of an asset's appreciation in value over a period of time. In the usual case, a capital gain is the difference between the amount received when an asset is sold and the asset's basis, which is the purchase price plus a number of adjustments such as depreciation and the value of improvements. Typically, capital gains are taxed when an asset is sold.

Untaxed appreciation could be measured and taxed when the asset or business owner dies and the assets or businesses are transferred to the heirs. However, a longstanding provision of US tax law, in place since the Revenue Act of 1921, is that a capital gains tax is not imposed when assets are transferred at death to an heir. Furthermore, tax law allows the heir to increase their basis in the bequeathed assets to fair market value without paying capital gains tax. This is referred to as a step-up of basis. The basis step-up prevents a potential future capital gains tax on inherited assets by removing from taxable gain the appreciation in the asset's value that occurred during the decedent's ownership. If the heir were to sell the asset in the future, then capital gains tax would generally apply to appreciation in the asset's value from after the bequeathal.

For example, suppose a business was purchased for \$1 million and valued at \$5 million at the time of the owner's death. Under current law, there would be no tax on the \$4 million appreciation that accrued during the owner's lifetime. The heirs would take the \$5 million value of the business as tax basis – the basis would be “stepped-up” by the \$4 million unrecognized capital gain without having to pay tax on that gain. Were the heirs to sell the business in a future year for \$7 million, they would owe capital gains tax on just the \$2 million in appreciation under their ownership.

There have been a number of proposals to repeal the step-up in basis at death and so tax capital gains that were not recognized during the decedent's lifetime. One is to tax gains at death – to deem death to be a “recognition event.” The second is to replace basis step-up with carryover of the decedent's basis.

- ▶ With *tax at death*, the transfer of the asset would be treated as a recognition event and capital gains taxes would be paid at the time of the decedent's death. The tax would be imposed on the fair market value of the asset received less the decedent's basis. This tax would be in addition to any estate taxes owed by the decedent's heirs. The heir would then take a fair market value basis to prevent double taxation in the future.
- ▶ With *carryover of basis*, the transfer at death would not be a recognition event, so no capital gains tax would be paid at that time. However, the heir would not be allowed the

step-up of basis. Instead, with carryover basis the heir's basis in the bequeathed asset would be the same as the decedent's basis prior to death. As a result, when the heir sells the asset, the heir would be liable for capital gains tax on any appreciation in the asset's value that occurred during both the decedent's and the heir's ownership.

Returning to the example above, under tax at death the founder's heirs would owe capital gains tax on \$4 million of gains upon inheriting the business. Under carryover of basis, the heirs would not pay tax at death, but upon selling the business for \$7 million, they would owe capital gains tax on \$6 million in gains (i.e., \$4 million in appreciation under the founder plus \$2 million in appreciation under the heirs). Both cases represent a significant tax increase over current law, as the gains subject to tax are \$6 million for both tax at death and carryover of basis (generally with only a difference in timing) as compared to \$2 million under current law. In both cases, appreciation during the decedent's lifetime eventually is taxed, assuming the asset is sold, although the tax is paid much sooner when gains are taxed at death than when carryover basis is allowed.

While the primary focus of this report is on taxing gains at death, the report also outlines some similarities and differences between the issues caused by taxing gains at death and those caused by carryover basis and in an appendix presents macroeconomic estimates for carryover basis.

Key macroeconomic results

By raising the tax burden on investment, the repeal of step-up of basis via tax at death increases the cost of capital, which discourages investment and results in less capital formation. With less capital available per worker, labor productivity falls. This reduces the wages of workers and, ultimately, GDP and Americans' standard of living.

This report estimates the repeal of step-up of basis via tax at death to have the following economic impacts:ⁱ

- ▶ **Job equivalents.** A significant portion of the burden of repeal of step-up of basis would fall on workers through reduced labor productivity, wages, and employment. Repealing step-up of basis via tax at death is estimated to decrease job equivalents, by approximately:ⁱⁱ
 - ▶ 80,000 jobs in each of the first ten years; and
 - ▶ 100,000 jobs each year thereafter.

Additionally, this analysis estimates that for every \$100 of revenue raised by repeal via tax at death the wages of workers would decline \$32. That is, the burden of the tax is such that nearly one-third of every dollar of revenue raised comes out of the paychecks of US workers.

Gross domestic product. Repeal of step-up of basis via tax at death is estimated to decrease US GDP by:

- ▶ \$10 billion annually or
- ▶ \$100 billion over 10 years.

ⁱ Estimated dollar amounts are presented relative to the size of the US economy in 2021.

ⁱⁱ Job equivalents summarize the impact of both the reduction in hours worked and reduced wages.

- **Impact on family-owned businesses.** In addition to a reduction in US GDP, wages, and jobs, the repeal of step-up of basis could result in significant financial and administrative problems for family-owned businesses and for the Internal Revenue Service (IRS):

Liquidity impacts. Many family-owned businesses have value tied up in illiquid land, structures, and equipment that may need to be liquidated, or leveraged to finance loans, to pay for the new tax burden at death. This is because the size of this one-time capital gain tax can be much larger than the annual income of the business, necessitating liquidation of key assets, or taking on significant new debt—limiting the business' viability as an ongoing concern.

Increased compliance costs/disputes with IRS. Family-owned businesses may also find it difficult to comply because of problems in determining the decedent's basis and in valuing the bequeathed assets. It seems likely that these administrative problems could lead to costly disputes between taxpayers and the IRS. Additionally, if sufficient evidence is not available to prove basis, then \$0 may be used for tax purposes. This may result in an inappropriately large tax at death.

Repealing step-up of basis via carryover basis

While carryover basis delays payment of tax until inherited assets are sold, once the asset is sold the total tax bill will be the same as if gains were taxed at death. This delay of tax payment changes the timing of the tax burden, but as a tax increase relative to current law it still discourages capital formation and has macroeconomic effects similar to, but smaller than, those from taxing gains at death.

Compared to taxing gains at death, carryover basis may mitigate liquidity concerns because no tax is triggered until the assets are sold. Nonetheless, it leaves in place challenges in documenting and tracking basis that can inappropriately increase tax bills and increase tax compliance costs and disputes with the IRS. A previous attempt to implement carryover basis, the Tax Reform Act of 1976, was initially postponed three years by the Revenue Act of 1978 and ultimately repealed before ever being implemented by the Crude Oil Windfall Profit Tax Act of 1980. Prior to repeal, tax practitioners noted significant difficulties in attempting to determine the basis of inherited assets.

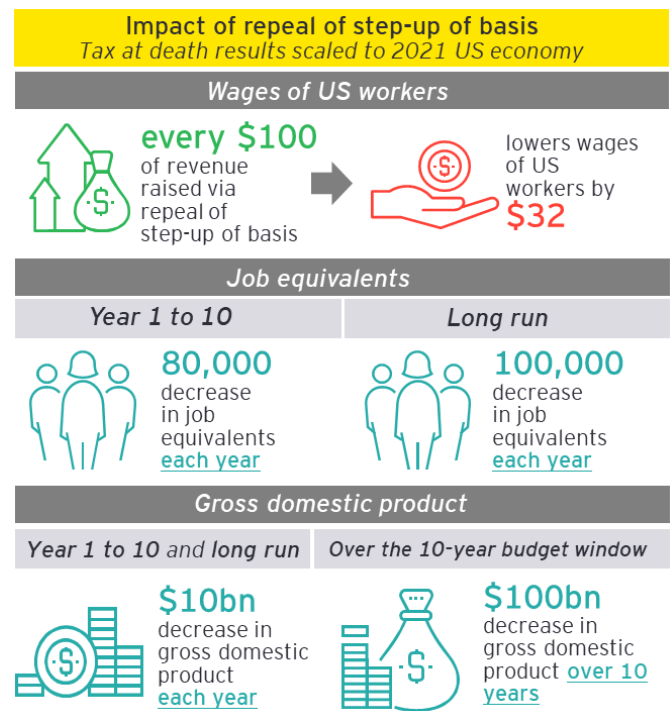
Interaction with the estate tax

In discussions of US policy, taxing gains at death would not be accompanied by repeal of the estate tax. Rather both would be imposed. Taxing gains at death on top of taxing an estate can create a very high tax burden. For example, with a potential estate tax rate of 40% and capital gains tax rate of 20% this double taxation of gains could result in a 52% tax rate, assuming that the capital gains tax is deductible from the estate tax. That is, for every \$100 of gain the heir would only receive \$48 and remit the other \$52 in tax. This high tax burden can be especially problematic when the primary asset in the estate is a business as there may be little cash available with which to pay estate and capital gains taxes. Furthermore, repeal of step-up in basis would make death a taxable event even for families below the current estate tax exemption threshold (\$11.7 million in 2021)—significantly broadening the scope of the United States' death and inheritance taxes.

Some other countries, for example Canada and Australia, that tax capital gains on inherited assets do not have this double taxation via additional estate or inheritance taxes. Rather, taxing

gains on inherited assets is a substitute method of taxing wealth transfers. In the United States, both the estate tax and any efforts to repeal step-up in basis will create cash flow problems for family businesses and increase the likelihood that these job creators will be forced to close or liquidate part of their operations, resulting in job losses and economic damage.

