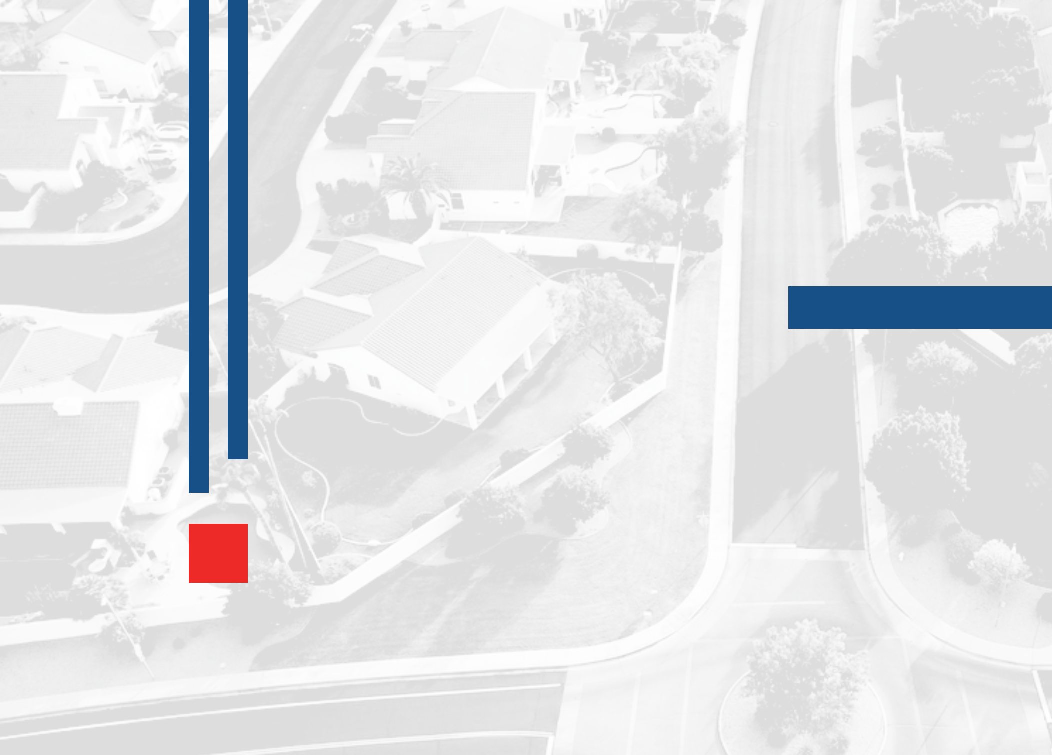


IMPACT ON JOBS, TAX REVENUE, AND ECONOMIC GROWTH OF PROPOSED TAX INCREASE ON CARRIED INTEREST

CENTER FOR CAPITAL MARKETS COMPETITIVENESS

FALL 2021

Charles Swenson, PhD CPA

TABLE OF CONTENTS

EXECUTIVE SUMMARY 3

ECONOMIC CONTRIBUTIONS OF THE PRIVATE FUNDS INDUSTRY 9

EMPLOYMENT AND TAX REVENUE IMPACTS OF PRIVATE EQUITY FUNDS 9

DATA ON INVESTORS IN PE FUNDS (INCLUDING PENSIONS) 11

EMPLOYMENT AND TAX REVENUE IMPACT OF VENTURE CAPITAL FIRMS 12

OTHER ECONOMIC IMPACTS: PRIVATE EQUITY FIRMS 14

OTHER ECONOMIC IMPACTS: VENTURE CAPITAL FIRMS 16

ECONOMIC CONTRIBUTIONS OF THE REAL ESTATE INDUSTRY 19

EMPLOYMENT AND TAX REVENUE IMPACTS OF THE REAL ESTATE INDUSTRY 19

OTHER ECONOMIC IMPACTS: REAL ESTATE FIRMS 22

ECONOMIC IMPACT OF INCREASED TAXES ON CARRIED INTEREST 23

DISINCENTIVE EFFECTS, LOST JOBS, AND LOST TAX REVENUES 23

Private Funds Industry 23

Real Estate Industry 27

OVERALL IMPACT OF INCREASED TAXES ON CARRIED INTEREST 29

Private Funds Industry 29

Real Estate Industry 31

OVERALL ECONOMIC IMPACT: PRIVATE FUNDS AND REAL ESTATE INDUSTRIES COMBINED 34

SENSITIVITY OF RESULTS TO ASSUMPTIONS 36

OTHER NEGATIVE IMPACTS OF INCREASED TAXES ON CARRIED INTEREST 36

ABOUT THE AUTHOR 38

APPENDICES 39

APPENDIX A: ECONOMIC IMPACTS OF PRIVATE FUNDS FIRMS IN CALIFORNIA AND NEW YORK 39

APPENDIX B: PRIVATE EQUITY COMPANY DEALS BY YEAR/STATE 42

APPENDIX C: SENSITIVITY ANALYSES 44

EXECUTIVE SUMMARY

The three main industries potentially subject to increased taxes on carried interest capital gains are private equity (PE), venture capital (VC), and real estate partnerships. These firms and their portfolio companies account for over 25 million American jobs and provide an annual estimated combined federal, state, and local tax revenues of over $493 billion.[1]

This study's main findings, related to increased taxes on carried interest capital gains, are as follows:

- Applying standard economic theory, this tax law change would result in a reduced incentive for partners to stay in the industry,[2] as well as reduced incentives to invest in longer-term and riskier projects, thus reducing overall investments and reducing rates of return on projects undertaken.[3] Additionally, many companies that would normally seek PE and VC investments may be unable to find financing and fail (or downsize).
- **Job losses will result.** Applying standard economic theory, estimated potential long-run losses could be up to 4.9 million jobs across the United States.[4]
- **Net tax collections will decline.** Applying standard economic theory, estimated potential combined federal, state, and local governments' annual net revenues losses could be up to $96 billion (revenues used to fund other programs)[5] in the long run.
- **Investors will lose money.** In particular, pension funds may lose up to $3 billion annually (a loss for pension fund retirees, and may force state and local governments to make up such shortfalls).

1. Figures for employment include direct employment for the private funds industry and their portfolio companies, and direct plus indirect (suppliers) employment for the real estate industry. Tax revenue effects include direct revenue effects only.
2. The potential law change would result in roughly a 98% increase in federal taxes on general partners; see calculations later in this report.
3. The incentives would be to shift away from unproven or very distressed investments to ones where small changes can help firms increase expected returns, and thus make a small return in a short amount of time, followed by moving on to the next smaller return investment.
4. See above notes. To the extent that some displaced workers find alternative employment, and/or some companies no longer financed by PE and VC firms find alternative financing, estimated employment and revenues losses would be adjusted accordingly.
5. See above notes.

- Even with a 0.02% downsizing in the private funds and real estate industries, the federal government would likely lose money.
- The resulting downsizing of these industries is seemingly at odds with the policy objectives of the Build Back Better agenda, including investment in renewables and infrastructure, assisting with COVID-19 recovery, and promoting job creation.

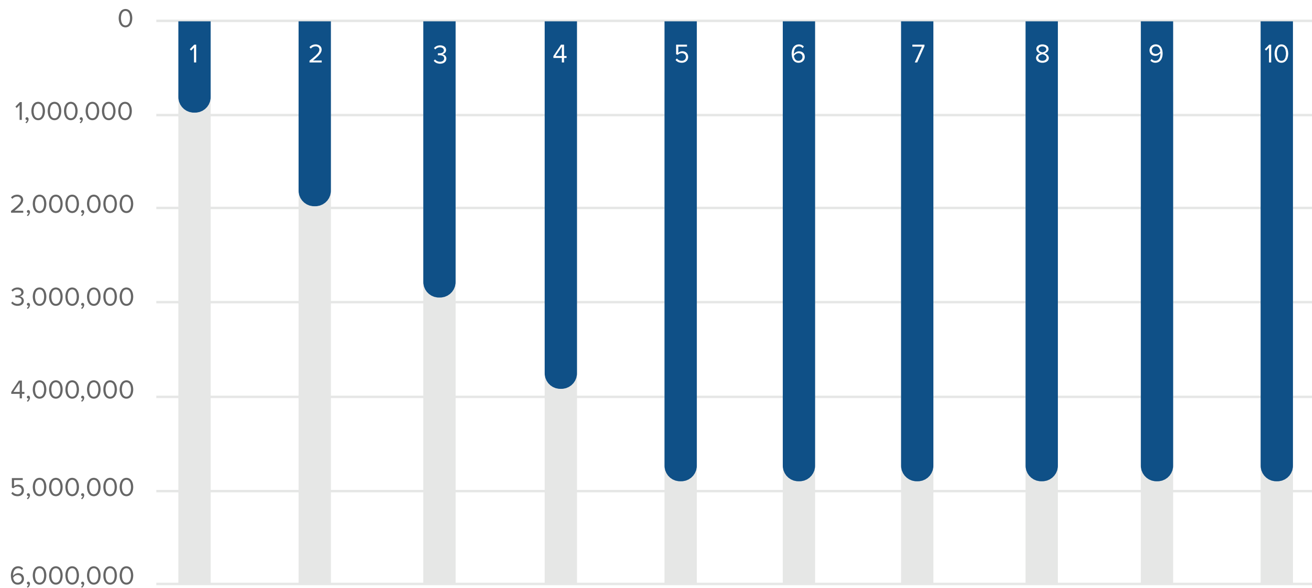
PRIVATE FUNDS PLUS REAL ESTATE:
Estimated Potential Long-Run Loss in Employment and Tax Revenues Due to Increased Taxes on Carried Interest (dollar values in billions)[6]

	Private Funds Firms	Real Estate Firms	Totals
Job Losses	3,156,925	1,768,172	4,925,097
Loss in Federal Tax Revenues	$38.23	$11.27	$49.50
Less: Estimated Revenue Gain from U.S. Budget	0.05	0.05	0.10
Net Loss in Federal Tax Revenues	$38.18	$11.22	$49.40
Loss in State/Local Tax Revenues	$20.33	$26.74	$47.07
Total Loss in Tax Revenues			$96.47

6. Both employment and tax revenue losses are in the fifth year after implementation. Calculations use IMPLAN. Includes effects of PE portfolio companies (from Ernst & Young analysis done for American Investment Council [AIC], 2020) and effects of VC portfolio companies. See also footnote 1.

