# Appendix
# Revenue Impact of Increasing the Estate Tax Exclusion Amount

This appendix includes additional detail that supports the response to a request from the Senate Working Group (SWG) that DOR:

> A) estimate the revenue impact of raising the estate tax threshold from $1M to $2M, $5.49M, or $11.2M, including quintile information for affected taxpayers, under two scenarios: 1) the estate tax cliff remains in place and 2) the estate tax cliff effect is eliminated, and
>
> B) provide information as to how DOR projects/estimates estate tax revenues for budgeting purposes each year.

The appendix outline:

- Overview of the Current Law
- Description of Estate Tax Cliff
- Proposed Changes and Revenue Impact estimation:
  - Scenario 1: Increase the estate tax threshold without eliminating the "Estate Tax Cliff".
  - Scenario 2: Increase the estate tax threshold and eliminate the "Estate Tax Cliff".

## Overview of the Current Law:

The estate tax is a tax on the value of the decedent's estate before distribution to any beneficiary. The Massachusetts estate tax[1] for the estates of residents and nonresidents is computed with reference to the maximum federal estate tax credit for state estate taxes formerly allowed in the Internal Revenue Code, as in effect on December 31, 2000.[2] Changes to federal estate tax law since 2000 have no impact on the Massachusetts estate tax. For estates of decedents dying in 2006 or after, no estate tax is imposed if the taxable estate is valued at $1 million or less. When the taxable estate is more than $1 million, the entire value of the taxable estate is subject to tax. This is often referred to as the "Estate Tax Cliff".[3]

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[1] M.G.L. c. 65C

[2] If an estate consists solely of property subject to Massachusetts estate taxation, it pays to Massachusetts an amount equal to the federal credit for state estate taxes computed using the Internal Revenue Code in effect on December 31, 2000. In the case of a resident of Massachusetts who owned or transferred real estate or tangible personal property located outside of Massachusetts, Massachusetts grants a credit for estate or inheritance taxes properly paid to other states. In the case of a nonresident of Massachusetts who owned or transferred real estate or tangible personal property located in Massachusetts, the amount of the Massachusetts nonresident estate tax is the proportion of the allowable credit from the federal estate tax return that the gross value of the Massachusetts property bears to the entire federal gross estate wherever situated.

[3] More precisely, the "Estate Tax Cliff" results in a rapid increase in taxes as taxable estate increases from $1 million to roughly $1.1 million, at which point the rate of increase becomes steadier. See the blue line of Chart 1a.

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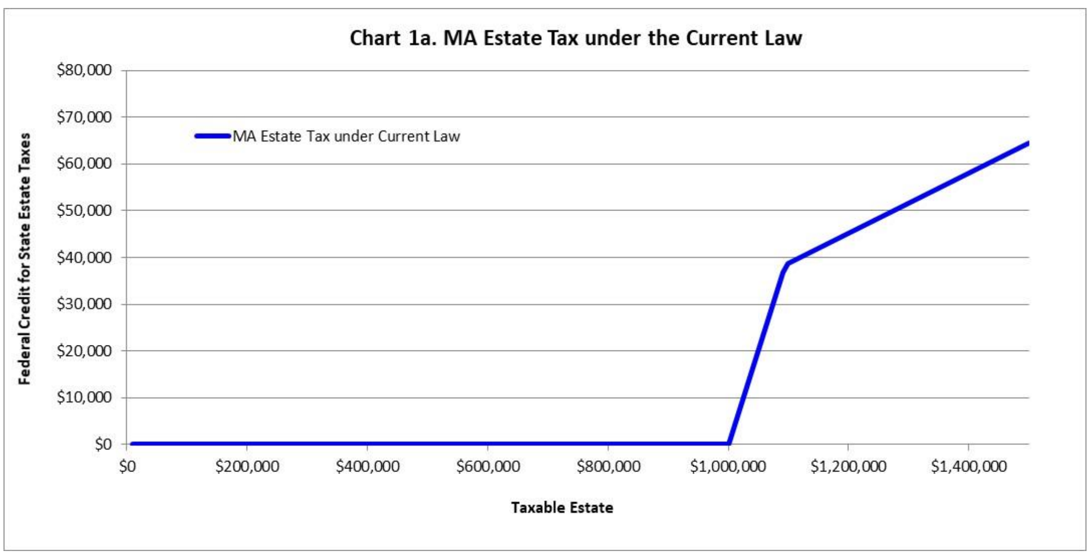
To compute the maximum federal credit for state estate taxes, the July 1999 revision of the federal Form 706 (referred to as US Form 706 hereafter) is used.[4] The amount is calculated using the rate schedule in Table B in the instruction for US Form 706. For some estates, the federal estate tax less the unified credit (applicable credit amount) is less than the credit for state estate taxes.[5] In these situations, the credit for state estate taxes is limited to the amount of federal estate tax less the unified credit. The current unified credit amount is $345,800, which is equivalent to a $1 million applicable exclusion or exemption amount.