Figure ES-1. Repeal step-up of basis via tax at death



Note: Job-equivalent impacts are defined as the change in labor income divided by baseline average income per job. Changes relative to 2021 US economy. Long-run denotes when the economy has fully adjusted to policy change; generally, 2/3 to 3/4 of this adjustment occurs within 10 years.

Contents

I. Introduction	1
Step-up of basis for an illustrative family-owned business	2
II. Estimated macroeconomic impacts of taxing gains at death	6
III. Family-owned business case studies	8
Illustrative example of a family-owned steel manufacturer	8
Illustrative example of a family-owned farm	10
Illustrative example of beer distributor	12
Illustrative example of apartment property	14
Illustrative example of ingredients manufacturer	16
Additional considerations.....	18
IV. Caveats and limitations.....	20
Appendix A. Description of EY General Equilibrium Model of the US Economy	22
Appendix B. Estimated macroeconomic impacts of carryover basis	27

Repealing step-up of basis on inherited assets: Macroeconomic impacts and effects on illustrative family businesses

I. Introduction

A capital gain is a measure of an asset's appreciation in value over a period of time. In the usual case, a capital gain is the difference between the amount received when an asset is sold and the asset's basis, which is the purchase price plus a number of adjustments such as depreciation and the value of improvements. Typically, capital gains are taxed when an asset is sold. The top long-term statutory capital gains tax rate is 20%.¹

Untaxed appreciation could be measured and taxed when the asset or business owner dies and the assets or businesses are transferred to the heirs. However, a longstanding provision of US tax law, in place since the Revenue Act of 1921, is that the transfer of assets at death to an heir does not trigger a capital gains tax. Furthermore, tax law allows the heir to increase their basis in the bequeathed assets to fair market value without payment of capital gains tax. This is referred to as a step-up of basis.² The basis step-up prevents potential future capital gains tax on inherited assets by removing from taxable gain the appreciation in the asset's value that occurred during the decedent's ownership. If the heir were to sell the asset in the future, then capital gains tax would generally apply to appreciation in the asset's value from after the bequeathal.

For example, if a business was purchased for \$1 million and valued at \$5 million at the time of the founder's death, it would have a tax basis of \$5 million for the founder's heirs (i.e., the \$4 million in appreciation over the founder's lifetime contributes to stepped-up basis for the heirs). Were the heirs to sell the business in a future year for \$7 million, they would owe capital gains tax on just the \$2 million in appreciation under their ownership.

There are two ways that the step-up of basis can be repealed. One is to tax gains at death. The second is to replace basis step-up with carryover of the decedent's basis.³

- ▶ With *tax at death*, the transfer of the asset would be treated as a recognition event and capital gains taxes would be paid at the time of the decedent's death. The tax would be imposed on the fair market value of the asset received less the decedent's basis. It would be in addition to any estate tax owed. The heir would then take a fair market value basis to prevent double taxation in the future.
- ▶ With *carryover of basis*, the transfer at death is not a recognition event, so no capital gains tax is paid at that time. However, the heir is not allowed the step-up of basis. Instead, with carryover basis the heir's basis in the bequeathed asset is the same as the decedent's basis prior to death. As a result, when the heir sells the asset, the heir is liable for capital gains tax on any appreciation in the asset's value that occurred during both the decedent's and the heir's ownership.

Returning to the high-level example above, with tax at death the founder's heirs would owe capital gains tax on \$4 million of gains upon inheriting the businesses and, when they later sold the business, would owe tax on the \$2 million in appreciation that occurred during their ownership.

With carryover of basis, the heirs would not pay tax when they inherited the asset from the decedent but would pay tax on the \$6 million gain realized when they sold the business for \$7 million.

This analysis presents:

1. estimates of the economic impacts of repealing step-up of basis and
2. case studies illustrating the potential impact of repeal of step-up of basis on family-owned businesses.

The focus of the report is on replacing step-up in basis with taxing gains at death but moving to carryover basis is briefly discussed and a macroeconomic analysis of carryover basis is presented in an appendix.

Step-up of basis for an illustrative family-owned business

The role of step-up of basis in the lifecycle of an illustrative family-owned business can be seen below in Figure 1.

This illustrative family-owned business was started from scratch in 2000 with an initial market value of \$0. By 2025, when the founders of the business passed away and the heir became the owner, the business has grown to a market value of \$550,000 with annual income of \$40,000.⁴

Under current law, no capital gains tax would be due when the original owner dies and passes the business onto her heir. In addition, the heir is allowed to step up (increase) basis from the former owner's basis of \$0 to the fair market value of \$550,000. This basis step-up shields from future tax the appreciation that occurred during the original owner's lifetime.

By 2030 the heir has further grown the business to a market value of more than \$710,000 with annual income of \$50,000 and decides to sell. Under current law (step-up of basis), the heir would owe tax on a capital gain of \$160,000, resulting in a tax liability of \$32,000 (i.e., \$160,000 x 20% tax rate).⁵ The \$160,000 capital gain reflects the increase in the value of the business since inherited calculated as the \$710,000 sales price minus the basis of the business of \$550,000.

As previously noted, there are two ways that step-up of basis can be repealed. One is to tax gains at death. The second is to replace basis step-up with carryover of the decedent's basis.

Repeal via tax at death

With tax at death, there is an immediate capital gains tax applied at the time of the founders' death. In the example of Figure 1, with a market value of \$550,000 and cost basis of \$0 there is a \$550,000 capital gain triggered by the death of the founders. This results in a capital gains tax liability of \$110,000 (i.e., 20% of market value less cost basis). Because the gain is taxed, the heir's basis is increased from \$0 to \$550,000 to prevent double taxation of the gain. When the heir sells the business in 2030, the capital gain at that time is \$160,000, the market value (\$710,000) less the cost basis (\$550,000). This triggers another capital gains tax of \$32,000 (\$160,000 capital gain x 20% tax rate). Thus, summing the capital gains tax paid at the time of the founders' death (\$110,000) and that paid when the heir sells the business (\$32,000), there is a total of \$142,000 of capital gains tax paid by this illustrative family-owned business. Overall, in

this example taxing gains at death raises the capital gains tax by over 340% relative to the tax imposed under current law (i.e., \$142,000 relative to \$32,000 under current law). All the capital gain over the lifespan of the family-owned business between founding and sale is taxed.

Compared to current law, taxing gains at death can be especially burdensome on the business because there is no sale out of which to pay the tax. In the example the \$110,000 tax bill due upon the death of the original owner represents 275% of the business' income in that year (i.e., \$110,000 tax bill relative to \$40,000 annual income in 2025). If there is not an additional source of ready cash, the liquidity squeeze from the tax may require the heirs to liquidate all or part of the business or secure a large loan. Both these and other potential financing options can impair the continued ownership of the business by the heir.

Repeal via carryover of basis

With carryover of basis, the transfer at death does not trigger an immediate capital gains tax. However, the heir is not allowed the step-up of basis. Instead, with carryover basis the heir's basis in the bequeathed asset is the same as the decedent's basis prior to death, \$0 in the example. When the heir sells the business in 2030 the heir is liable for capital gains tax on any appreciation in the asset's value that occurred during both the decedent's and the heir's ownership. That is, when the heir sells the business in 2030 there is a capital gain of \$710,000, the market value of the business at sale (\$710,000) less cost basis (\$0). This results in a large tax liability of \$142,000, or 284% of annual income in 2030.

Assuming that the heir eventually sells the business, the total capital gains tax paid is the same when gains are taxed at death as when the heir receives a carryover basis. As noted above, this tax can be large; in the example it is more than 340% larger than the tax imposed under current law and represents 284% of annual income. However, compared to taxing gains at death, carryover basis delays the payment of the tax, making it less burdensome (because of deferral and the time value of money)⁶ and easier to plan for the eventual tax payment. In addition, it times the tax payment with the sale of the family-owned business, easing liquidity burdens on the owners.

Nonetheless, carryover basis shares with taxing gains at death the problem of tracking and identifying the basis on inherited property and businesses. Properly measuring basis can be difficult because of incomplete records available to the heirs. An inability to document basis can have large tax consequences, especially if the alternative is to use a basis of \$0. A previous attempt to implement carryover basis, the Tax Reform Act of 1976, was initially postponed three years by the Revenue Act of 1978 and ultimately repealed before ever being implemented by the Crude Oil Windfall Profit Tax Act of 1980. Prior to repeal tax practitioners noted significant difficulties in attempting to determine the basis of inherited assets.⁷

Interaction with the estate tax

In discussions of US policy, taxing gains at death would not be accompanied by repeal of the estate tax. Rather both would be imposed on the decedent (and ultimately fall on the heirs). Taxing gains at death on top of taxing an estate can impose a very high tax burden. For example, with a potential estate tax rate of 40% and capital gains tax rate of 20% this double taxation of gains could result in a 52% tax rate, assuming that the capital gains tax is deductible from the estate tax. That is, for every \$100 of gain the heir would only receive \$48 and remit the other \$52 in tax.