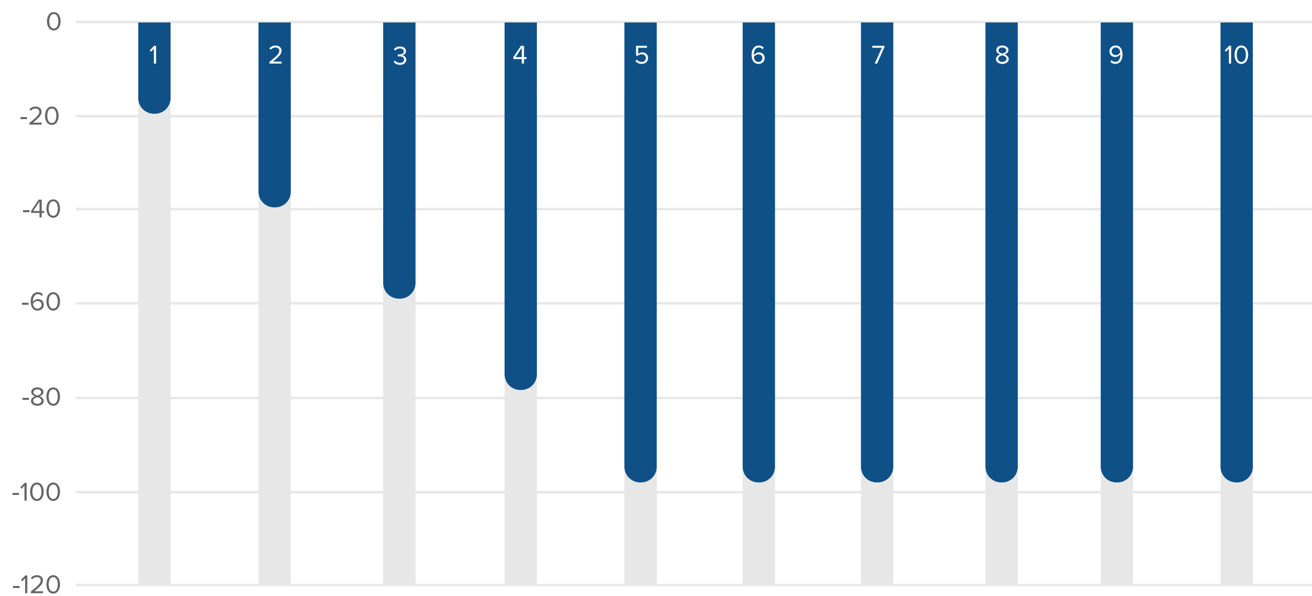
ESTIMATED POTENTIAL JOB LOSSES:

Years 1->10 After Increased Taxes on Carried Interest Enacted



ESTIMATED POTENTIAL TAX REVENUE LOSSES IN BILLIONS OF DOLLARS:

Years 1->10 After Increased Taxes on Carried Interest Enacted



The proposed tax increase on carried interest capital gains would have significant impacts on important industries. Carried interest is a profit-sharing mechanism that rewards investors for the long-term "sweat equity" investments they make in businesses. Carried interest is used in real estate businesses, the financial services industry, oil and gas ventures, and many other types of business partnerships. The concept is that general partners (or managing members of limited liability companies [LLCs]) invest sweat equity, money, and expertise in such ventures along with limited partner investors who solely invest money in the ventures. If the venture is successful, the general partners are entitled to a portion of the net profits from the sale of such ventures, which for private equity is typically 20% only after the limited partner investors are returned their capital plus a hurdle rate of return of 8%.

Since the start of the Federal Income Tax in 1913, carried interest capital gains have always been taxed as capital gains income even though the capital gains rates have varied over time. Carried interest tax treatment is consistent with the tax treatment afforded to other long-term investments in capital assets and is founded on two sound and settled tax policies. The first is that capital gains policy is designed to reward entrepreneurial risk-taking, in addition to capital investment. The second is that partnership profits should be taxed on a "pass-through" basis. As recognized by the Joint Committee on Taxation in its description of the tax treatment of carried interest, "The character of partnership items passes through to the partners, as if the items were realized directly by the partners. Thus, for example, long-term capital gain of the partnership is treated as long-term capital gain in the hands of the partners."[7]

In the private funds industry, PE firms have played a major role in the development of a broad range of companies that employ more than 11 million people across the United States. PE funds have invested capital in businesses located in all 50 states, such as Dunkin' Brands, PlanView, PetSmart, Service King Collision Center, CityMD, Confie, CorePower Yoga, J.D. Power, Jiffy Lube, Extended Stay America, and McGraw-Hill Education. Importantly, private equity also invested more than $79 billion in U.S. health care throughout 2020 to fund research into deadly diseases like Alzheimer's and Parkinson's, expand and renovate facilities, modernize medical records and health care data, and make other needed investments.[8] PE firms have also invested increasingly in renewable energy. The industry has invested over $100 billion into the sector since 2010, with over $23 billion invested in 2020.[9]

All told, such PE firms and PE-backed companies contribute over $218 billion in annual federal, state, and local tax revenues. PE firms and their portfolio companies would be negatively impacted by increased taxes on carried interest capital gains.

VC firms also have an important impact on the American economy, helping support fledgling companies. VC firms have helped nurture technology firms such as Intel, Apple, Salesforce, Amazon, Alphabet (Google), and Zoom, as well as important medical technology firms such as Genentech, NeuMoDx, and Moderna, which have been important in the fight against COVID-19. VC-backed firms employed 4.4 million people as of 2020.[10]

7. See https://www.cbo.gov/budget-options/2018/54795
8. https://www.investmentcouncil.org/private-equity-investments-support-american-health-care-covid-19-response/
9. https://www.investmentcouncil.org/wp-content/uploads/aic_renewable_energy.pdf
10. https://nvca.org/wp-content/uploads/2021/03/NVCA-2021-Yearbook.pdf

The real estate industry has also played an important part in the American economy. The leasing industry invests in the majority of commercial, industrial, and residential buildings in the country, and the hotel/motel industry supports hundreds of thousands of jobs. Real estate construction firms will be vital in the infrastructure plans of the Biden administration, under the Build Back Better plan. The real estate industry collectively supports over 13 million jobs.[11]

When we add PE, VC, and taxable real estate partnership firms (plus their suppliers) together, and include employment of PE and VC portfolio companies, they account for an estimated 25 million jobs and pay an estimated $493 billion annually to combined federal, state, and local tax revenues.

The American Families Plan, as part of the 2022 U.S. Budget, proposes treating carried interest capital gains as if they were ordinary income for taxpayers making over $400,000 per year starting in 2022. This study finds that the tax increase would be so impactful that, if enacted, the country's workforce may be reduced by up to 4.9 million jobs, and combined federal, state, and local tax revenues may drop by up to $96 billion per year, in the long run.

Applying standard economic theory, the tax increases may cause up to a 19.55% downsizing of the PE, VC, and taxable partnership-based real estate industries, with up to 19.55% of the companies normally backed by PE and VC firms potentially failing. The net result of this would be that the national workforce may drop by up to 4.9 million jobs (over 3% of the country's workforce), resulting in a potential annual loss of $96 billion annually in combined federal, state, and local revenues. Public pension funds, which support retirees, may lose up to $3 billion annually since they would need to switch some of their investments into lower-yielding investments. Sensitivity analyses indicate that with even a 0.02% downsizing of the private funds and real estate industries, the federal government would likely lose money.

The increased taxes in this legislation would have a disincentive effect on labor supply as well as business formation and growth. Although the private funds industry is composed of businesses, such businesses are mostly partnerships or LLCs, which means that their taxes are paid by owners (partners) of the business on their individual tax returns. Thus, increased taxes on carried interest are in a large sense a tax on the entrepreneurial efforts of the owners of PE and VC firms who help grow businesses. Similarly, many real estate companies are organized as partnerships or LLCs, meaning that an increased tax on carried interest would have a similar disincentive effect.

PE and VC fund investments also provide significant assistance to pensions and public retirement systems. The five public retirement funds with the largest PE investments are the California Public Employees' Retirement System ($26.50 billion); the Teacher Retirement System of Texas ($23.93 billion); the California State Teachers' Retirement System ($23.54 billion); the Washington State Investment Board ($23.45 billion); and the New York State Common Retirement Fund ($20.31 billion).[12]

Similarly, VC firms and the real estate industry play an important role in the U.S. economy. VC funds provide critical startup capital to technology and biotech firms, including those that have helped in the fight against COVID-19. VC firms convert basic research into mature products and services, many of which have been transformative. Examples of such transformative VC-backed companies include the five largest publicly traded companies by market capitalization in the U.S.: Apple ($2.01 trillion), Microsoft ($1.70 trillion), Amazon ($1.49 trillion), Alphabet ($1.37 trillion), and Facebook ($729 billion).[13]

11. *Commercial Real Estate by the Numbers—Facts and Stats.* Real Estate RoundTable (2021).

12. See *2021 Public Pension Study* by the American Investment Council (2021).

13. Source: *TradingView*, data as of March 4, 2021.

The real estate leasing industry invests in the majority of commercial, industrial, and residential buildings in the country, and the hotel/motel industry supports hundreds of thousands of jobs, including the tourism industry. Real estate construction firms will be vital in the infrastructure plans of the Biden administration, under the Build Back Better plan. Overall, the U.S. real estate industry has a significant impact on the economy and is estimated to support over 13 million jobs.[14] The total value of America's commercial real estate (at end of 2018, including multifamily residential) was estimated to be $14.4 trillion to $17 trillion,[15] which is more than half of the market capitalization of all U.S. publicly traded companies.[16] In terms of GDP, operations of existing retail, office, and industrial/warehouse buildings, combined with new commercial construction, contributed an estimated $1.14 trillion to GDP and $396 billion in personal earnings in 2019.[17] The multifamily industry, which provides shelter to 44 million residential renters, contributes an additional $400 billion to GDP through apartment construction, improvements, and operational expenditures.[18] The operation of America's hotels, along with hotel construction and capital investment, generates an additional $314 billion in direct economic output.[19]

In August, Senate Finance Committee Chairman Ron Wyden (D-OR) proposed legislation seeking to recharacterize the tax treatment of carried interest capital gains by requiring a taxpayer who holds an applicable partnership interest at any time during a taxable year of the partnership to recognize ordinary income equal to the partner's "deemed compensation amount." This proposal would require partners with a carried interest to accelerate the recognition of income despite no capital gain being allocated to the partnership. While this proposal is not thoroughly examined in the study, it could result in taxation on phantom income and further result in an even larger downsizing of the private funds and real estate partnership sectors than this study finds.

---

14. *Commercial Real Estate by the Numbers—Facts and Stats.* Real Estate RoundTable (2021).
15. Nareit®, *Estimating the Size of the Commercial Real Estate Market* (July 2019) (ground-up estimate using CoStar data).
16. The total market capitalization of U.S.-based public companies traded on the NYSE, NASDAQ, and OTC markets was $30.1 trillion at the end of 2018. Siblis Research Limited (2020), https://siblisresearch.com/data/us-stock-market-value/
17. Stephen Fuller, Ph.D., *Economic Impacts of Commercial Real Estate* (NAIOP Research Foundation 2020).
18. Renter statistic through 2019, from Harvard University, Joint Center for Housing Studies, *State of the Nation's Housing 2020*, p. 29). https://www.jchs.harvard.edu/sites/default/files/reports/files/Harvard_JCHS_The_State_of_the_Nations_Housing_2020_Report_Revised_120720.pdf
19. Oxford Economics, *Economic Impact of the U.S. Hotel Industry* (Aug. 2019). https://www.ahla.com/sites/default/files/oxford2019.pdf

ECONOMIC CONTRIBUTIONS OF THE PRIVATE FUNDS INDUSTRY

Employment and Tax Revenue Impacts of Private Equity Funds

PE firms and their portfolio companies employ 11.7 million people. **Exhibit 1** shows the economic footprints of these companies.