## Description of Estate Tax Cliff:

Chart 1a below illustrates how the federal credit for state estate taxes varies with the size of the taxable estate.[6] As shown in the chart, when the taxable estate is less than $1 million, the federal credit for state estate taxes is zero due to the $1 million exclusion (or equivalently, the $345,800 unified credit mentioned above); when a taxable estate increases from $1 million to about $1.1 million, the federal credit for state estate taxes increases rapidly. But when the taxable estate exceeds a level of about $1.1 million, the federal credit for state estate taxes increases more slowly. The chart clearly shows the Massachusetts "Estate Tax Cliff" when the taxable estate is within the range of $1 million to about $1.1 million.




[4] A Guide to Estate Taxes | Mass.gov
Form 706 (Rev. July 1999) (mass.gov)
Instructions for 706 (Rev. July 1999) (mass.gov)
[5] Table A in the instruction for US Form 706 provides rate schedule for computing federal estate tax before applying adjustments to the tax.
[6] Note that, for simplicity, we assume that the estate consists solely of property located in Massachusetts such that the Massachusetts estate tax is equal to the federal credit for state estate taxes. We also made other assumptions, such as zero taxable gifts, when producing the chart. These assumptions were also used when creating Chart 2, Chart 3a and Chart 3b.

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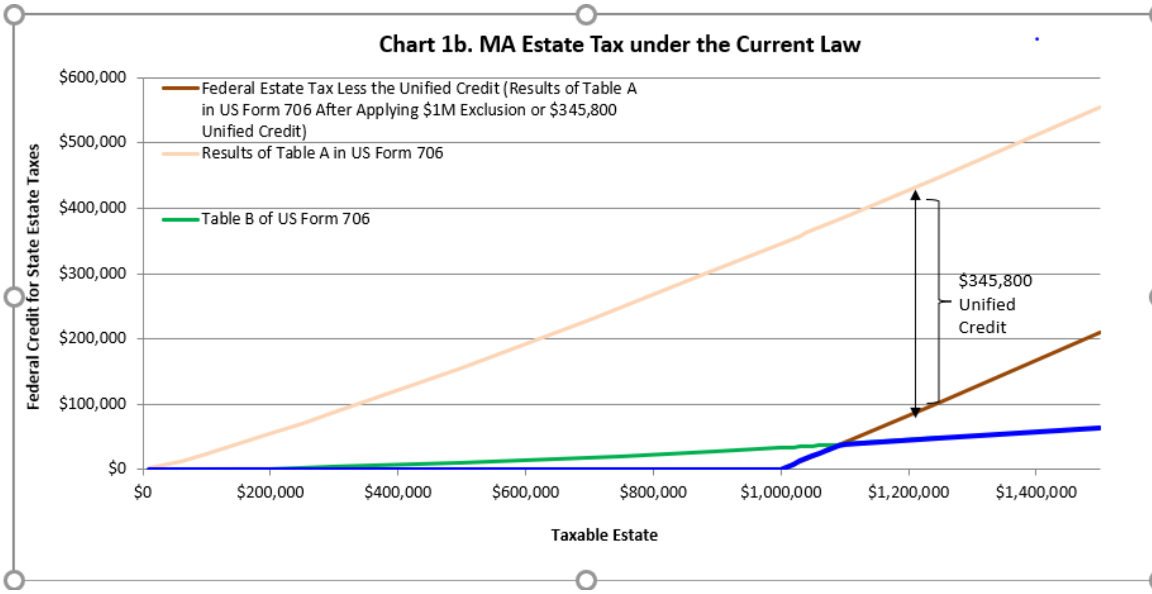
Chart 1b below shows that the “Estate Tax Cliff” results from the interaction of the unified credit and the requirement that the federal credit for state estate tax cannot exceed the federal estate tax less the unified credit. On the chart, the credit amount for state estate tax is the lesser of the amount shown on the green line and the amount shown on the dark brown line. The result equates to the amount shown on the blue line. Chart 1b also shows that the $1 million exclusion for MA estate tax ultimately results from the $1 million applicable exclusion amount or $345,800 unified credit amount for calculating federal estate tax.