This large tax liability can be especially problematic when the primary asset in the estate is a business as there may be little cash available with which to pay estate and capital gains taxes.

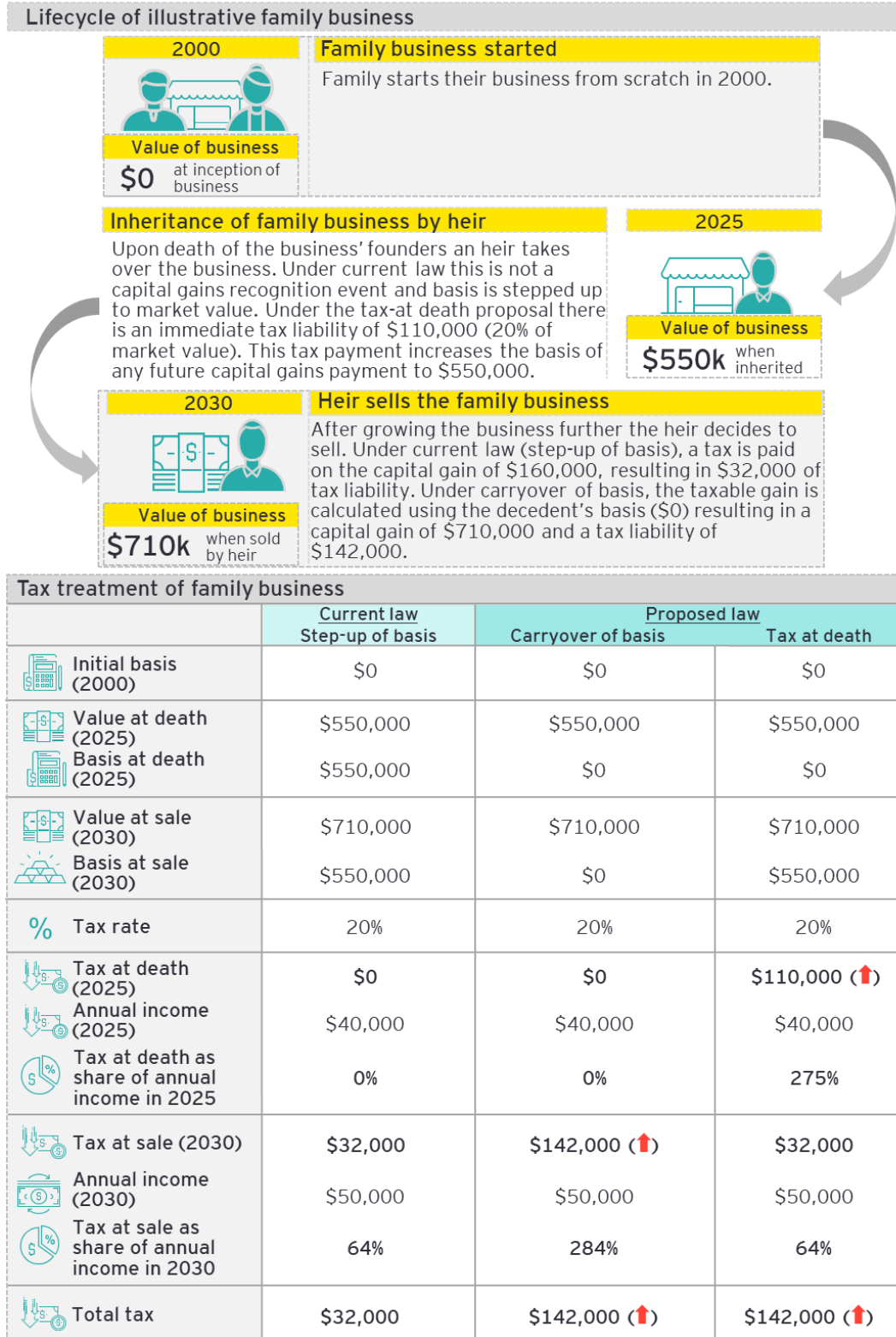
Some other countries, for example Canada and Australia, that tax capital gains at death do not have this double taxation via additional estate or inheritance taxes. Rather, taxing gains at death is a substitute method of taxing wealth transfers. In the United States, both the estate tax and any efforts to repeal step-up in basis will create cash flow problems for family businesses and increase the likelihood that these job creators will be forced to close, liquidate, or leverage part of their operations, resulting in job losses and economic damage.

Macroeconomic effects

Taxing gains at death is estimated to have a number of adverse effects on the macroeconomy. These include:

- ▶ a reduction in GDP of about \$10 billion per year, or \$100 billion over 10 years;
- ▶ job losses of about 80,000 per year; and
- ▶ lower wages given that about 1/3 of the burden of the tax increase is shifted onto labor because the tax-induced reduction in investment makes labor less productive.

Figure 1. Step-up of basis for an illustrative family-owned business



II. Estimated macroeconomic impacts of taxing gains at death

This report examines the macroeconomic impact of repealing step-up of basis via tax at death. The effect of repealing step-up and taxing gains at death is to increase the tax cost of investment, which increases the rate of return that investments must earn in order to be profitable. As a result, investment falls. With less investment there is less capital available to each worker, labor productivity and the wages of workers drop, and, ultimately, Americans' standard of living declines.

Estimates are produced using the EY Macroeconomic Model of the US Economy. In particular, step-up of basis is modeled as an increase in the cost of capital and the EY Macroeconomic Model of the US Economy then simulated how households and businesses would respond to such a policy shock. The modeling approach is described in more detail in the appendix. Estimates are presented relative to the size of the US economy in 2021.

Summary of effects

- ▶ *The repeal of step-up of basis increases the cost of capital, which discourages investment and results in less capital formation. With less capital available to each worker, labor productivity is lowered. This reduces the wages of workers and, ultimately, Americans' standard of living.*
- ▶ **Job equivalents.** *A significant portion of the burden of repeal of step-up of basis would fall on workers through reduced labor productivity, wages, and employment. Repealing step-up of basis via tax at death is estimated to decrease job equivalents by approximately:⁸*
 - ▶ *80,000 jobs in each of the first ten years,*
 - ▶ *100,000 jobs each year thereafter.*

Moreover, because labor productivity declines, about 1/3 of the burden of the tax is imposed on workers in the form of lower wages.

- ▶ **Gross domestic product (GDP).** *Repeal of step-up of basis via tax at death would reduce US GDP. Repealing step-up of basis via tax at death is estimated to reduce US GDP by approximately:*
 - ▶ *\$10 billion in each of the first ten years; and*
 - ▶ *\$10 billion each year thereafter.*

These GDP losses represent an approximately \$100 billion decline over 10 years.

Discussion

In the EY Macroeconomic Model of the US Economy, a significant portion of the burden of repeal of step-up of basis would fall on workers through reduced wages and employment. Hours worked are estimated to decline, on average, 0.04% over the first ten years and 0.02% in the long run relative to the level that otherwise would have occurred under current law. This is primarily a result of the decline in the after-tax wage rate, which is estimated to decline, on average, 0.02% over the first ten years and 0.05% in the long run relative to what would have occurred under current law. Results can also be seen in Table 1.

These two labor market impacts – a decline in hours worked plus a decline in the after-tax wage rate – are summarized in the estimate of the decrease in job equivalents. This measure represents the equivalent change in jobs, holding the average wage rate under current law constant. When scaled to the 2021 US economy, job equivalents are estimated to decline by 80,000 jobs (0.05%) in each of the first ten years and nearly 100,000 jobs (0.06%) in the long run relative to the level under current law. Moreover, about 1/3 of the revenue raised from the tax effectively is paid by workers in the form of the tax-induced decline in labor productivity and hence in wages.⁹

The repeal of step-up of basis is estimated to decrease the level of GDP by, on average, 0.04% over the first ten years and 0.04% in the long run. The long run denotes when the US economy has fully adjusted to the change in policy. When scaled to the US economy in 2021 this 0.04% decrease in GDP amounts to a \$10 billion annual decline in the level of GDP relative to what it otherwise would have been under current law. These GDP losses represent an approximately \$100 billion decline over 10 years.

Table 1. Repeal of step-up of basis via tax at death

	First ten years	Long run
GDP	-0.04%	-0.04%
After-tax wage rate	-0.02%	-0.05%
Hours worked	-0.04%	-0.02%
Job equivalents	-0.05%	-0.06%
Capital	-0.04%	-0.08%

Note: Job-equivalent impacts are defined as the change in labor income divided by baseline average income per job. Changes relative to 2021 US economy. Long-run denotes when the economy has fully adjusted to policy change; generally, 2/3 to 3/4 of this adjustment occurs within 10 years.

III. Family-owned business case studies

The impact of step-up of basis on a business will depend on that particular business' facts and circumstances. This section presents examples of how five illustrative family-owned businesses across different industries would be impacted by the repeal of step-up of basis. These illustrative businesses are as follows:¹⁰

1. Family-owned steel manufacturer
2. Family-owned farm
3. Family-owned beer distributor
4. Family-owned real estate development
5. Family-owned ingredients manufacturer

Illustrative example of a family-owned steel manufacturer

Figure 2 displays the role of step-up of basis for an illustrative family-owned steel manufacturer and the implications of its repeal by taxing gains at death.