EXHIBIT 1:
Estimated Employment, Income, and Output Effects of Private Equity Firms, and Companies Owned by Private Equity Firms in the U.S. in 2020 (dollar values in billions)[20]

Impact Type	Employment	Labor Income	Output
Direct Effect	11,700,000	$900	$1,400

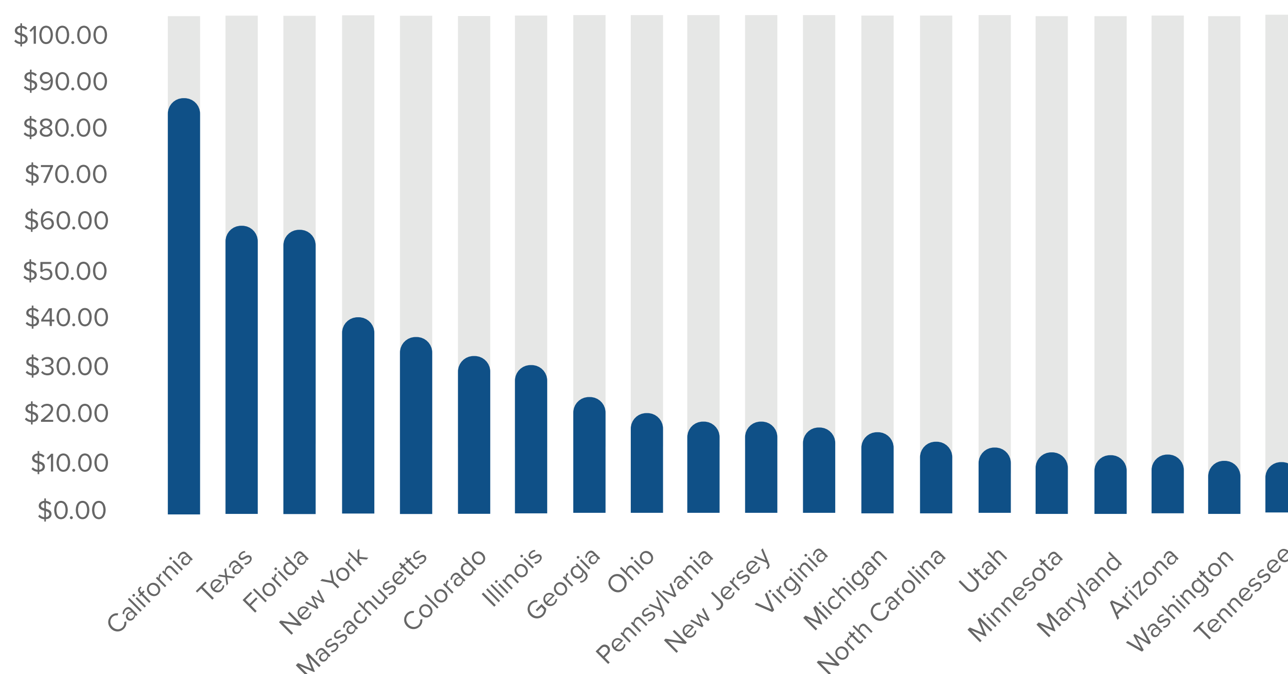
The "Direct Effect" refers to actual Employment, Labor Income is wages, and Output is revenues generated in the U.S. economy (Gross National Product, or GDP).

These companies contribute annual estimated total federal and state/local tax revenues of $218 billion.[21] **There are thousands of PE-backed companies from a very broad cross-section of industries**.[22] Total investments in 2020 exceed $654 billion.[23] As shown in **Appendix B**, such companies are scattered among all 50 states and every congressional district. States with the largest PE investments by state are shown in **Exhibit 2**.[24]

20. Source: Ernst & Young (EY) analysis done for American Investment Council (AIC), 2020.
21. See Ernst & Young analysis, ibid.
22. Employment by broad industry group (as percentages) is as follows: business services (36%); personal services (27%); manufacturing (13%); retail trade (10%); information (5%); wholesale trade (4%); transportation and warehousing (3%); construction (2%); mining (1%); and others (9%).
23. Source: American Investment Council (AIC), 2021.
24. Ibid.

EXHIBIT 2:

Top 20 U.S. States Ranked by Capital Invested in PE Activity in 2020 (dollar values in billions)



The private equity industry accounts for a significant amount of federal taxes paid. Such taxes include income (individual, and corporate for other industries), employment taxes, excise taxes, import taxes, and sales and property taxes (for state and local governments), and numerous other taxes and fees. **Exhibit 3** shows estimated annual taxes paid by this industry (including PE portfolio companies). All told, the industry contributes over $218 billion annually to federal plus state/local tax revenues.

EXHIBIT 3:

Estimated Annual Federal and State/Local Taxes Generated by the Private Equity Industry (dollar value in billions)

	U.S. PRIVATE EQUITY SECTOR		
	Business Taxes	Employee Taxes	TOTAL
Federal Taxes	**$48**	**$94**	**$142**
Individual Income Taxes	$8	$61	$69
Payroll Taxes	$28	$28	$57
Corporate Income Taxes	$9	$0	$9
Excise Taxes	$2	$2	$4
Customs Duties & Fees	$0	$3	$3

25. Direct revenue estimates from EY analysis, ibid.

	Business Taxes	Employee Taxes	TOTAL
State and Local Taxes	**$30**	**$45**	**$76**
Property Taxes	$13	$11	$24
Sales Taxes	$8	$10	$18
Individual Income Taxes	$0	$18	$18
Excise, License, and other Taxes	$7	$7	$14
Corporate Income Taxes	$2	$0	$2
TOTAL TAXES	**$78**	**$140**	**$218**

Data on Investors in Private Equity Funds (Including Pensions)

Numerous investors have stakes in such portfolio companies as limited partners (investors) in the PE funds that own these companies. Such stakes have increased over time; as of 2020, total pension fund ownership of PE funds totaled 46%. **Exhibit 4** shows types of investors and their relative investments in PEs.

EXHIBIT 4:
Investors in PE Funds[26]

Investor Type	Ownership	
	2016	**2020**
Public Pension Funds	30%	35%
Sovereign Wealth Funds	19%	13%
Insurance Companies	15%	12%
Private Sector Pension Funds	**10%**	**11%**
Endowment Plans	6%	6%
Foundations	4%	5%
Wealth Managers	2%	4%
Family Offices	6%	1%

26. Data on pension funds provided by AIC.

PE funds typically outperform other investments in terms of rates of return. Although the public data is incomplete on PE investors' alternative investments, there is such data for public pension funds. Over the last decade (2010-2020), such funds have earned a 10 year annualized 12.3% return on their PE investments.[27] This is 3.8% higher than the 8.5% average rates of return on other public pension funds.[28] As noted later, increasing the federal tax rate on carried interest capital gains could result in a downsizing of the PE industry (as well as PE portfolio companies) by up to 19.55%. In this setting, the loss to retirees (or to governments that might have to make up the shortfall) would be 19.55% X $17.1 billion, or $3.34 billion.[29]

Employment and Tax Revenue Impact of Venture Capital Firms

Since VC funds, like PE funds, typically hold portfolio companies for more than three years,[30] the elimination of capital gains treatment for carried interest applies to VC firms as much as it would to PE firms.[31] **Exhibit 5** shows the employment effect of VC funds. When we add VC firm direct employment (for the nearly 2,000 U.S. VC firms), with the employment of VC portfolio companies, this industry supports over 4.4 million jobs.[32]

EXHIBIT 5:
Estimated Employment, Income, and Output Effects of Venture Capital Firms Plus Their Portfolio Companies in the U.S. (dollar values in billions)[33]

Impact Type	Employment	Labor Income	Value Added	Output
Direct Effect	4,447,953.00	$559.76	$1,374.13	$1,599.30

27. Ibid.

28. Calculation done using data cited above. See similar estimates performed by Cliffwater LLC at https://www.cliffwater.com/research

29. Since there is at least $451 billion of pension funds' money in PE (data on pension funds provided by AIC, and cited above), this implies that as much as $17.1 billion (or $451 billion X 3.8%) would be lost aggregate returns for pension funds if these pensions instead put all of their money in non-PE investments. Likely alternative investments would be public equity. As noted later in this report, pensions also invest significantly in real estate, but the potential loss in pensioners' incomes due to downsizing of the real estate industry (due to the recharacterization of carried interest capital gains) is not estimated.

30. VC firms also deploy capital in multiple financing rounds (Series A/B/C, etc.), so a three-year hold captures a number of financing rounds for companies backed by VCs that may have been in the startup for many years.

31. Although not analyzed further in this report, proposed legislation would have a negative effect on hedge funds as well. Although hedge fund investments are usually held for less than three years, an increase in the top marginal tax rate from 37% to 39.6% effectively increases the tax rate on hedge funds' short-term capital gains.

32. See *NVCA 2021 Yearbook*.

33. VC firm employment and wages from Census data. VC portfolio employment from NVCA (Supra). All other figures estimated via IMPLAN (portfolio companies' estimates based on using technology company figures, which represent the majority of VC investments).

When we add PE and VC funds together, as well as PE and VC portfolio companies, we see that the private funds industry accounts for over 16 million jobs and pays over $1.4 trillion in wages annually, as shown in **Exhibit 6**.

EXHIBIT 6:
Estimated Employment, Income, and Output Effects of Private Funds* Firms in the U.S. (dollar values in billions)

Impact Type	Employment	Labor Income	Value Added
Direct Effect	16,147,953	$1,459.76	$2,774.13

*Includes private equity firms, venture capital firms, and their portfolio companies

Tables A1 and A3 in **Appendix A** report similar data for two of the states with the largest employments in the private funds industry, California and New York. These two states have direct employment of over 1.4 million and 775,000 people, respectively (after including portfolio companies).

Exhibit 7 shows federal taxes paid by VC firms and their portfolio companies. We see that these firms contributed an estimated $53 billion in such taxes.

EXHIBIT 7:
Estimated Annual Federal Taxes and Fees Generated by Venture Capital Firms Including Portfolio Companies (dollar values in billions)[34]

	Employee Compensation	Proprietor Income	Tax Production and Imports	Households	Corporations
Description Totals	$27.45	$1.48	$2.21	$20.75	$1.64
Total Federal Tax					$53.53

Exhibit 8 shows contributions to state and local governments from the VC funds industry. The industry contributes an estimated $27 billion annually.

EXHIBIT 8:
Estimated Annual Federal Taxes and Fees Generated by Venture Capital Firms Including Portfolio Companies (dollar values in billions)[35]

	Employee Compensation	Tax Production and Imports	Households	Corporations
Description Totals	$0.39	$16.64	$10.32	$0.62
Total Federal Tax				$27.98

34. Calculations done using IMPLAN. Employee compensation and proprietor income includes social security taxes. Production and income includes excise taxes, customs and duties, and other miscellaneous taxes and fees. Households includes personal income taxes and other taxes/fees on individuals. Corporations includes corporate income taxes.

35. See footnote 34. Employee compensation includes social insurance/type taxes. Production and income includes sales taxes, property taxes, motor vehicle licenses, severance taxes, and other miscellaneous taxes and fees. Households includes personal income taxes and other taxes/fees on individuals. Corporations includes corporate income/franchise/excise taxes.

Other Economic Impacts: Private Equity Firms[36]

PE firms invest in a number of companies via their funds. Such investments are typically maintained over a number of years, during which time the PE fund aims to grow and strengthen the acquired company, and make it more profitable for its investors. According to *Pitchbook* data, U.S. PE funds invested $3.9 trillion in U.S. companies over the 2015-2020 period. As noted previously, these companies contributed over 11 million jobs to the U.S. economy. **Exhibit 9** shows some of the more prominent PE-backed U.S. firms: Dunkin' Brands, PetSmart, PlanView, Service King Collision Center, CityMD, Confie, CorePower Yoga, J.D. Power, Jiffy Lube, Extended Stay America, and McGraw-Hill Education.