### Proposed Changes and Revenue Impact Estimation

The Senate Working Group (SWG) asked DOR to estimate the revenue impact of raising the estate tax threshold from $1M to $2M, $5.49M, or $11.2M. The SWG asked DOR to estimate the impact of raising the estate tax threshold under two scenarios: 1) the estate tax cliff remains in place and 2) the estate tax cliff effect is eliminated:

**Scenario 1: Increase the estate tax threshold without eliminating the “estate tax cliff”.**
Under this scenario, we assume that the only change to computing Massachusetts estate tax is to increase the exclusion threshold from $1M to $2M, $5.49M, or $11.2M by increasing the unified credit amount from its current level of $345,800 to $780,800, $2,660,300, and $5,800,800, respectively. Under this scenario, the “estate tax cliff” would not be eliminated; rather, the impact of the cliff would increase as the threshold increases as illustrated in chart 2 below. Please note that, under this scenario, the number of estates that pay no Massachusetts estate tax increases with the increase in the exclusion amount.

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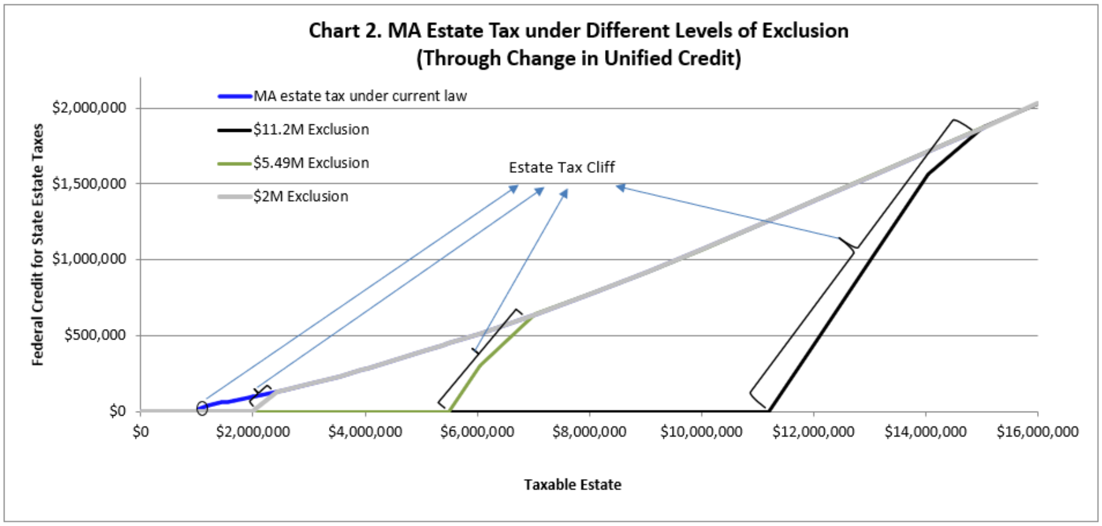



**Revenue Impact Estimates under Scenario 1:**

To estimate the revenue impact of increasing the exclusion amount, micro-simulations were run using estate tax return data for 2017. Results are below.