This family-owned steel business was purchased for \$10 million in 1990. After initially employing 500 workers the business thereafter grew both organically and through a \$5 million acquisition. By 2025, the value has increased to \$50 million, the number of workers employed has grown to 1,000, and annual income is \$2.8 million per year.¹¹ When the owners pass away in 2025 their family heir inherits the steel business.

Under current law no capital gains tax is owed upon the owners' death in 2025 and the heir's basis would be stepped up to \$50 million. In contrast, if gains were taxed at death, there would be an immediate capital gains tax liability of \$7 million. This \$7 million is calculated as the capital gains tax rate – here assumed to be the top statutory capital gains tax rate of 20% – times the capital gain triggered by the transfer of the business to the heir (\$35 million). The \$35 million capital gain is calculated as the market value at the time of death (\$50 million) less cost basis (\$15 million). In this example, the cost basis is the amount the founders paid when they purchased the business (\$10 million) plus the cost of acquisitions they made as they grew the business (\$5 million).

The tax payment of \$7 million under tax at death is equivalent to 250% of annual income in 2025 and could create a significant liquidity squeeze for the family-owned steel manufacturer. This is because, as a capital-intensive business, a significant portion of the business' value is tied up in illiquid manufacturing structures and equipment. To the extent other funds are unavailable and the tax is due immediately this could require the liquidation of some of the family-owned steel manufacturer and could negatively impact the distributor business' ability to maintain its 1,000 employees.

If the business were later sold by the heir any appreciation during the heir's ownership tenure would be taxed as a capital gain. This second capital gain, which would occur in addition to the tax at death, would be computed using a cost basis that reflects the market value of the business at the time of founders' death to prevent double taxation.

Figure 2. Illustrative example of tax treatment of a family-owned steel manufacturer

Lifecycle of illustrative family-owned steel manufacturer				
1990		Purchase and growth of family-owned steel manufacturer		
		<p>Purchase: A family-owned steel business was purchased for \$10 million in 1990.</p> <p>Growth: The business has since grown organically and through a \$5 million acquisition. By 2025, annual income is \$2.8 million per year, and the value has increased to \$50 million. After the owners died in 2025, the deceased owners' heir inherited the steel business.</p>		
Value	Employees			
\$10m	500			
Inheritance of family business by heir				2025
<p>Step-up of basis: Under current law, the heir would owe no capital gains tax upon the owners' death in 2025 and the basis would be stepped up to \$50 million.</p> <p>Tax at death: Under the tax at death proposal there would be an immediate capital gains tax of \$7 million (20% of \$35 million). This accounts for the original basis of \$10 million and acquisitions of \$5 million. This tax payment - 250% of annual income - can create a significant liquidity squeeze as much of the family-owned business' value is tied up in illiquid manufacturing structures and equipment.</p>				
Value	Employees			
\$50m	1,000			
Tax treatment of family-owned steel manufacturer				
Year		Current law Step-up of basis	Proposed law Tax at death	
1990	 Initial basis	\$10 million	\$10 million	
1990-2025	 Acquisitions	\$5 million	\$5 million	
2025	 Adjusted basis at death, before step-up	\$15 million	\$15 million	
	 Annual income	\$2.8 million	\$2.8 million	
	 Value at death	\$50 million	\$50 million	
	 Basis at death	\$50 million	\$15 million	
	 Capital gain at death (A)	\$0	\$35 million	
	% Tax rate (B)	20%	20%	
2025	 Tax at death (A*B)	--	\$7 million (↑)	
	 Tax as a share of annual income	--	250%	
	 Basis taken by heir after tax at death	\$50 million	\$50 million	

Illustrative example of a family-owned farm

The example outlined in Figure 3 demonstrates the impact of repealing step-up of basis by taxing gains at death on an illustrative family-owned cow-calf farm.

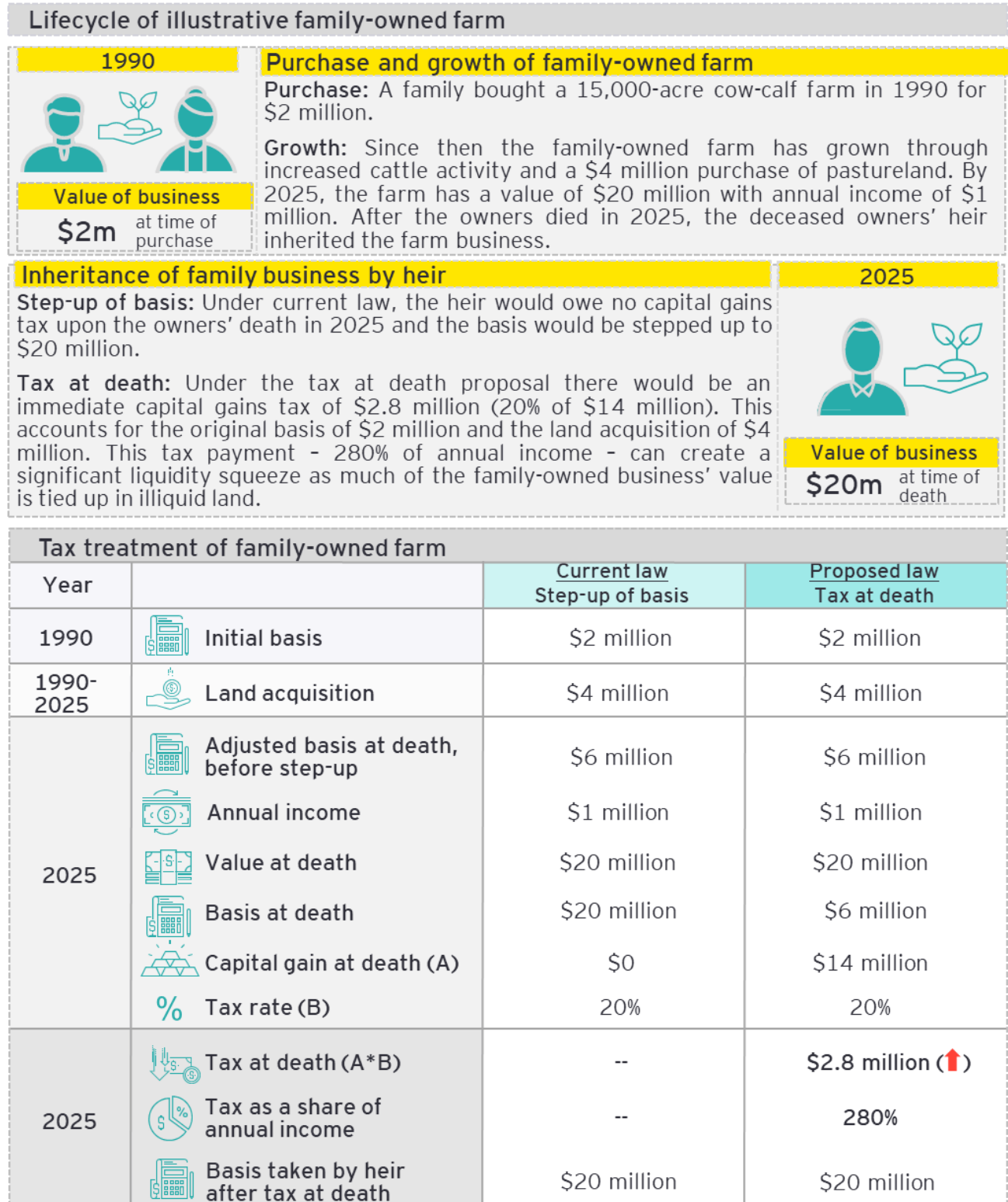
This family-owned cow-calf farm was purchased in 1990 for \$2 million. Over the following years, the family grew the farm by purchasing \$4 million of pastureland and growing and improving the cattle herd. By 2025, the farm's value increased to \$20 million with an annual income of \$1 million.¹² The owners' heir inherited the farm in 2025 after the death of the owners.

Under the current step-up of basis law, there would be no capital gains tax on the transfer of the farm ownership in 2025 after the death of the previous owners. That is, the transfer of the ownership as inheritance does not trigger a capital gains tax payment.

In contrast, if gains were taxed at death, there would be an immediate capital gains tax liability of \$2.8 million. This tax is calculated based on the increase in the value of the family-owned farm since 1990. After subtracting the original basis (\$2 million) and the land acquisition cost (\$4 million) from the market value at death (\$20 million), the capital gains tax would be paid on the remaining \$14 million increase in value. At a 20% tax rate, the tax bill would be \$2.8 million. This one-time tax payment is equivalent to 280% of annual income of the farm. Given the land- and capital-intensive nature of the business, a one-time payment of \$2.8 million (280% of annual income) could create a significant burden on the new farm owners and could force them to sell this family-owned farm.