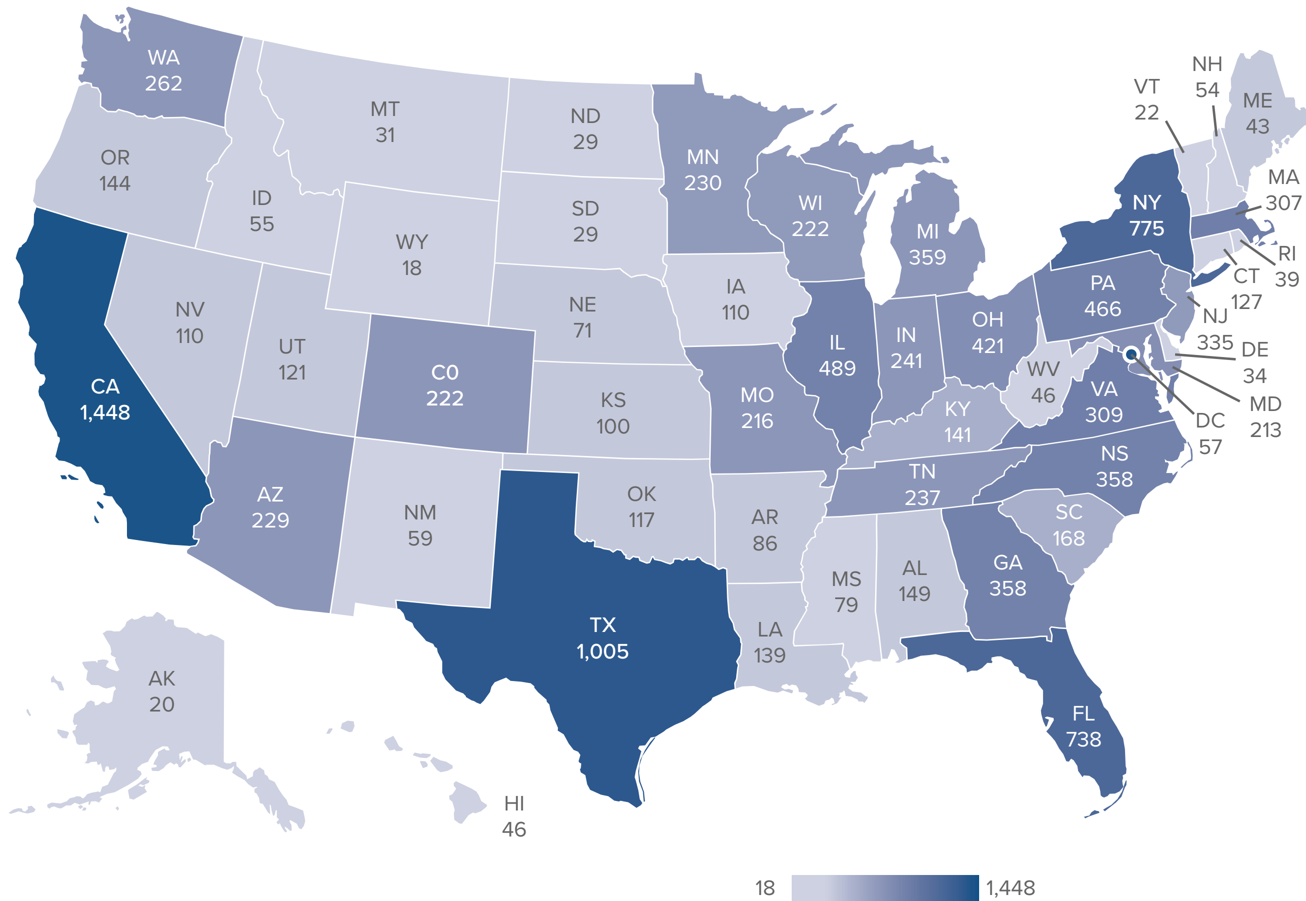
EXHIBIT 9:
Examples of U.S. PE-Backed Businesses

36. Sources include *Pitchbook* (various issues) and industry representatives.

The employment impact of PE portfolio companies is significant in every state, as shown in **Exhibit 10**. States with the largest employment impacts are California (1.4 million jobs); New York (775,000 jobs); Texas (1 million jobs); and Florida (738,000 jobs).

EXHIBIT 10:

By-State Employment Impact of U.S. PE-Backed Firms (in thousands of jobs)[37]



PE firms have also invested increasingly in renewable energy, with $23.7 billion invested in 2020. Importantly, private equity also invested more than $79 billion in U.S. health care throughout 2020 to fund research into deadly diseases like Alzheimer's and Parkinson's, expand and renovate facilities, modernize medical records and health care data, and make other needed investments.[38]

As noted previously, almost half of PE investors are pension funds. Five of the largest public pension funds have significant investments in PE as follows:[39] the California Public Employee Retirement System ($26.5 billion); the Teachers Retirement System of Texas ($23.9 billion); the California State Teachers Retirement System ($23.5 billion); the Washington State Investment Board ($23.5 billion); and the New York State Common Retirement Fund ($20.3 billion). Since, historically, returns on PE investments substantially exceed those of investments in public markets, fixed income, and other investments, PE funds contribute significantly to the well-being of retirees.

37. EY Study (2020).

38. https://www.investmentcouncil.org/private-equity-investments-support-american-health-care-covid-19-response/

39. 2020 data provided by AIC.

Other Economic Impacts: Venture Capital Firms[40]

VC firms develop concepts from basic research into mature products and services, many of which have been transformative. Examples of such transformative VC-backed companies include the five largest publicly traded companies by market capitalization in the US: Apple ($2.01 trillion), Microsoft ($1.70 trillion), Amazon ($1.49 trillion), Alphabet ($1.37 trillion), and Facebook ($729 billion).[41]

VC firms support new ideas that could not be financed with traditional debt or equity issuance and that often threaten established products and services. VC-supported companies typically require five to eight years to reach maturity. Until that time, they have relatively low cash flows compared to their values. Thus, venture capital is a risky and illiquid long-term investment.

VC investments are present in all states. **Exhibit 11** shows assets under management (AUM) for VC companies from 2014 through 2020 (values in $millions). Such investments have been steadily increasing over time. States with the largest VC AUM as of 2020 are California ($313 billion), New York ($76 billion), and Massachusetts ($74 billion).

EXHIBIT 11:
Venture Capital Investments/(AUM) by State and Year, 2014-2020[42] (dollar values in millions)

	2014	2015	2016	2017	2018	2019	2020
Alabama	$80.8	$114.0	$95.3	$78.6	$106.6	$96.2	$110.6
Arizona	$442.0	$493.4	$516.7	$558.5	$697.1	$864.8	$886.7
Arkansas	$10.5	$11.2	$13.1	$14.1	$17.4	$20.0	$21.4
California	$153,844.0	$174,157.3	$190,254.3	$202,432.1	$250,117.5	$282,411.3	$313,380.4
Colorado	$2,170.6	$3,192.1	$2,904.6	$3,078.1	$3,879.2	$4,005.0	$4,162.0
Connecticut	$8,324.3	$6,378.2	$5,671.5	$5,175.4	$5,184.6	$5,134.0	$6,224.2
Delaware	$42.0	$56.7	$71.5	$72.9	$83.1	$101.1	$105.9
District of Columbia	$2,477.5	$2,648.8	$3,231.8	$3,204.6	$3,560.6	$6,368.5	$7,257.2
Florida	$2,508.8	$2,756.6	$2,513.8	$2,589.9	$2,408.1	$3,035.0	$3,785.8
Georgia	$1,350.8	$1,495.5	$1,369.9	$1,378.2	$1,612.8	$1,739.3	$1,769.9
Hawaii	$47.6	$42.7	$36.8	$30.8	$29.9	$29.1	$18.4
Idaho	$213.0	$190.1	$182.6	$208.5	$108.3	$91.7	$106.7
Illinois	$6,199.7	$6,648.4	$7,526.7	$8,355.5	$10,901.1	$11,485.4	$12,067.4
Indiana	$108.1	$112.8	$88.6	$67.0	$202.6	$207.8	$214.1
Iowa	$5.1	$44.5	$44.0	$47.5	$55.2	$158.5	$162.5
Kansas	$3.3	$3.8	$3.9	$3.7	$47.8	$81.9	$116.1
Kentucky	$225.6	$235.2	$187.0	$172.7	$143.4	$52.4	$74.3
Louisiana	$645.9	$594.6	$472.2	$317.1	$279.7	$214.5	$237.7
Maine	$197.7	$300.7	$263.6	$200.1	$203.7	$210.7	$188.1

40. See NVCA 2021 Yearbook.

41. Source: *TradingView*, data as of March 4, 2021.

42. See *NVCA 2021 Yearbook*.

	2014	2015	2016	2017	2018	2019	2020
Maryland	$1,418.9	$1,224.1	$1,011.3	$986.8	$1,150.8	$1,579.7	$1,621.7
Massachusetts	$42,305.0	$46,622.5	$48,801.0	$48,975.0	$60,042.6	$65,032.1	$74,728.5
Michigan	$1,873.0	$2,050.9	$2,173.7	$2,229.9	$2,261.6	$2,507.4	$2,459.8
Minnesota	$1,846.0	$1,587.4	$1,253.7	$1,151.5	$1,111.0	$1,284.6	$1,397.1
Missouri	$991.6	$1,132.4	$1,209.6	$1,588.5	$1,752.8	$2,058.1	$1,920.0
Montana	$4.1	$4.1	$26.4	$26.3	$68.3	$72.8	$75.7
Nebraska	$51.0	$59.8	$90.1	$87.0	$95.2	$94.9	$96.2
Nevada	$59.1	$69.0	$68.2	$73.8	$74.6	$85.9	$85.9
New Hampshire	$62.1	$61.2	$74.9	$136.1	$288.8	$387.6	$396.6
New Jersey	$4,808.9	$4,979.3	$4,383.1	$3,856.5	$3,767.4	$3,506.8	$2,653.3
New Mexico	$66.0	$64.5	$55.0	$50.3	$42.7	$41.1	$144.7
New York	$34,893.0	$42,292.5	$43,174.1	$46,543.5	$58,436.1	$67,752.7	$76,578.1
North Carolina	$1,070.0	$945.8	$1,150.4	$1,233.9	$1,259.3	$1,586.7	$1,804.4
North Dakota	$60.7	$69.1	$64.0	$67.1	$69.4	$97.8	$100.4
Ohio	$1,446.6	$1,588.1	$1,899.5	$1,818.1	$1,910.1	$2,682.4	$2,832.5
Oklahoma	$778.2	$1,504.4	$1,351.7	$1,301.0	$1,042.4	$1,238.3	$1,257.5
Oregon	$128.2	$148.5	$156.5	$219.6	$298.1	$320.6	$329.0
Pennsylvania	$3,804.4	$4,183.0	$3,574.3	$3,270.9	$3,141.0	$2,943.9	$2,580.4
Rhode Island	$1.3	$1.9	$1.9	$2.0	$3.3	$3.6	$3.5
South Carolina	$18.3	$26.0	$32.3	$46.1	$51.5	$68.4	$72.3
South Dakota	$63.4	$58.2	$47.6	$41.0	$35.6	$26.1	$22.1
Tennessee	$810.2	$908.3	$1,263.5	$1,275.6	$1,407.8	$1,639.5	$1,844.8
Texas	$4,699.2	$4,532.8	$4,416.9	$4,103.4	$5,066.5	$5,329.7	$5,728.3
Utah	$1,616.3	$2,171.0	$2,172.5	$2,174.0	$2,614.0	$2,826.0	$2,881.9
Vermont	$33.9	$32.0	$44.0	$42.3	$45.4	$56.4	$52.3
Virginia	$3,489.7	$3,734.8	$3,028.1	$2,906.5	$3,195.1	$3,284.2	$3,504.8
Washington	$5,555.5	$6,241.4	$5,790.9	$6,449.6	$7,425.3	$7,794.1	$10,139.3
Wisconsin	$869.1	$880.5	$877.4	$919.3	$1,258.1	$1,408.9	$1,836.9
Wyoming	–	–	–	–	–	–	$102.5

*Source: *Pitchbook*

Although VC-funded firms span a variety of industries, software, hardware, pharma/biotech, and climate technology companies are often the largest investments. Investors committed $52 billion to software startups in 2020 (or 31% of total capital invested), with pharma and biotech second with $28 billion invested (17% of total). Importantly, numerous companies that are (or were) venture-backed startups in this sector devoted considerable resources to battling the novel coronavirus in 2020, including Moderna, which produced a COVID-19 vaccine.