In 2017, there were 4,274 estates owing $489 million Massachusetts estate tax, excluding some unusually large payments treated as outliers.[7] If the exclusion amount were raised from $1M to $2M, $5.49M or $11.2M, state estate tax revenue would decrease by $81 million (17%), $227 million (46%), or $295 million (60%) respectively.

Table 1 below demonstrates the impact of these increases by quintile. In 2017, $404 million or 83% of total state estate tax was owed by estates in the two highest quintiles (4th and 5th). If the exclusion amount were raised from $1M to $2M, only $4 million or 6% of the $81 million decrease in taxes would go to the estates in the two highest quintiles. As the exclusion amount increases a larger percentage of the decrease in taxes would go to larger estates. For example, if the exclusion amount were raised to $11.2 million, $138 million or 47% of the $295 million of the decrease in taxes would go to the estates in the highest (5th) quintile.

[7] Based on 2017 estate tax return data.

# Appendix
# Revenue Impact of Increasing the Estate Tax Exclusion Amount

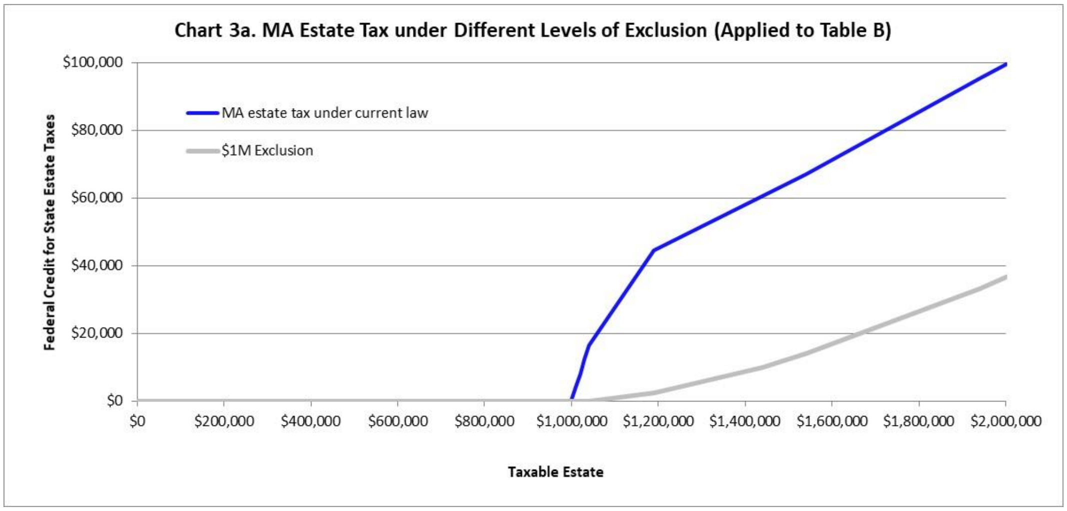
**Table 1. Revenue Impact of Increasing Exclusion Amount by Increasing Unified Credit for Table A in US Form 706 Instruction**
**("+" revenue incresae; "-" revenue decrease)**