If the business were later sold by the heir, then any appreciation during the heir's lifetime would be taxed as a capital gain. This second capital gain, which would occur in addition to the tax at death of the founder, would be calculated using a cost basis that reflects the market value of the business at the time of founders' death (\$20 million) to prevent double taxation.

Figure 3. Illustrative example of tax treatment of a family-owned farm



Illustrative example of beer distributor

Figure 4 presents an illustrative example for the impact of repealing step-up of basis by taxing gains at death for a beer distributor.

A family-owned distributor of beer and malt beverages was purchased in 1995 for \$5 million. This business had 20 employees at the time of purchase but has grown between 1995 and 2025 through natural growth and a \$45 million acquisition. By 2025, the family-owned distributor has 200 employees and is valued at \$200 million. The business generates \$12 million annually in income.¹³ In 2025, the owner died, and the heir inherited the business.













Under the current step-up of basis law, the heir would inherit the beer distributor business at a stepped-up basis of \$200 million without capital gains tax liability.

If step-up of basis were repealed via tax at death, the decedent's basis at death of \$50 million (\$5 million initial basis and \$45 million acquisition) would be used to calculate capital gains tax liability. Given that the distributor of beer and malt beverages is now valued at \$200 million, there would be a capital gain of \$150 million and tax liability of \$30 million (20% of \$150 million) upon the death of the original owner.

The \$30 million capital gains tax payment is equivalent to 250% of the distributor's annual income (\$12 million). With the value of this family-owned business tied up in illiquid distribution structures and equipment, the immediate \$30 million capital gains tax could create significant cash flow problems. This financial burden might threaten the survival of the business after the death of the original owner and could negatively impact the distributor business' ability to maintain its 200 employees.

If the business were later sold by the heir any appreciation during the heir's lifetime would be taxed as a capital gain. This second capital gain, which would occur in addition to the tax at death, would be calculated using a cost basis that reflects the market value of the business at the time of founders' death (\$200 million) to prevent double taxation.

Figure 4. Illustrative example of tax treatment of a family-owned distributor

Lifecycle of illustrative family-owned distributor			
1995		Purchase and growth of family-owned distributor	
		<p>Purchase: A family-owned distributor of beer and malt was purchased for \$5 million in 1995.</p> <p>Growth: The business has since grown naturally and through a \$45 million acquisition. By 2025, annual income is \$12 million per year, and the value has increased to \$200 million. After the owners died in 2025, the deceased owners' heir inherited the wholesale business.</p>	
Value	Employees		
\$5m	20		
Inheritance of family business by heir		2025	
<p>Step-up of basis: Under current law, the heir would owe no capital gains tax upon the owners' death in 2025 and the basis would be stepped up to \$200 million.</p> <p>Tax at death: Under the tax at death proposal there would be an immediate capital gains tax of \$30 million (20% of \$150 million). This accounts for the original basis of \$5 million and an acquisition of \$45 million. This tax payment - 250% of annual income - can create a significant cash flow issue as much of the family-owned business' value is tied up in illiquid distribution structures and equipment.</p>			
		Value	Employees
		\$200m	200
Tax treatment of family-owned distributor			
Year		Current law Step-up of basis	Proposed law Tax at death
1990	 Initial basis	\$5 million	\$5 million
1990-2025	 Acquisitions	\$45 million	\$45 million
2025	 Adjusted basis at death, before step-up	\$50 million	\$50 million
	 Annual income	\$12 million	\$12 million
	 Value at death	\$200 million	\$200 million
	 Basis at death	\$200 million	\$50 million
	 Capital gain at death (A)	\$0	\$150 million
	% Tax rate (B)	20%	20%
2025	 Tax at death (A*B)	--	\$30 million (↑)
	 Tax as a share of annual income	--	250%
	 Basis taken by heir after tax at death	\$200 million	\$200 million

Illustrative example of apartment property

The illustrative example in Figure 5 shows the impact of repealing step-up of basis by taxing gains at death on a family-owned apartment property.

A family-owned apartment building with 150 units was purchased for \$4 million in 1990. Since then, the development has grown through \$3 million of routine capital expenditures. Over this same time period, depreciation has totaled \$6 million. By 2025, the value of this family-owned real estate has increased to \$20 million with an annual income of \$1.4 million.¹⁴

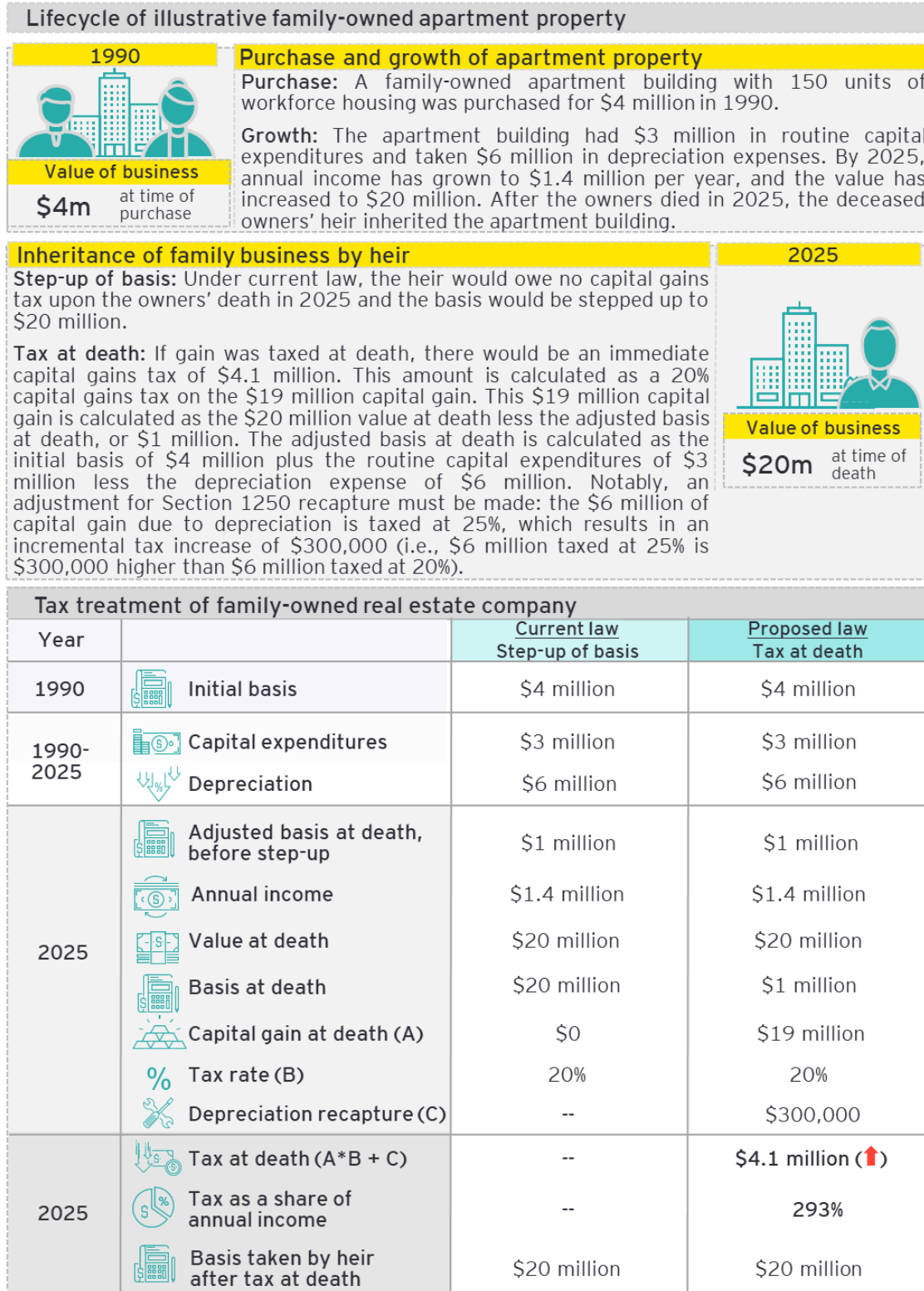
The owners of the property died in 2025 and their heir inherited the apartment building. There would be no capital gain tax upon the death of the owners under the current step-up of basis law. The tax basis will be stepped up to \$20 million in 2025, reflecting the value of the property upon the death of the previous owners.

If gain was taxed at death, the owner's death would trigger an immediate capital gains tax of \$4.1 million. The gain at death is \$19 million, calculated as the \$20 million value at death less the adjusted basis at death of \$1 million. The adjusted basis at death is calculated as the initial basis of \$4 million plus the routine capital expenditures of \$3 million less the depreciation expense of \$6 million. If all of the gain were taxed at a 20% rate, then the tax due would be \$3.8 million. However, a 25% tax rate must be used to calculate the \$6 million of the gain that is due to depreciation. This is referred to as a Section 1250 recapture and raises the tax due by \$300,000 to a total of \$4.1 million (i.e., \$6 million taxed at 25% is \$300,000 higher than \$6 million taxed at 20%).