Other venture-backed companies include A2A Pharma, which conducted research on COVID-19 viral replication and cell entry; Biomeme, which created a technology platform that allows for COVID-19 tests to be performed on a smartphone; Formlabs, which utilized 3D printing to address supply chain shortages and provide hospitals and health systems with COVID-19 testing, personal protective equipment (PPE), and medical equipment; Ovation.io, which launched an initiative to significantly expand the nation's COVID-19 testing capacity; and Smart Monitor, which developed a remote patient triage solution for COVID-19 patients who are recovering at home in self-isolation. Similarly, VC-funded NeuMoDx sold over 3.5 million COVID-19 tests worldwide, with 99.5% accuracy in real-world data. NeuMoDx also developed a saliva-based test for COVID-19 that is approved worldwide, and is in the process of developing a test to help distinguish between COVID-19 and flu-like illnesses. Beyond the fight against COVID-19, a recent study found that 42% of FDA-approved U.S. drugs between 2009 and 2018 originated with VC funding.[43]

43. Silicon Valley Bank, "Trends in Healthcare Investments and Exits 2019" (Midyear report 2019). https://www.svb.com/globalassets/library/managedassets/pdfs/ healthcare-report-2019-midyear.pdf

ECONOMIC CONTRIBUTIONS OF THE REAL ESTATE INDUSTRY[44]

Employment and Tax Revenue Impacts of the Real Estate Industry

Overall, the U.S. real estate industry has a significant impact on the economy, and is estimated to support over 13 million jobs.[45] The total value of America's commercial real estate (at end of 2018, including multifamily residential) was estimated to be $14.4 trillion to $17 trillion,[46] which is more than half of the market capitalization of all U.S. publicly traded companies.[47] In terms of GDP, operations of existing retail, office, and industrial/warehouse buildings, combined with new commercial construction, contributed an estimated $1.14 trillion to GDP and $396 billion in personal earnings in 2019.[48] The multifamily industry, which provides shelter to 44 million residential renters, contributes an additional $400 billion to GDP through apartment construction, improvements, and operational expenditures.[49] The operation of America's hotels, along with hotel construction and capital investment, generates an additional $314 billion in direct economic output.[50]

This report focuses on companies in the industry that would be subject to the recharacterization of carried interest capital gains, which includes those organized as partnerships or LLCs, and are taxable [i.e., not real estate investment trusts (REITs) or government owned]. Such companies can be broadly defined as real estate construction, real estate leasing, and hotels/motels. I examine both direct and indirect economic impacts of the industry, noting that the additional "ripple through" effects can be significant, typically in excess of twice the direct effect. Indirect effects consider all the vendors that the industry uses directly; here, realtors (and

44. All analyses in this section of the report include only data on (non-REIT) real estate firms organized as partnerships or LLCs, since the owners of such entities would be subject to carried interest and capital gains tax treatments.

45. *Commercial Real Estate by the Numbers—Facts and Stats*. Real Estate RoundTable (2021).

46. Nareit®, *Estimating the Size of the Commercial Real Estate Market* (July 2019) (ground-up estimate using CoStar data).

47. The total market capitalization of U.S.-based public companies traded on the NYSE, NASDAQ, and OTC markets was $30.1 trillion at the end of 2018. Siblis Research Limited (2020). https://siblisresearch.com/data/us-stock-market-value/

48. Stephen Fuller, Ph.D., *Economic Impacts of Commercial Real Estate* (NAIOP Research Foundation 2020).

49. Renter statistics through 2019, from Harvard University, Joint Center for Housing Studies, *State of the Nation's Housing 2020*, p. 29). https://www.jchs.harvard.edu/sites/default/files/reports/files/Harvard_JCHS_The_State_of_the_Nations_Housing_2020_Report_Revised_120720.pdf

50. Oxford Economics, *Economic Impact of the U.S. Hotel Industry* (Aug. 2019). https://www.ahla.com/sites/default/files/oxford2019.pdf

their agents), commercial real estate lenders, janitorial and maintenance services, insurance brokers (and their agents), landscape maintenance, architects, engineers, interior designers, protective services, appraisers, repair services, etc.

Exhibit 12 shows the estimated economic footprints of real estate companies that are organized as taxable partnerships and LLCs (thus would be subject to the proposed recharacterization of carried interest capital gains).[51] The industry is composed of construction, real estate leasing, and accommodations (hotels and motels). Because the real estate industry's indirect employment is complex to analyze, I utilize both IMPLAN[52] calculations and data gathered by industry representatives.[53] We see that this industry contributes an estimated 9 million jobs, which could be affected by changes in the carried interest tax provision.

EXHIBIT 12:
Estimated Employment, Income, and Output Effects of Real Estate Industry Partnerships and LLCs in the U.S. (dollar values in billions)

Impact Type	Employment	Labor Income	Value Added	Output
Direct + Indirect Effect	9,044,356	$518.48	$896.81	$1,272.22

Here, "Direct Effect" refers to actual Employment, Labor Income is wages, Value Added is added profit to owners in the local economy, and Output is revenues generated in the U.S. economy. "Indirect Effect" refers to the same items, except related to suppliers (vendors). The industry also has a significant "ripple through" or multiplier effect on the national economy as a whole. That is, the industry creates additional jobs and value added through induced effects. **There are tens of thousands of real estate partnerships and LLCs**,[54] and such companies are scattered among all 50 states and numerous congressional districts.

The partnership-based real estate industry accounts for a significant amount of federal taxes paid. Such taxes include income (individual, and corporate for other industries), employment taxes, excise taxes, import taxes, and numerous other taxes and fees. The following exhibits show these taxes when we include both direct and indirect effects of the industry. **Exhibit 13** shows estimated annual federal taxes; all told, the industry contributes an estimated $57.6 billion annually to federal tax revenues.

51. Since REITs are tax exempt and not subject to carried interest provisions, they are excluded from this report's analysis.

52. See www.IMPLAN.com

53. There are many industries and subindustries in real estate, and many suppliers (indirect effect) work with them. Using NAICS codes 23 (construction), 53 (real estate leasing), and 721 (accommodations) with Bureau of Labor Statistics (BLS) May 2021 data, and IMPLAN, estimated direct plus indirect employment is 4,988,712 for taxable real estate partnerships estimated to be affected by the carried interest provision. The Real Estate Roundtable gathered detailed employment data from BLS for all of real estate and estimated direct plus indirect employment of 13.1 million. Some of these firms will not be affected by the carried interest provisions, e.g., entities other than taxable partnerships, realtors selling personal residences, employees of nonprofits, etc. Thus, a reasonable estimate is the average of the above two estimates, or employment of 9,044,356, and resultant estimated labor income, value added, output, and taxes are generated by IMPLAN.

54. IRS, *SOI Tax Stats–Partnership Statistics by Sector or Industry.*

EXHIBIT 13:
Estimated Annual Federal Taxes and Fees Generated by Taxable Real Estate Partnerships[55] (dollar values in billions)

	Employee Compensation	Proprietor Income	Tax Production and Imports	Households	Corporations
Description Totals	$23.49	$1.90	$4.69	$18.56	$8.97
Total Federal Tax					$57.63

The real estate industry also contributes significantly to state and local tax revenues. **Exhibit 14** shows that such estimated total (across all 50 states) is over $136 billion in total state and local tax revenues contributed annually.

EXHIBIT 14:
Estimated State and Local Taxes and Fees Generated by Taxable Real Estate Partnerships (dollar values in billions)[56]

	Employee Compensation	Tax Production and Imports	Households	Corporations
Description Totals	$0.39	$16.64	$10.32	$0.62
Total Federal Tax				$27.98

When we combine taxable partnerships in real estate construction, leasing, and hotels/motels, the combined federal and state/local taxes paid are estimated to be in excess of $194 billion. It is important to note that this direct taxes paid figure (in order to make it comparable to estimates for the private funds industry) understates the total "ripple through" tax impact of the industry (direct, indirect, and induced), which could exceed this amount.

55. Calculations using IMPLAN. See previous note on estimated effects with IMPLAN and Real Estate Roundtable figures.

56. Ibid. Employee compensation includes social insurance/type taxes. Production and income includes sales taxes, property taxes, motor vehicle licenses, severance taxes, and other miscellaneous taxes and fees. Households includes personal income taxes and other taxes/fees on individuals. Corporations includes corporate income/franchise/excise taxes. Note that property taxes may actually be larger than the IMPLAN estimates above; the Real Estate Roundtable estimates that there is over $14 trillion in commercial real estate in the U.S., and at a (conservative) average tax rate of 1.5%, this would translate into $210 billion in taxes annually, a significant portion of which would be attributable to taxable real estate partnerships. As a conservative estimate, I increase the IMPLAN estimates by $75 billion.

Other Economic Impacts of Real Estate Firms

The Biden administration proposes major investments in national infrastructure,[57] and the real estate construction industry will play a major role. Such infrastructure would provide safe and efficient highways and tunnels, driverless vehicles, ridesharing services, rapid and safe inter-city rail, and reliable power and internet delivery. The value and productivity of the real estate sector heavily depends on infrastructure systems, and vice versa. Roads, bridges, and mass transit enhance the values of nearby properties—which in turn generate greater tax revenues to fund even more infrastructure assets. Public funds alone cannot foot the entire bill and the government must leverage private sector co-investment to provide the capital that will enable U.S. infrastructure to adapt to climate risks and a rapidly changing economy.

Real estate construction also contributes to the housing supply, and to affordable housing development (including low-income housing).

The real estate leasing industry contributes to the economy in both the residential and the commercial/industrial sector. The commercial/industrial rental sector provides places of work for American businesses, but the industry is under economic pressure due to workplace shifts to at-home offices. Residential rentals provide housing for millions of Americans, but factors beyond the industry's control (lack of land to build units, etc.) have driven up the costs of affordable housing.

The size and overall importance of the real estate industry are significant. The total value of America's commercial real estate (at end of 2018, including multifamily residential) was estimated to be between $14.4 trillion and $17 trillion.[58] Overall operations of existing retail, office, and industrial/warehouse buildings, combined with new commercial construction, have been estimated to contribute $1.14 trillion to GDP and $396 billion in personal earnings in 2019.[59] Employment in the industry has been estimated to be 13.6 million.[60]

The industry also contributes significantly to the well-being of retirees and others, with an estimated $800 billion of real estate investments by pension funds, educational endowments, and charitable foundations.[61]

57. See *Budget of the U.S. Government 2021*. The American Jobs Plan, as part of the budget, proposes major federal spending in infrastructure.

58. Nareit®, *Estimating the Size of the Commercial Real Estate Market* (July 2019) (ground-up estimate using CoStar data).

59. Stephen Fuller, Ph.D., *Economic Impacts of Commercial Real Estate* (NAIOP Research Foundation 2020).

60. *Commercial Real Estate by the Numbers—Facts and Stats* (report by the Real Estate Roundtable, 2021)

61. Meredith Despins, *The Role of Real Estate in Pension Funds*, Nareit Developments (Aug. 2019). The information in this publication does not provide enough detail to separate investments in REITs (not subject to carried interest provisions) versus non-REIT private partnerships.

ECONOMIC IMPACT OF INCREASED TAXES ON CARRIED INTEREST

Disincentive Effects, Lost Jobs, and Lost Tax Revenues

PRIVATE FUNDS INDUSTRY

The American Families plan would repeal section 1061, added by the Tax Cuts and Jobs Act, which generally requires a three-year holding period for long-term capital gains treatment of gains attributable to a carried interest.

Carried interest is a profit-sharing mechanism that rewards investors for the long-term "sweat equity" investments they make in businesses. Carried interest is used in real estate businesses, the financial services industry, oil and gas ventures, and many other types of business partnerships. The concept is that general partners (or managing members of LLCs) invest sweat equity, money, and expertise in such ventures along with limited partner investors who invest money in the ventures. If the venture is successful, the general partners are entitled to a portion of the net profits from the sale of such ventures.

In the private funds industry, companies with carried interest are typically in the PE and VC fields. In this structure, the general partners or managing members of a partnership actively lead the operations of the fund, while limited partners are passive investors. General partners or managing members are compensated for their services through a portion of the annual management fee that limited partners provide to finance the operations of the fund (similar to a salary as a payment for services rendered and taxed at ordinary income rates), often at 2% of assets under management.[62] If the fund is ultimately successful, the general partners retain a share of profits, which is not a fee. The profits' interest is typically set at 20% of gains earned by the fund once invested capital is returned. In PE funds, the fund must also exceed a "hurdle rate" of return for limited partner investors (typically 8%) in order for general partners to receive their carried interest. Limited partners receive the other 80% of the remaining profits.