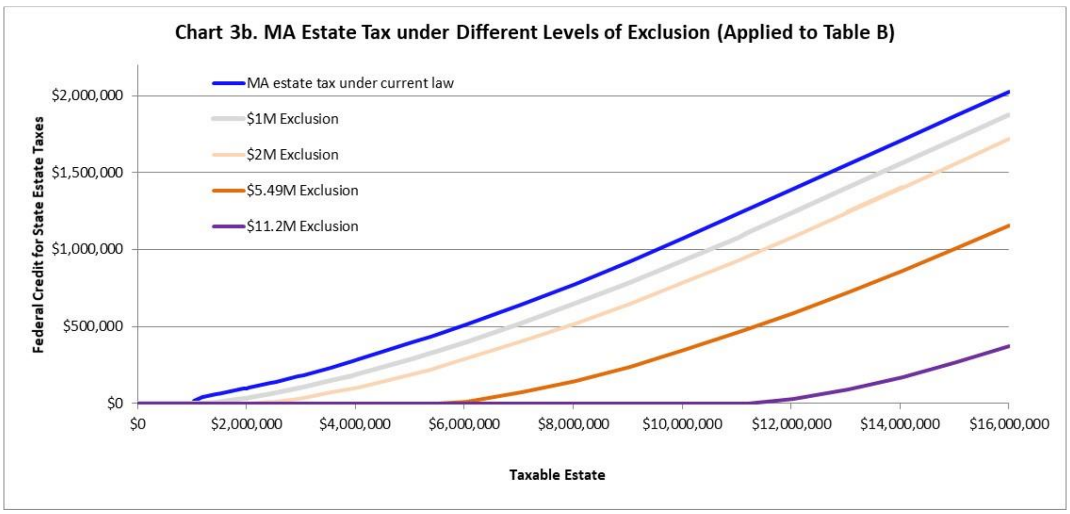
| Gross Estate Level | Quintile Lower Bound ($M) | Estate Tax Under the Current Law | | # of Returns | Increase Exclusion from $1M to $2M | | | Increase Exclusion from $1M to $5.49M | | | Increase Exclusion from $1M to $11.2M | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Level ($M) | % of Total | | Revenue Impact ($M) | % of Total Impact | Revenue Impact (% chg) | Revenue Impact ($M) | % of Total Impact | Revenue Impact (% chg) | Revenue Impact ($M) | % of Total Impact | Revenue Impact (% chg) |
| 1st Quintile (Lowest) | | $13 | 3% | 854 | -$13 | 15% | -94% | -$13 | 6% | -100% | -$13 | 4% | -100% |
| 2nd Quintile | $1.245 | $29 | 6% | 855 | -$29 | 35% | -98% | -$29 | 13% | -100% | -$29 | 10% | -100% |
| Middle Quintile | $1.634 | $43 | 9% | 855 | -$35 | 43% | -81% | -$43 | 19% | -100% | -$43 | 15% | -100% |
| 4th Quintile | $2.256 | $72 | 15% | 855 | -$3 | 4% | -5% | -$71 | 31% | -99% | -$72 | 24% | -100% |
| 5th Quintile (Highest) | $3.702 | $332 | 68% | 855 | -$1 | 2% | 0% | -$70 | 31% | -21% | -$138 | 47% | -42% |
| Total | | $489 | 100% | 4,274 | -$81 | 100% | -17% | -$227 | 100% | -46% | -$295 | 100% | -60% |

**Scenario 2: Increase the estate tax threshold and eliminate the "estate tax cliff":**
Under this scenario, the increase in the exclusion threshold from $1M to $2M, $5.49M, or $11.2M is made without consideration of the unified credit amount, thereby eliminating the estate tax cliff. This is done by deducting from the taxable estate the exclusion amount before the calculation using Table B and by relaxing the requirement that the federal credit for state estate tax cannot exceed the federal estate tax less the unified credit. Since the exemption is deducted from the taxable estate before the application of the Table B rates, every estate benefits equally from the exemption amount. Having a separate rate table, albeit one that is derived from the federal credit for state death taxes, is reminiscent of the original Massachusetts estate tax effective for dates of death occurring on or after January 1, 1976 [M.G.L. c. 65C, § 2(a)].

Chart 3a and Chart 3b show that the impact of this method can be broken down into two components:

a) the impact of eliminating the "Estate Tax Cliff", which is represented in Chart 3a, by comparing the blue line (MA estate tax under current law) with the grey line ($1M exclusion under this method); and
b) the net impact of increasing the exemption amount by comparing the grey line ($1M exclusion under the potential policy change) to the lines to the right in Chart 3b.




**Revenue Impact Estimates under Scenario 2:**

Table 2a below shows that, if the exclusion amount were raised from $1M to $2M, $5.49M or $11.2M and the cliff were eliminated, the state estate tax owed would decrease by $231 million (47%), $329 million (67%), and $376 million (77%) respectively. Increasing the threshold while eliminating the cliff results in a much larger negative revenue impact as compared to increasing the threshold while keeping the cliff (scenario 1).