This \$4.1 tax amount represents 293% of the property's annual income of \$1.4 million. For a small family business, this immediate expense can create a significant burden, especially for a business whose value is tied up in illiquid structure and land assets.

If the business were later sold by the heir any appreciation from during the heir's lifetime would be taxed as a capital gain. This second capital gain, which would occur in addition to the tax at death, would be computed using a cost basis that reflects the market value of the business at the time of founders' death to prevent double taxation.

Figure 5. Illustrative example of tax treatment of a family-owned apartment property



Illustrative example of ingredients manufacturer

Figure 6 displays an illustrative example of a family-owned ingredients manufacturer and the implications of taxing gains at death for this business.














The family-owned ingredients manufacturer for health and hygiene products was purchased in 1985 for \$5 million. Through organic growth and a \$30 million investment into a new manufacturing site, the business' value has increased to \$80 million. By 2025 the annual income of the business is \$3.5 million, and it employs 130 workers (up from 40 in 1985).¹⁵

In 2025 the original owners of the business have died, and their heir has inherited the family-owned business. Under the current step-up of basis law, there would be no capital gains tax and the basis would be stepped up to \$80 million. In contrast, if gains were taxed at death, there would be an immediate capital gains tax liability of \$9 million upon the death of the previous owners. This amount is calculated as 20% of the \$45 million capital gain. This \$45 million capital gain is calculated as the market value (\$80 million) less the initial \$5 million basis and the \$30 million expansion costs.

The \$9 million capital gains tax liability represents 257% of annual income. Because the ingredients manufacturer's value is tied up in illiquid operating structures used for the manufacturing process, a \$9 million immediate payment can significantly harm the family-owned business cash flow. This significant tax liability could be problematic for sustaining the business and retaining its 130 workers.

If the business were later sold by the heir any appreciation from during the heir's lifetime would be taxed as a capital gain. This second capital gain, which would occur in addition to the tax at death, would have a cost basis equal to the market value of the business at the time of founders' death to prevent double taxation.

Figure 6. Illustrative example of tax treatment of a family-owned ingredients manufacturer

Lifecycle of illustrative family-owned ingredients manufacturer			
1985		Purchase and growth of family-owned ingredients manufacturer	
		Purchase: A family-owned ingredients manufacturer for health and hygiene products was purchased for \$5 million in 1985.	
Value	Employees	Growth: The business has since grown organically and through a \$30 million investment in a new manufacturing site. By 2025, annual income is \$3.5 million per year, and the value has increased to \$80 million. After the owners died in 2025, the deceased owners' heir inherited the ingredients business.	
\$5m	40		
Inheritance of family business by heir		2025	
Step-up of basis: Under current law, the heir would owe no capital gains tax upon the owners' death in 2025 and the basis would be stepped up to \$80 million.			
Tax at death: Under the tax at death proposal there would be an immediate capital gains tax of \$9 million (20% of \$45 million). This accounts for the original basis of \$5 million and expansion of \$30 million. This tax payment - 257% of annual income - can create significant cash flow issues as much of the family-owned business' value is tied up in illiquid manufacturing equipment and structures.			
		Value	Employees
		\$80m	130
Tax treatment of family-owned ingredients manufacturer			
Year		Current law Step-up of basis	Proposed law Tax at death
1985	 Initial basis	\$5 million	\$5 million
1985-2025	 Expansion	\$30 million	\$30 million
2025	 Adjusted basis at death, before step-up	\$35 million	\$35 million
	 Annual income	\$3.5 million	\$3.5 million
	 Value at death	\$80 million	\$80 million
	 Basis at death	\$80 million	\$35 million
	 Capital gain at death (A)	\$0	\$45 million
	 Tax rate (B)	20%	20%
2025	 Tax at death (A*B)	--	\$9 million (↑)
	 Tax as a share of annual income	--	257%
	 Basis taken by heir after tax at death	\$80 million	\$80 million

Additional considerations

The examples in this section illustrate the very large and lumpy tax burden that taxing gains at death can impose on family-owned businesses. This tax burden can exceed the annual income generated by the business, and so can impose significant liquidity problems on the heirs. The heirs might be forced to liquidate the business, which may mean that it is transferred to those less able to run it, damaging the heirs, their (former) employees, who may lose their jobs, and the economy at large. Partial liquidation could have similar effects. Even borrowing to pay the tax may impose financial constraints on the business that could be challenging to address, even if the business is able to survive. The deleterious effects of taxing gains at death can spread well beyond the business' owners. Indeed, as shown in the macroeconomic analysis section, a substantial share of the burden of the tax is paid by workers in the form of lower earnings.

A problem not emphasized in the examples above is the difficulty in determining basis upon sale. Proper records supporting a determination of basis may not be easily obtainable. As a result, it may be difficult to assess the proper tax payment. Measuring and adjudicating basis could impose large compliance costs on taxpayers and administrative and enforcement costs on the Internal Revenue Service. A previous attempt to implement carryover basis, the Tax Reform Act of 1976, was initially postponed three years by the Revenue Act of 1978 and ultimately repealed before ever being implemented by the Crude Oil Windfall Profit Tax Act of 1980. Prior to repeal tax practitioners noted significant difficulties in attempting to determine the basis of inherited assets.¹⁶ An inability to document basis can have large tax consequences if the alternative is to use a basis of \$0.

A similar challenge is created by the need to value assets at death when the assets are held rather than sold to a third party. This challenge can be severe for assets, such as family owned, closely held businesses, that do not trade on active markets. While in some cases these assets may have to be valued for estate tax purposes anyway, the estate tax might not require a detailed evaluation for smaller estates. Furthermore, valuation is more important when used to determine the combined burden of the estate tax and the capital gains tax, as discussed below. These administrative challenges suggest that taxing gains at death does not promote the goal of having a simple and easily administrable tax system.¹⁷

Finally, there is the issue of the tax burden created by the estate tax. In the Obama Administration's proposal to tax gains at death¹⁸, and in other discussions of US policy, taxing gains at death would not be accompanied by repeal of the estate tax. Rather both would be imposed. Taxing gains at death on top of taxing an estate can impose a very high tax burden. For example, with a potential estate tax rate of 40% and capital gains tax rate of 20% this double taxation of gains could result in a 52% tax rate, assuming that the capital gains tax is deductible from the estate tax. That is, for every \$100 of gain the heir would only receive \$48 and remit the other \$52 in tax.

In addition, when the primary asset in the estate is a business, there may be little cash available with which to pay estate and capital gains taxes. The estate tax can exacerbate the liquidity problems faced in the transfer of a family-owned business. Some other countries, for example Canada and Australia, that tax capital gains on inherited assets do not have additional estate or inheritance taxes. Rather, taxing gains on inherited assets is their primary method of taxing wealth

transfers.¹⁹ These countries seem to recognize the economic harm that can be caused by imposing a large, double tax, on business owners when assets are transferred at death.

IV. Caveats and limitations

Any modeling effort is only an approximate depiction of the economic forces it seeks to represent, and the economic models developed for this analysis are no exception. Although various limitations and caveats might be listed, noteworthy limitations of the macroeconomic model used in this report include these eight:

- ▶ **Estimated macroeconomic impacts limited by calibration.** This model is calibrated to represent the US economy and then forecast forward. However, because any particular year may reflect unique events and also may not represent the economy in the future, no particular baseline year is completely generalizable.
- ▶ **Estimates are limited by available public information.** The analysis relies on information reported by government agencies (primarily the Bureau of Economic Analysis and Internal Revenue Service). The analysis did not attempt to verify or validate this information using sources other than those described in this appendix.
- ▶ **Industries are assumed to be responsive to normal returns on investment.** The industries comprising the United States economy in the EY Macroeconomic Model of the US Economy are assumed to be responsive to the normal returns on investment. This contrasts to industries that earn economic profits and thereby have an increased sensitivity to statutory tax rates relative to marginal effective tax rates.
- ▶ **Full employment model.** The EY Macroeconomic Model of the US Economy, like many general equilibrium models, focuses on the longer-term incentive effects of policy changes. It also assumes that all resources throughout the economy are fully employed; that is, there is no slackness in the economy (i.e., a full employment assumption with no involuntary unemployment). Any decrease in labor supply is a voluntary response to a change in income or the return to labor that makes households choose to substitute between consumption and leisure. To provide a high-level measure of the potential employment impacts, a job-equivalents measure has been estimated. Job-equivalent impacts are defined as the change in total labor income divided by the baseline average labor income per job.
- ▶ **Lock-in effects.** The analysis does not consider explicitly the economic effects of taxing gains at death on asset holding periods and portfolio reallocations. By reducing the tax benefit of holding assets until death, taxing gains at death reduces tax considerations in portfolio trading decisions and so may encourage more efficient portfolio allocations. Carryover basis has a similar, but attenuated, effect on asset holding periods and portfolio reallocations.
- ▶ **Distributional analysis.** The analysis does not explore the effects of taxing gains at death on the distribution of the tax burden across income groups.
- ▶ **Government's budget constraint.** The estimated effects on GDP depend to an extent on how the tax revenue is used by the government. The estimates in this report assume

that the revenue is returned to the private sector by an increase in government transfer payments, which is a standard assumption.