For federal tax purposes, since the start of the Federal Income Tax in 1913, carried interest capital gains have always been taxed as capital gains income, and the capital gains rates have varied over time. Indeed, carried interest tax treatment is consistent with the tax treatment afforded to other long-term investments in capital assets and is founded on two sound and settled tax policies. The first is that capital gains policy is designed to reward entrepreneurial risk-taking and investment.

62. Typically, it is 2% of committed capital and then it transitions into 2% of invested capital over the life of a fund.

The second is that partnership profits should be taxed on a "pass-through" basis. The Joint Committee on Taxation, in its description of the tax treatment of carried interest, states, "The character of partnership items passes through to the partners, as if the items were realized directly by the partners. Thus, for example, long-term capital gain of the partnership is treated as long-term capital gain in the hands of the partners."[63]

Starting in 2018, however, the new federal tax law imposes differential treatment for some long-term carried interest capital gains by changing the time window it takes for a long-term carried interest capital gain to be realized. The new law extended the window from one year to three years. Under current tax law, a general partner's carried interest capital gains are taxed at the lower long-term rates only after three years. A general partner's carried interest capital gains on an asset held for less than three years are short-term capital gains, taxed at the same rates as ordinary income. Limited partners' share of profits, on the other hand, can be fully taxed like all other long-term capital gains at lower rates after one year.[64]

The 2021 U.S. Budget estimates that federal tax revenues from a recharacterization of carried interest capital gains would be $100 million in 2022.[65] This would involve taxing carried interest generally at the top U.S. rate of 39.6%[66] instead of the capital gains rate of 20%. This also implies a roughly 98% increase in federal taxes on private funds' general partners, computed as [(39.6% - 20%)/20%]. Assuming an average state tax rate of 5%, the total tax burden to general partners in the private funds industry would be 44.6%.[67] The total tax burden would be much larger in high tax rate states such as California, where the top state tax rate of 13.3% would push the combined federal and state rates to 52.9%.[68]

Disincentive Effects: Increased taxes have a disincentive effect on labor supply as well as business formation and growth. Although private funds are businesses, the majority of them are organized as partnerships/LLCs, which means that their taxes are paid by owners (partners) of the business on their individual tax returns. Thus, increased taxes are in a large sense a tax on the entrepreneurial efforts of the creators of long-term investment partnerships. A considerable body of research indicates that increased taxes on individuals have an especially high "elasticity" response for individuals with higher incomes. That is, there is a significant percent decrease in taxable income to percent changes in tax rates.

63. https://www.cbo.gov/budget-options/2018/54795

64. Note that limited partners that are nontaxable entities, for example pension plans, endowments, and charitable foundations, are not taxed on these gains.

65. In later years, the estimated revenue would be $135 million (2023), $138 million (2024), $141 million (2025), $143 million (2026), $149 million (2027), $155 million (2028), $162 million (2029), $169 million (2030), and $176 million (2031).

66. Note that the 39.6% rate (under the Biden budget plan) could be increased by the 3.8% net investment tax since general partners are typically above the threshold to be excluded from this tax. Note that for the very highest income partners, this rate would be (under the Biden plan) 39.6% + 6.2% (Social Security tax above the "donut hole") + 1.45% (Medicare payroll tax) = 47.25%. For a high-income PE/VC partner living in California, the combined federal and state rate would be 60.55%.

67. Since most states already tax capital gains at ordinary tax rates, the state tax increase to PE general partners here would be modest.

68. For PE partners in New York City, combined city and state rates would be 12.696%, yielding a combined rate of 52.296%. Partners based in New Jersey face top state rates of 10.75%, yielding combined rates of 50.35%.

Such responses can include moving to tax-favored jurisdictions,[69,70] increasing tax deductions, changing forms of business organization, increasing substitution of wages for tax-free perquisites, increased use of retirement plans, and switching to lower-skilled labor to perform tasks.[71] Longer-run elasticities for high-income individuals have in the past been estimated at 0.57%; i.e., each 1% increase in the tax rate results in a 0.57% decrease in pretax income.[72]

As to *labor supply*, Keane (2011)[73] examined previous studies and suggests that the average elasticity of labor supply is 0.31; that is, each 1% increase in tax reduces labor supply by 0.31%. Examining the impact of marginal tax rates on *all income* (wages, capital gains, and other), Mertens and Olea (2018)[74] found short-run elasticities of 23% to 44% on average, with even higher elasticities for top 1% income taxpayers, which resulted in similar changes to gross national product.

Changing the tax structure may have a strong impact on investments as well. If the holding period is no longer a criterion for tax rates (i.e., investing in a portfolio company for less than three years would have the same tax impact as holding for longer than three years), PE and VC managers may switch to shorter investments or move to more fee-based models. In doing so, they may also be incentivized to avoid taking calculated risks, such as investing in technology companies, green industry companies, etc., in favor of investing in more traditional companies that are poorly managed with high costs. Whether the result is moving to shorter-term projects or to less risky ones, the result is lower profitability. The net results of the above would be lowered growth and employment.

A potentially stronger effect may occur for VC firms. Here, all of the companies receiving investments have relatively high risk. Increasing carried interest capital gains tax rates to ordinary income tax rates removes the existing tax incentive alignment between entrepreneurs, VC firms, and limited partner investors to make longer-term high-risk investments. Thus, VC firms may switch to less risky investments or rely on higher fees to offset risk premium. Since riskier investments must by definition have a higher potential payoff to be attractive, this shift would lower profitability and job growth, and foster less innovation in the U.S. economy, particularly in the high tech and bio-tech industries.

69. For example, Laamanen et al. (2011) found that a one percentage point increase in tax in EU companies translated into a 6.8% increase in HQ relocation likelihood. See Laamanen, T., T. Simula, and S. Torstila. "Cross-border relocations of headquarters in Europe." *Journal of International Business Studies* 43, no. 2 (2012): 187-210.

70. Research has also shed light on the propensity of high-income individuals to move to lower-tax-rate states in response to increases in state taxes, which might be a solution sought by general partners in private funds firms, to have at least some tax relief. A recent study by Moretti and Wilson (2017) shows that such individuals migrate to such states with an elasticity of 1.8 in the long run. That is, for each 1% increase in state tax rates, there is a 1.8% out-migration. An example of the negative effects of a high state tax includes the move of one of the largest money management/hedge funds in the country, Dimensional Fund Advisors (DFA), from Santa Monica, California, to Austin, Texas, in large part due to the unfavorable California tax environment; *See How Money Walks: How $2 Trillion Moved Between the States, and Why It Matters* (Travis H. Brown, 2013), where DFA co-founder Rex Sinquefield discusses this.

71. See for example Saez, E., J. Slemrod, and S. Giertz. "The Elasticity of Taxable Income with Respect to Marginal Tax Rates: A Critical Review." *Journal of Economic Literature* 50, no. 1 (2012): 3-50.

72. See, for example Gruber, J., and E. Saez. "The Elasticity of Taxable Income: Evidence and Implications." *Journal of Public Economics* 84, no. 1 (2002): 1-32.

73. Keane, Michael P. "Labor supply and taxes: A survey." *Journal of Economic Literature* 49, no. 4 (2011).

74. Mertens, K., and J.L. Montiel Olea. "Marginal Tax Rates and Income: New Time Series Evidence." *The Quarterly Journal of Economics* 133, no. 4 (2018): 1803-1884, 61-1075.

Since the 2021 U.S. Budget would impose a 98% tax increase on approximately 90%[75] of general partners' income, I estimate a 50.27% (or 57%[76] X 98% X 90%) negative response by private fund partners. Since such partners take their business activities with them, this is also a loss in business activity in this sector. The financial services sector is a "footloose" industry: firms can move easily (facilities are typically leased, not owned), and their activities can be done almost anywhere. Since PE general partners generally share in 20% of overall PE and VC profits, this implies a *10.05% reduction in overall PE and VC pretax income (or 50.27% X 20%)*.[77]

However, the above estimate does not specifically account for additional downsizing due to fewer investments in (high-risk) companies. As mentioned above, riskier companies often imply longer investment periods. Since the proposed law change would not discriminate (tax-wise) between longer and shorter investments, these investors may avoid longer-run/riskier projects. While it is difficult to quantify the percentage of PE deals that would be avoided, the following estimate is based on the share of PE-backed companies carrying high yield debt: approximately 19% of companies backed by PEs have high yield debt, which is relatively costly,[78] meaning as much as one-fifth of all PE investments could be avoided. A more conservative estimate is that half (or 9.5%) would be avoided. When this estimate is combined with the 10.05% reduced managerial effort downsizing estimate, the overall PE downsizing may be as high as 19.55%. While the risk aversion effect might even be stronger in VC firms (due to the nature of such firms' already riskier investments), we assume here that the same 19.55% reduction applies to VC firms as well.

Incentive Effects and Economic Impacts: Private Funds. PE and VC firms may downsize (including their labor force) by up to the 19.55% estimate, above.

Incentive Effects and Economic Impacts: Investors in Private Funds. As discussed above, it is assumed that the PE and VC industries may shrink by up to 19.55%, thus overall returns to investors would decline by the same amount.

Incentive Effects and Economic Impacts: Private Equity and Venture Capital Companies Normally Invested In. Assuming the above 19.55% decline, there may be a similar decline of up to 19.55% in PE companies invested in.

Overall Economic Impacts: Private Equity and Venture Capital. There may be up to a 19.55% decline in tax revenues from PE and VC firms, resulting in a 19.55% decline in industry size (including employment), a 19.55% decline in returns to investors (including pensions), and a 19.55% decline in PE portfolio firms (both employment and tax revenues generated from them).

Possible Worst Case Scenario Incentive and Economic Effects: Private Equity and Venture Capital Firms. The above 19.55% losses may understate the effect of a carried interest capital gains tax increase, however. The tax rate changes examined in the above studies were in a relatively narrow range, i.e., nowhere near the 98% rate increase that would occur under the proposed carried interest tax increase legislation.

75. Because no publicly available data exists on this ratio, I corresponded with industry representatives for estimates. Note that the 2% management fees that partners receive are largely used to cover expenses of running the business, thus remaining profits are generally carried interest.

76. See Saez et al. (2012), Supra.

77. A lower bound estimate using Keane (2011), cited above, is estimated using a 0.31% reduction in labor for each 1% increase in tax. Here we would have 0.31 X 98% X 90% X 20% = 5.4%.

78. See "Leveraged Finance–US: Tracking the Largest Private Equity Sponsors: LBO Credit Quality Is Weak, Bodes Ill for Next Downturn" (Moody's, Oct. 18, 2018). The 19% figure is the percent of PE-backed firms having debt rated as B3N ("distressed"). This is not to be confused with actual defaults of PE-backed companies, which was 6%, lower than the market average of 6.4%; see "Announcement: Post-Crisis Default Rates of PE-Sponsored and Non-Sponsored Companies Similar" (Moody's, June 18, 2014).

It is therefore possible, especially since owners in these firms would face a 39.6% tax rate on carried interest (vis-à-vis a 20% rate before), and combined marginal tax rates of up to 52.9% (which would include state tax rates of up to 13.3%), that there could be significantly more than a 19.55% downsizing of the PE and VC industries, as well as their related federal and state tax bases.

Real Estate Industry

Because commercial real estate is typically too expensive for a single person to invest in alone, investors tend to form ventures where money is pooled to make an acquisition. The organizer/manager is the general partner who finds a real estate investment (either an existing building, or land on which to build a structure), sources investors, does all the management of the acquisition, obtains bank financing (commercial realty can be financed by as much as 70% loans), and performs critical work and skills. Importantly, the general partner also assumes much of the risk of the investment, by having their profits in the form of carried interest; that is, they get paid if and only if the project is profitable. Similar to private funds, the general partner puts in "sweat equity." Many such real estate investments are done by small groups of investors, where the general partner is not wealthy and his goal is to "get ahead" with such an investment. For real estate construction partnerships, there is an average of only 3.09 partners, and for real estate leasing partnerships, there is an average of only 4.3 partners.[79]

Increasing the tax rate on the general partners' income from such investments has strong disincentive effects; see the previous discussion of such rate effects for private funds firms. It may make such partners less inclined to provide effort and attract investors to acquire or build real estate. It may also makes the general partners less inclined to sell any properties (to avoid the high tax), and instead try to receive cash flows by refinancing the properties at some point in the future. Perhaps most importantly, since it is a general principle in economics that for a riskier project to be undertaken there must be a potentially higher return, the lower return (due to increased taxes) disincentivizes riskier real estate projects. Such riskier projects often include low-income housing or affordable housing. Also, longer-term projects generally imply more risk; here, the law change would encourage shorter-term, less-risky projects, which are less profitable. In sum, increased taxes on general partners in real estate ventures have significant negative economic effects.