By quintile, if the exclusion amount were raised from $1M to $2M, $84 million or 36% of the $231 million decrease in taxes would go to the estates in the highest ($5^{th}$) quintile. As the exclusion amount increases, a larger percentage of decrease in taxes would go to larger estates. For example, if the exclusion amount were raised to $11.2 million, $218 million or 58% of the

$376 million decrease would go to the estates in the highest quintile. In addition, compared with Table 1, imposing the exclusion with this method allows a relatively larger share of tax savings to go to larger estates. This is understandable since under this scenario, the “Estate Tax Cliff” is eliminated such that even very large estates can take a relatively small exclusion. For example, a $10 million taxable estate can take a $1 million exclusion before applying the tax, which is not allowed under the current law.

**Table 2a. Revenue Impact of Increasing Exclusion Amount by Imposing New Exclusion Directly to Table B in US Form 706 Instruction**
**("+" revenue incresae; "-" revenue decrease)**

| Gross Estate Level | Quintile Lower Bound ($M) | Estate Tax Under the Current Law | | # of Returns | Increase Exclusion from $1M to $2M | | | Increase Exclusion from $1M to $5.49M | | | Increase Exclusion from $1M to $11.2M | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Level ($M) | % of Total | | Revenue Impact ($M) | % of Total Impact | Revenue Impact (% chg) | Revenue Impact ($M) | % of Total Impact | Revenue Impact (% chg) | Revenue Impact ($M) | % of Total Impact | Revenue Impact (% chg) |
| 1st Quintile (Lowest) | | $13 | 3% | 854 | -$13 | 6% | -100% | -$13 | 4% | -100% | -$13 | 4% | -100% |
| 2nd Quintile | $1.245 | $29 | 6% | 855 | -$29 | 13% | -100% | -$29 | 9% | -100% | -$29 | 8% | -100% |
| Middle Quintile | $1.634 | $43 | 9% | 855 | -$43 | 19% | -100% | -$43 | 13% | -100% | -$43 | 12% | -100% |
| 4th Quintile | $2.256 | $72 | 15% | 855 | -$61 | 27% | -85% | -$72 | 22% | -100% | -$72 | 19% | -100% |
| 5th Quintile (Highest) | $3.702 | $332 | 68% | 855 | -$84 | 36% | -25% | -$171 | 52% | -52% | -$218 | 58% | -66% |
| Total | | $489 | 100% | 4,274 | -$231 | 100% | -47% | -$329 | 100% | -67% | -$376 | 100% | -77% |

As demonstrated above in Chart 3a and Chart 3b, the revenue impact can be broken down into two parts: a) the impact of eliminating “Estate Tax Cliff”, and b) the net impact of increasing the exemption amount. Table 2b and Table 2c below show the respective impacts.

Table 2b below shows the impact of eliminating the “Estate Tax Cliff” by deducting from the taxable estate the exclusion of $1 million before the calculation using Table B and by relaxing the requirement that the federal credit for state estate tax cannot exceed the federal estate tax less the unified credit. With this change, if a $1 million exclusion amount was allowed for all estates irrespective of their taxable value, the state estate tax owed would decrease by $145 million (30%). By quintile, $43 million or 30% of the $145 million decrease would go to the estates in the highest quintiles whereas $13 million or 9% of the $145 million decrease would go to the lowest quintiles.

**Table 2b. Revenue Impact of Cliff Elimination**
**("+" revenue incresae; "-" revenue decrease)**

| Gross Estate Level | Quintile Lower Bound ($M) | Estate Tax Under the Current Law | | # of Returns | Cliff Elimination ($1M Exclusion to all Taxable Estates) | | |
|---|---|---|---|---|---|---|---|
| | | Level ($M) | % of Total | | Revenue Impact ($M) | % of Total Impact | Revenue Impact (% chg) |
| 1st Quintile (Lowest) | | $13 | 3% | 854 | -$13 | 9% | -97% |
| 2nd Quintile | $1.245 | $29 | 6% | 855 | -$25 | 17% | -86% |
| Middle Quintile | $1.634 | $43 | 9% | 855 | -$30 | 20% | -69% |
| 4th Quintile | $2.256 | $72 | 15% | 855 | -$34 | 24% | -48% |
| 5th Quintile (Highest) | $3.702 | $332 | 68% | 855 | -$43 | 30% | -13% |
| Total | | $489 | 100% | 4,274 | -$145 | 100% | -30% |

Table 2c below shows the revenue impact of the increase in the exclusion amount (net of the impact of eliminating “Estate Tax Cliff” as reported in Table 2b above).