- **Analysis does not reflect impacts of COVID-19.** This analysis does not reflect any potential impacts of the COVID-19 health crisis.

Appendix A. Description of EY General Equilibrium Model of the US Economy

Estimates are produced using the EY Macroeconomic Model of the US Economy. In particular, step-up of basis is modeled as a change in the cost of capital and the EY Macroeconomic Model of the US Economy then simulated how households and businesses would respond to such a policy shock.

Cost of capital

In general, companies will make new investments as long as they earn a pre-tax return that exceeds what is required to cover taxes and compensate investors for the use of their capital. A company would not make an investment that earns less than the cost of taxes and compensation to investors because such an investment would be unprofitable. As a result, companies would continue to make (successively less profitable) new investments up to the point at which the last investment earns just enough to cover the taxes due plus enough to compensate investors for the use of their funds. This investment is referred to as the marginal investment. The pre-tax return that it earns is called the cost of capital. As cost of capital increases, fewer investments are feasible because costs are higher. As a result, as the cost of capital increases less investment occurs.

Taxes are an important component of the cost of capital. Taxes raise a company's cost of capital because the company has to earn enough to cover taxes and still pay a competitive return to its investors. Taxes also can increase the return investors demand on their investments because they have to cover their tax obligations out of the payments they receive from the companies in which they invest. Higher taxes discourage investment by raising the cost of capital.

The Congressional Budget Office (CBO), Congressional Research Service, JCT, and US Treasury Department frequently use the cost of capital framework to quantify the impact of tax changes on investment incentives. The cost of capital framework accounts for the major features of the federal income tax system (e.g., tax depreciation, tax rates, investor-level taxes).

Formally, the cost of capital is the real before-tax rate of return that a barely profitable new investment needs to earn to both cover taxes over its life and provide investors their required after-tax rate of return. The change in taxation on a new, barely profitable investment is a key margin on which to measure the impact of a policy change. For example, an investment that is profitable prior to a policy change and becomes less so, but still profitable, would likely occur with or without the policy change. Consequently, whether or not this investment occurs is largely unaffected by the policy change. A barely profitable investment, however, could become unprofitable with a policy change and, consequently, whether or not it occurs can be affected by the policy change.

Repeal of step-up of basis would generally increase investors' tax liability, raise the cost of capital, and reduce new investment in the United States. With less investment there is less capital available for each worker to work with, labor productivity and the wages of workers drop, and ultimately, Americans' standard of living declines.

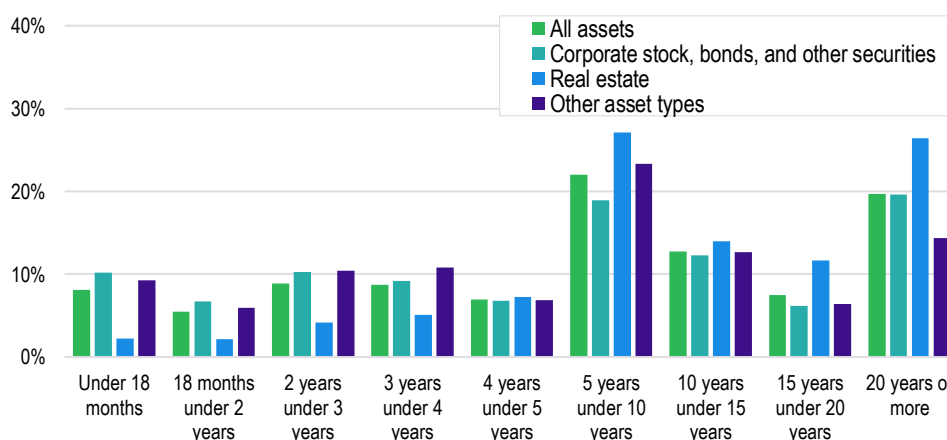
Capital asset transactions and their holding periods

Data on sales of capital assets as reported on individual tax returns are available from the Internal Revenue Service. Across all asset types 16% of gains and losses are short-term gains and losses. These are generally gains and losses on assets held for less than one year. The distribution for long-term gains and losses, which are generally gains and losses on assets held for more than one year, is displayed in Figure 7. Nearly 40% of long-term gains and losses are on assets held for less than 5 years and 60% of long-term gains and losses are on assets held for less than 10 years.

There is some variation in holding periods across asset types. Short-term gains and losses as a share of all gains and losses are 19% for corporate stock, bonds, and other securities, 3% for real estate, and 17% for all other asset types. The distribution of long-term capital gains and losses for these categories can be seen in Figure 7. Generally, each of these categories has similar holding periods except for real estate, which generally has longer holding periods.

These Internal Revenue Service Sales of Capital Assets data suggest 42.9% of capital gains receive step-up of basis at death. With repeal via tax at death the transfer of the asset would be treated as a recognition event and capital gains taxes would be paid at the time of the decedent's death.

Figure 7. Long-term capital gains and losses, by asset type and length of time held



Source: Internal Revenue Service.

EY Macroeconomic Model of the US Economy

The EY Macroeconomic Model of the US Economy is an overlapping generations (OLG) dynamic computable general equilibrium model similar to those used by the CBO, JCT, and US Treasury Department. The general equilibrium framework accounts for changes in equilibrium prices in factor (i.e., capital and labor) and goods markets and simultaneously accounts for the behavioral responses of individuals and businesses to changes in tax treatment. Included in this framework is a foreign sector that responds to both the United States' after-tax rate of return (for investment choices) and after-tax prices in goods markets (for import/export decisions).

The OLG model used for this analysis is similar to those used by the Congressional Budget Office, Joint Committee on Taxation, and US Treasury Department.²⁰ In this model, tax policy affects the incentives to work, save and invest, and to allocate capital and labor among competing uses. Representative individuals and firms incorporate the after-tax return from work and savings into their decisions on how much to produce, save, and work.

The general equilibrium methodology accounts for changes in equilibrium prices in factor (i.e., capital and labor) and goods markets and simultaneously accounts for the behavioral responses of individuals and businesses to changes in taxation. Behavioral changes are estimated in the OLG framework, whereby representative individuals with perfect foresight incorporate changes in current and future prices when deciding how much to consume and save in each period of their lives.

Production

Firm production is modeled with the constant elasticity of substitution (CES) functional form, in which firms choose the optimal level of capital and labor subject to the gross-of-tax cost of capital and gross-of-tax wage. The model includes industry-specific detail through use of differing costs of capital, factor intensities, and production function scale parameters. Such a specification accounts for differential use of capital and labor between industries as well as distortions in factor prices introduced by the tax system. The cost of capital measure models the extent to which the tax code discriminates by asset type, organizational form, and source of finance.

The industry detail included in this model corresponds approximately with three-digit North American Industry Classification System (NAICS) codes and is calibrated to a stylized version of the 2014 US economy. Each of 36 industries has a corporate and pass-through sector except for owner-occupied housing and government production. Because industry outputs are typically a combination of value added (i.e., the capital and labor of an industry) and the finished production of other industries (i.e., intermediate inputs), each industry's output is modeled as a fixed proportion of an industry's value added and intermediate inputs to capture inter-industry linkages. These industry outputs are then bundled together into consumption goods that consumers purchase.

Consumption

Consumer behavior is modeled through use of an OLG framework that includes 55 generational cohorts (representing adults aged 21 to 75). Thus, in any one year, the model includes a representative individual optimizing lifetime consumption and savings decisions for each cohort aged 21 through 75 (i.e., 55 representative individuals) with perfect foresight. The model also distinguishes between two types of representative individuals: those that have access to capital markets (savers) and those that do not (non-savers or rule-of-thumb agents).

Non-savers and savers face different optimization problems over different time horizons. Each period non-savers must choose the amount of labor they supply and the amount of goods they consume. Savers face the same tradeoffs in a given period, but they must also balance consumption today with the choice of investing in capital or bonds. The model assumes 50% of US households are permanently non-savers and 50% are permanently savers across all age cohorts.

The utility of representative individuals is modeled as a CES function, allocating a composite commodity consisting of consumption goods and leisure over their lifetimes. Representative individuals optimize their lifetime utility through their decisions of how much to consume, save, and work in each period subject to their preferences, access to capital markets, and the after-tax returns from work and savings in each period. Representative individuals respond to the after-tax return to labor, as well as their overall income levels, in determining how much to work and thereby earn income that is used to purchase consumption goods or to consume leisure by not working. In this model the endowment of human capital changes with age — growing early in life and declining later in life — following the estimate of Altig et al. (2001).²¹

Government

The model includes a simple characterization of both federal and state and local governments. Government spending is assumed to be used for either: (1) transfer payments to representative individuals, or (2) the provision of public goods. Transfer payments are assumed to be either Social Security payments or other transfer payments. Social Security payments are calculated in the model based on the 35 years in which a representative individual earns the most labor income. Other transfer payments are distributed on a per capita basis. Public goods are assumed to be provided by the government in fixed quantities through the purchase of industry outputs as specified in a Leontief function.