Accordingly, the same effects which would occur for the private funds industry could be expected for real estate partnerships. Here, the owners (general partners) of such ventures would be subjected to an 98% tax increase (see discussion above), and there may be up to a 10.05% downsizing of the industry due to general disincentive effects,[80] and another potential 9.5%[81] downsizing due to avoidance of riskier/longer-run projects, for a possible total downsizing effect of 19.55%.

Incentive Effects and Economic Impacts: Real Estate Partnerships. Real estate partnerships may downsize (including their labor force) by up to the 19.55% estimate, as discussed above.

79. Some of these partners may be partnerships themselves. See IRS Statistics of Income, Partnership Returns https://www.irs.gov/statistics/soi-tax-stats-partnership-statistics-rental-real-estate-income-all-partnerships

80. As with PE and VC firms, we assume a 50.2% negative response to the tax rate increase. We also assume that general partners share 20% of profits, so the tax related negative response is 20% X 50.2%, or 10.05%. Note that the profit-sharing percentages for general partners vary widely in real estate; the 20% estimate here is based on estimates from industry experts. Unlike private funds, where essentially all firms have carried interest, the carried interest component for real estate partnerships varies, and there is no comprehensive data on its use. Here, we assume all real estate partnerships use carried interest. To the extent this is not true, my estimates of employment, etc., effects would need to be adjusted accordingly.

81. Moody's has rated riskiness of commercial real estate loans in the aggregate, and approximately 19% of them (pre-COVID) fell into the Ba1 ("Speculative") rating or below. See Figure 12 at https://www.moodysanalytics.com/articles/2020/credit-risk-impact-on-cre-portfolios-september-2020. Here, we assume approximately half of such risky loans (and thus real estate projects) would be avoided.

Incentive Effects and Economic Impacts: Real Estate Investors. As discussed above, it is assumed that the real estate industry (formed as partnerships) shrinks by up to 19.55%, thus overall returns to investors may decline by the same amount.

Incentive Effects and Economic Impacts: Real Estate Projects Normally Invested In. Assuming the above 19.55% decline, there may be a similar 19.55% decline in real estate projects invested in.

Overall Economic Impacts: Real Estate Partnerships. There may be up to a 19.55% decline in tax revenues from real estate partnerships, resulting in a 19.55% decline in industry size (including employment), up to a 19.55% decline in returns to investors, and up to a 19.55% decline in real estate projects (both employment and tax revenues generated from them).

Possible Worst Case Scenario Incentive and Economic Effects: Real Estate Partnerships. The above 19.55% losses may understate the effect of a carried interest tax, however. The tax rates changes examined in the above studies were in a relatively narrow range, i.e., nowhere near the 98% rate increase which would occur under the proposed carried interest tax increase legislation. It is therefore possible, especially since owners in these firms would face a 39.6% tax rate on carried interest (vis-à-vis a 20% rate before) and combined marginal tax rates of up to 52.9% (which would include state tax rates of up to 13.3%), that there could be a decline of significantly more than 19.55% in this industry, and the related federal and state tax base.

Other Economic Effects: In addition to the increased tax on carried interest (which would apply to real estate partnerships), the availability of deferring gains on like-kind exchanges would be repealed starting in 2022 under the proposed Biden budget. Such like-kind exchanges have been a main source of financing in the real estate leasing industry for decades; here, investors are able to postpone taxes on the sale of a building, and in turn the tax "basis" of a newly acquired building is reduced. If a taxpayer does not replace the sold building with a new building, the gain on the sale is immediately taxed. This tax provision encourages investors to continue in the realty leasing business, and the tax deferral provides additional cash for a down payment on a new building. The like-kind provisions are not the purview of large companies; according to IRS Statistics of Income, over 57,000 individuals used this provision in 2018.[82] Although the effects of this law change are expected to be negative, I do not measure the possible economic impact here.

82. https://www.irs.gov/pub/irs-pdf/p4801.pdf

OVERALL ECONOMIC IMPACTS OF INCREASED TAXES ON CARRIED INTEREST

Private Funds Industry

Increased taxes on carried interest may result in up to a 19.55% downsizing of the PE and VC industries over time, and that up to 19.55% of firms normally financed and managed by PEs would be unable to find other financing and management, and fail. As a result, federal and state/local tax revenues may decline by as much as 19.55%. This and other negative effects of increased taxes on carried interest are shown in **Exhibit 15**.

EXHIBIT 15:
Private Funds Industry: Estimated Potential Direct Impact of Increased Taxes on Carried Interest[83]

Private Equity and Venture Capital Firms	Private Equity and Venture Capital Investors (Including Pension Funds)	Private Equity and Venture Capital Portfolio Companies	Federal and State/Local Tax Revenues
Up to 19.55% downsizing (long run)	Annual Loss of up to 3.73% (long run)	Up to 19.55% failure rate (long run)	Annual loss of up to 19.55% (long run)

Exhibit 16 shows the impacts of the above. There may be a loss of up to 3.1 million jobs, assuming a downsizing of PE firms, PE portfolio companies, VC firms, and VC portfolio companies. Although not shown in **Exhibit 16**, investors in PEs would experience losses, which for retirees would amount to up to $3.4 billion annually. There may be a net loss of up to $38 billion in federal tax revenues, and up to $20 billion in state/local tax revenues.[84]

83. Long-run impacts would be in the fifth year after implementation of the law change. PE firms hold a portfolio company on average approximately five years (VC firms often hold longer than this).

84. Unlike the federal case, there would be no offsetting state/local tax gains since carried interest is already taxed at the top tax rates (states generally do not have lower tax rates for long-term capital gains).

EXHIBIT 16:
Private Funds Industry: Estimated Potential Long-Run Loss in Employment and Tax Revenues Due to Increased Taxes on Carried Interest (dollar values in billions)[85]

	Private Equity Portfolio Companies*	Venture Capital & Portfolio Companies	Total Private Funds
Job Losses	2,287,350	869,575	3,156,925
Loss in Federal Tax Revenues	$27.76	$10.47	$38.23
Less: Estimated Revenue Gain from U.S. Budget**			0.05
Net Loss in Federal Tax Revenues			$38.18
Loss in State/Local Tax Revenues	$14.86	$5.47	$20.33

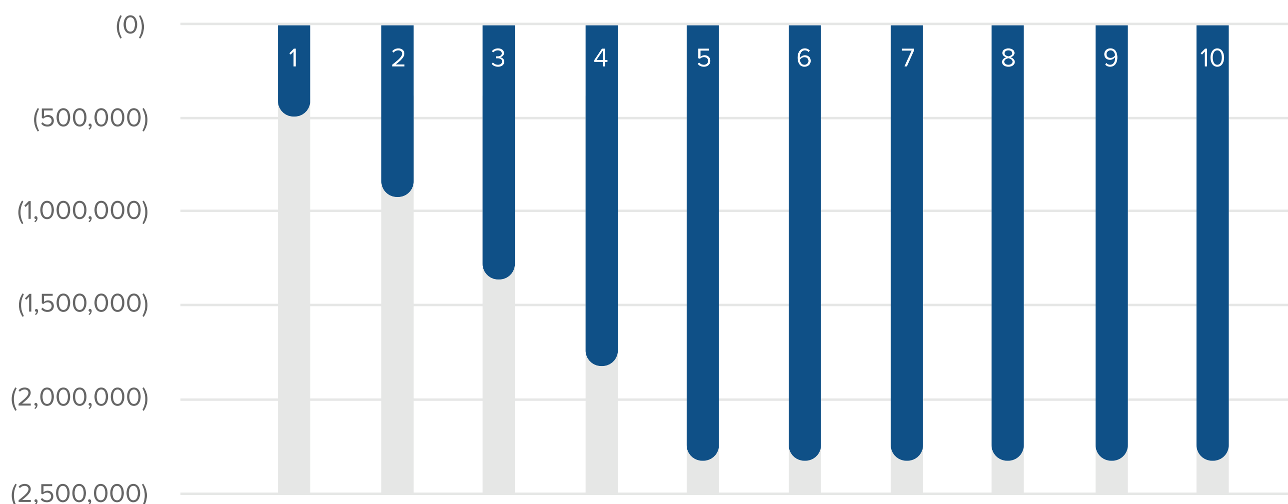
*Based on EY Study

**The 2022 federal budget estimates a $100M gain from recharacterization of carried interest capital gains. The above shows half of this, and the other half is allocated to the real estate industry.

Exhibit 17 shows the 10-year trajectory of such estimated potential job losses due to increased taxes on carried interest.[86]

EXHIBIT 17

Years 1->10 Trajectory in Estimated Potential Job Losses After Increased Taxes on Carried Interest: Private Funds Industry



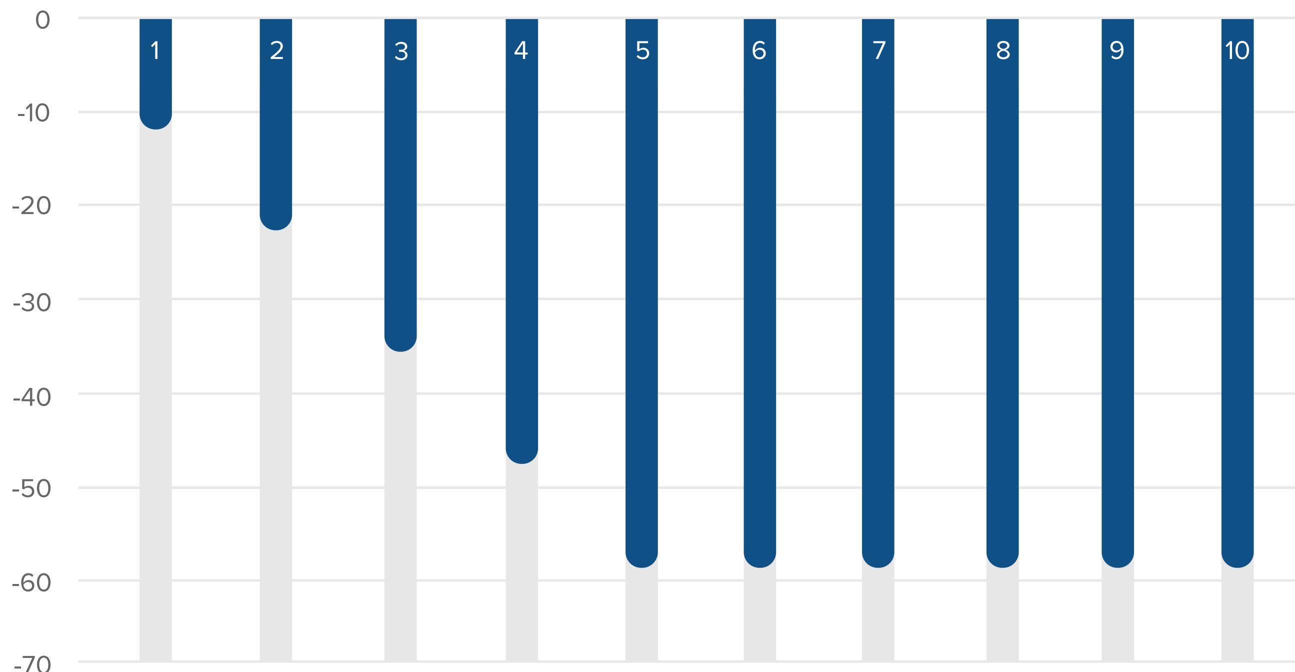
85. Both employment and tax revenue losses are in the fifth year after implementation. Calculations use IMPLAN. Direct job and revenue losses are reported.