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# Revenue Impact of Increasing the Estate Tax Exclusion Amount

**Table 2c. Revenue Impact of Increasing Exclusion Amount by Imposing New Exclusion Directly to Table B in US Form 706 Instruction, Net of Impact of Cliff Elimination**
**("+" revenue incresae; "-" revenue decrease)**

| Gross Estate Level | Quintile Lower Bound ($M) | Estate Tax Under the Current Law | | # of Returns | Increase Exclusion from $1M to $2M | | | Increase Exclusion from $1M to $5.49M | | | Increase Exclusion from $1M to $11.2M | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Level ($M) | % of Total | | Revenue Impact ($M) | % of Total Impact | Revenue Impact (% chg) | Revenue Impact ($M) | % of Total Impact | Revenue Impact (% chg) | Revenue Impact ($M) | % of Total Impact | Revenue Impact (% chg) |
| 1st Quintile (Lowest) | | $13 | 3% | 854 | $0 | 0% | -3% | $0 | 0% | -3% | $0 | 0% | -3% |
| 2nd Quintile | $1.245 | $29 | 6% | 855 | -$4 | 5% | -14% | -$4 | 2% | -14% | -$4 | 2% | -14% |
| Middle Quintile | $1.634 | $43 | 9% | 855 | -$13 | 16% | -31% | -$14 | 7% | -31% | -$14 | 6% | -31% |
| 4th Quintile | $2.256 | $72 | 15% | 855 | -$27 | 31% | -37% | -$37 | 20% | -52% | -$37 | 16% | -52% |
| 5th Quintile (Highest) | $3.702 | $332 | 68% | 855 | -$40 | 47% | -12% | -$128 | 70% | -38% | -$175 | 76% | -53% |
| Total (A) | | $489 | 100% | 4,274 | -$85 | 100% | -17% | -$183 | 100% | -37% | -$230 | 100% | -47% |
| Impact of Cliff Elimination (B, as shown in Table 2c) | | | | | -$145 | | -30% | -$145 | | -30% | -$145 | | -30% |
| Total Impact (C=A+B; shown in Table 2a) | | | | | -$231 | | -47% | -$329 | | -67% | -$376 | | -77% |

If the exclusion amount were raised from $1M to $2M, $5.49M or $11.2M, the state estate tax owed, **after netting out the impact of eliminating** the **"Estate Tax Cliff",** would decrease by $85 million (17%), $183 million (37%), and $230 million (47%) respectively.

By quintile, if the exclusion amount were raised from $1M to $2M, $40 million or 47% of the $85 million decrease in taxes would go to the estates in the highest quintile. As the exclusion amount increases a larger percentage of the decrease in taxes would go to larger estates. For example, if the exclusion amount were raised to $11.2 million, $175 million or 76% of the $230 million decrease would go to the estates in the highest quintile.

**Caveats:**

Annual estate tax collections are often dominated by a few large estates and therefore very volatile. The distribution of tax across different estate sizes varies significantly, showing a skewed pattern. As shown in Table 1, in 2017, 20% of estates were larger than $3.702 million each but owed 68% of the total estate tax. This distribution may vary significantly by year due to large estates. Therefore, using data from only one year may result in significant estimation uncertainty.

Please note that the estimation in this analysis is static in the sense that we did not consider the behavioral response, such as change in estate planning, to the proposals.

Due to the factors discussed above and other factors, the estimates reported in the previous section should be used with caution.

DOR does not take a position on the proposals.