Government spending in the model can be financed by collecting taxes or borrowing. Borrowing, however, cannot continue indefinitely in this model. Eventually, the debt-to-GDP ratio must stabilize so that the government's fiscal policy is sustainable. The model allows government transfers, government provision of public goods, or government tax policy to be used to achieve a selected debt-to-GDP ratio after a selected number of years. This selected debt-to-GDP ratio could be, for example, the initial debt-to-GDP ratio or the debt-to-GDP ratio a selected number of years after policy enactment. The baseline of the model is calibrated such that federal revenue as a share of GDP, federal spending on Social Security as a share of GDP, and the federal debt-to-GDP ratio matches the Congressional Budget Office's *The 2019 Long-Term Budget Outlook*.²²

Modeling the United States as a large open economy

The model is an open economy model that includes both capital and trade flows between the United States and the rest of the world. International capital flows are modeled through the constant portfolio elasticity approach of Gravelle and Smetters (2006).²³ This approach assumes that international capital flows are responsive to the difference in after-tax rates of return in the United States and the rest of the world through a constant portfolio elasticity expression. Trade is modeled through use of the Armington assumption, wherein products made in the United States versus the rest of the world are imperfect substitutes.

Table A-1. Key model parameters

Intertemporal substitution elasticity	0.4
Intratemporal substitution elasticity	0.6
Leisure share of time endowment	0.4
International capital flow elasticity	3.0
Capital-labor substitution elasticity	0.8
Adjustment costs	2.0

Source: Key model parameters are generally from Joint Committee on Taxation, *Macroeconomic Analysis of the Conference Agreement for H.R. 1, The 'Tax Cuts and Jobs Act,'* December 22, 2017 (JCX-69-17) and Jane Gravelle and Kent Smetters, "Does the Open Economy Assumption Really Mean that Labor Bears the Burden of a Capital Income Tax?" *Advances in Economic Analysis and Policy* 6(1) (2006): Article 3.

Appendix B. Estimated macroeconomic impacts of carryover basis

While carryover basis delays payment of tax until inherited assets are sold, once the asset is sold the total tax bill will be the same as if gains were taxed at death. This delay of tax payment changes the timing of the tax burden, but as a tax increase relative to current law it still discourages capital formation and has macroeconomic effects similar to, but smaller than, those from taxing gains at death.

Compared to taxing gains at death, carryover basis may mitigate liquidity concerns because no tax is triggered until the assets are sold. Nonetheless, it leaves in place challenges in documenting and tracking basis that can inappropriately increase tax bills and increase tax compliance costs and disputes with the IRS. A previous attempt to implement carryover basis, the Tax Reform Act of 1976, was initially postponed three years by the Revenue Act of 1978 and ultimately repealed before ever being implemented by the Crude Oil Windfall Profit Tax Act of 1980. Prior to repeal, tax practitioners noted significant difficulties in attempting to determine the basis of inherited assets.

Key macroeconomic results

This appendix examines the macroeconomic impact of repealing step-up of basis via carryover basis. The effect of repealing step-up is to increase the tax cost of investment, which increases the rate of return that investments must earn in order to be profitable. As a result, investment falls. With less investment there is less capital available to each worker, labor productivity and the wages of workers drop, and, ultimately, Americans' standard of living declines.

Estimates are produced using the EY Macroeconomic Model of the US Economy. In particular, step-up of basis is modeled as an increase in the cost of capital and the EY Macroeconomic Model of the US Economy then simulated how households and businesses would respond to such a policy shock.

This report estimates the repeal of step-up of basis via carryover basis to have the following economic impacts:

- ▶ **Job equivalents.** A significant portion of the burden of repeal of step-up of basis would fall on workers through reduced labor productivity, wages, and employment. Repealing step-up of basis via carryover basis is estimated to decrease job equivalents, by approximately:
 - ▶ 40,000 jobs in each of the first ten years; and
 - ▶ 50,000 jobs each year thereafter.
- ▶ **Gross domestic product.** Repeal of step-up of basis via carryover basis is estimated to decrease US GDP by:
 - ▶ \$5 billion annually or
 - ▶ \$50 billion over 10 years.

¹ Depending on the particular facts and circumstances of the capital gain other rates may apply. In addition to this, there is also the 3.8% net investment income tax that can apply to capital gains. This tax is included in estimation of macroeconomic effects, but for simplicity is ignored in the examples.

² In this report, in most instances “step-up of basis” means “tax-free step-up of basis.”

³ Under current law, gifts generally receive carry-over basis treatment. Taxing gains at death would require conforming treatment for gifts in order to limit the incentive to transfer assets as gifts prior to death. Our discussion implicitly assumes that this occurs.

⁴ This illustrative business is generated through use of a high-level discounted cash flow model that assumes a 5% growth rate in income each year and uses a discount rate of 10%. Numbers generated from the high-level discounted cash flow model are rounded for illustrative simplicity.

⁵ This illustration uses the top statutory capital gains tax rate (20%). It does not take into account the 3.8% net investment income tax.

⁶ This deferral benefit is larger, the longer the sale is delayed. In the extreme case, where assets are handed down from generation to generation, capital gains tax may never be paid.

⁷ See Congressional Research Service, “Step-Up vs. Carryover Basis for Capital Gains: Implications for Estate Tax Repeal,” 2001.

⁸ Job equivalents summarize the impact of both the reduction in hours worked and reduced wages.

⁹ This calculation compares the total change in labor compensation to the total revenue raised. That is, the effective tax is the change in labor compensation per dollar of revenue raised. This calculation uses the long-run result to report the effective tax on labor when the policy is fully phased in. Conventional revenue estimate from Penn Wharton Budget Model, “The Biden Tax Plan: Budgetary, distributional, and economic effects,” January 23, 2020.

¹⁰ Numbers generated for examples have been rounded for illustrative simplicity. Depreciation is generally ignored in examples. Its effects, however, are highlighted in the illustrative family-owned apartment property.

¹¹ Annual income is assumed to be 5.6% of value.

¹² Annual income is assumed to be 5.0% of value.

¹³ Annual income is assumed to be 6.0% of value.

¹⁴ Annual income is assumed to be 7.0% of value.

¹⁵ Annual income is assumed to be 4.4% of value.

¹⁶ See Congressional Research Service, “Step-Up vs. Carryover Basis for Capital Gains: Implications for Estate Tax Repeal,” 2001.

¹⁷ Some proposals to tax gains at death have included features intended to relieve some of the liquidity, measurement, and other problems with attempting to tax gains at death. For example, the Obama Administration’s proposal allows capital gains tax to be postponed until sale in the case of certain family owned and operated businesses, and in general allows tax to be paid over 15 years. These provisions certainly could provide a measure of relief and represent major improvements over an approach that would tax all gains at death without exception. See Department of the Treasury, *General Explanations of the Administration’s Fiscal Year 2016 Revenue Proposals*, February 2015, pp. 156-157.

Nonetheless, serious problems remained, as pointed out by the Joint Committee on Taxation (JCT) in their analysis of the Obama Administration’s proposal.¹⁷ The JCT particularly emphasized the complexity inherent in taxing gains at death and pointed out that the proposal did not define such key terms as a “family owned and operated business.” See the discussion in Joint Committee on Taxation, *Description of Certain Revenue Provisions Contained in the President’s Fiscal Year 2016 Budget Proposal*, September 2015, p. 192.

¹⁸ The FY 16 Obama revenue proposals would have increased the burden of the estate tax. See Department of the Treasury, *General Explanations of the Administration’s Fiscal Year 2016 Revenue Proposals*, February 2015, pp. 193-206.

¹⁹ See the discussion in Joint Committee on Taxation, *Description of Certain Revenue Provisions Contained in the President’s Fiscal Year 2016 Budget Proposal*, September 2015, p. 192.

²⁰ See, for example, Shinichi Nishiyama, “Fiscal Policy Effects in a Heterogeneous-Agent Overlapping-Generations Economy With an Aging Population,” Congressional Budget Office, Working Paper 2013-07, December 2013; Joint Committee on Taxation (JCT), *Macroeconomic Analysis of the ‘Tax Reform Act of 2014,’* February 2014 (JCX-22-14); JCT, *Macroeconomic Analysis of Various Proposals to Provide \$500*

Billion in Tax Relief, March 2005 (JCX-4-05); and, US Department of the Treasury, *The President's Advisory Panel on Federal Tax Reform, Simple, Fair, & Pro-Growth: Proposals to Fix America's Tax System*, November 2005.

²¹ See David Altig, Alan Auerbach, Laurence Koltikoff, Kent Smetters, and Jan Walliser, "Simulating Fundamental Tax Reform in the United States," *American Economic Review* 91(3) (2001): 574-595.

²² See Congressional Budget Office, *The 2019 Long-Term Budget Outlook*, June 2019.

²³ See Jane Gravelle and Kent Smetters, "Does the Open Economy Assumption Really Mean That Labor Bears the Burden of a Capital Income Tax?" *Advances in Economic Analysis and Policy* 6(1) (2006): Article 3.