86. PE firms hold a portfolio company on average approximately five years. Thus, after five years existing PE companies (pre-) increased taxes on carried interest will have been sold and there would be no new PE investments by this time.

Exhibit 16 also shows that there may be up to $58.51 billion in combined lost federal, state, and local tax revenues. The 10-year trajectory of such potential tax revenue losses is shown graphically in **Exhibit 18**.

EXHIBIT 18

Years 1->10 Trajectory in Estimated Potential Federal and State/Local Tax Revenue Losses After Increased Taxes on Carried Interest (dollar values in billions): Private Funds Industry



Real Estate Industry[87]

Here, increased taxes on carried interest may result in up to a 19.55% downsizing of the industry over time. This and other negative potential effects of increased taxes on carried interest are shown in **Exhibit 19**.

EXHIBIT 19:
Estimated Potential Direct Impact of Increased Taxes on Carried Interest: Real Estate Partnerships[88]

Real Estate Investors*	Real Estate Industry (includes construction, leasing, and hotels/motels)*
Annual loss of up to $2.58 billion[89] (long run)	Up to 19.55% downsizing (long run)

87. It is unknown if some real estate investments managed by taxable partnerships would be taken up by REITs (which would not be subject to the proposed change in carried interest capital gains treatment). Here, we assume this is not the case.

88. Long-run impacts would be in the fifth year after implementation of the law change.

89. Per IRS Statistics of Income (2018), real estate leasing and construction partnerships had combined incomes (operating profits, capital gains, and other) of $177 billion. Since the IRS data does not have hotel/motel and other industry data, we can roughly double this number to get the entire real estate partnership industry income, or $354 billion. Multiplying this by 19.55% yields a loss of $69.2 billion. Assuming a 3.73% loss if investors switched to comparable financial investments (see discussion on pension funds, above), loss to investors would be $69.2 billion X 3.73% = $2.58 billion.

Exhibit 20 shows there may be a loss of up to 1.76 million jobs, assuming a 19.55% downsizing of the industry.

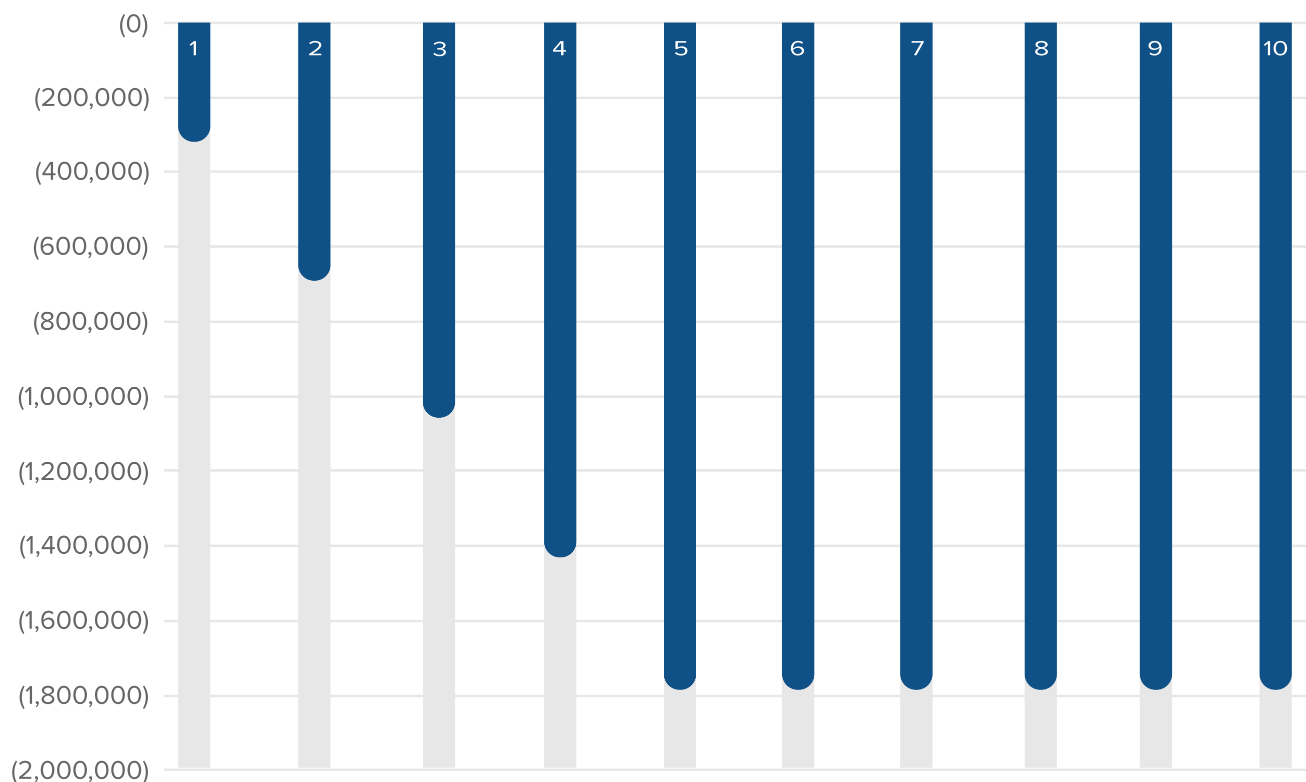
EXHIBIT 20:
Estimated Potential Long-Run Loss in Employment and Tax Revenues Due to Increased Taxes on Carried Interest (dollar values in billions) for Taxable Real Estate Partnerships

Job Losses	1,768,172
Loss in Federal Tax Revenues	$11.27
Less: Estimated Revenue Gain from U.S. Budget **	0.05
Net Loss in Federal Tax Revenues	$11.22
Loss in State/Local Tax Revenues	$26.74

*Does not include negative effects of repeal of like-kind exchange tax rules.
**The 2022 federal budget estimates a $100M gain from recharacterization of carried interest capital gains. The above shows half of this, and the other half is allocated to the private funds industry.

Exhibit 21 shows the 10-year trajectory of such estimated potential job losses.[90]

EXHIBIT 21
Years 1->10 Trajectory in Estimated Potential Job Losses After Increased Taxes on Carried Interest: Real Estate Partnerships

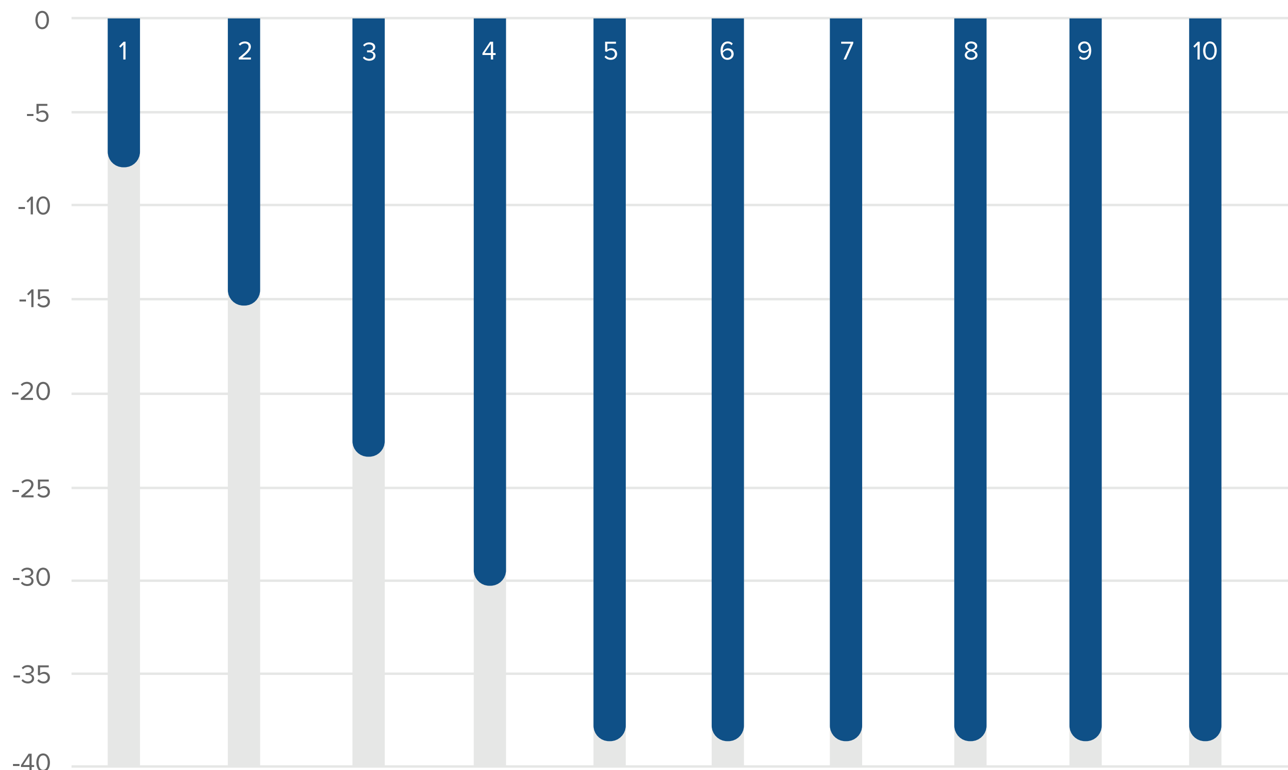


90. PE firms hold a portfolio company on average approximately five years. Thus, after five years existing PE companies (pre-) increased taxes on carried interest will have been sold and there would be no new PE investments by this time.

Exhibit 20 also shows that there may be up to $37 billion in combined lost federal, state, and local tax revenues. The 10-year trajectory of such potential tax revenue losses is shown graphically in **Exhibit 22**.

EXHIBIT 22

Years 1->10 Trajectory in Estimated Potential Federal and State/Local Tax Revenue Losses After Increased Taxes on Carried Interest (dollar values in billions): Real Estate Partnerships



Overall Economic Impact: Private Funds and Real Estate Industries Combined

Exhibit 23 shows estimated potential job and tax revenue losses when we combine the private funds and real estate industries. Here, estimated potential job losses may be up to 4.9 million, and combined estimated potential federal, state, and local tax revenue losses may be up to $96 billion.

EXHIBIT 23:
Private Funds Plus Real Estate: Estimated Potential Long-Run Loss in Employment and Tax Revenues Due to Increased Taxes on Carried Interest (dollar values in billions)[91]

	Private Funds Firms	Real Estate Firms	Totals
Job Losses	3,156,925	1,768,172	4,925,097
Loss in Federal Tax Revenues	$38.23	$11.27	$49.50
Less: Estimated Revenue Gain from U.S. Budget**	$0.05	$0.05	$0.10
Net Loss in Federal Tax Revenues	$38.18	$11.22	$49.40
Loss in State/Local Tax Revenues	$20.33	$26.74	$47.07
Total Loss in Tax Revenues			$96.47

*Includes effects on PE portfolio companies, where base data is from EY study, and effects of VC portfolio companies

Exhibit 24 shows graphically the 10-year trajectory of estimated potential job losses from **Exhibit 23**. **Exhibit 25** shows the 10-year trajectory of estimated potential tax revenue losses from **Exhibit 23**.

91. Both employment and tax revenue losses are in the fifth year after implementation. Calculations use IMPLAN. Figures for employment include direct employment for the private funds industry and their portfolio companies, and direct plus indirect (suppliers) employment for the real estate industry. Tax revenue effects include direct revenue effects only.

EXHIBIT 24

Years 1->10 Trajectory in Estimated Potential Job Losses After Increased Taxes on Carried Interest for Combined Private Funds and Real Estate Partnerships

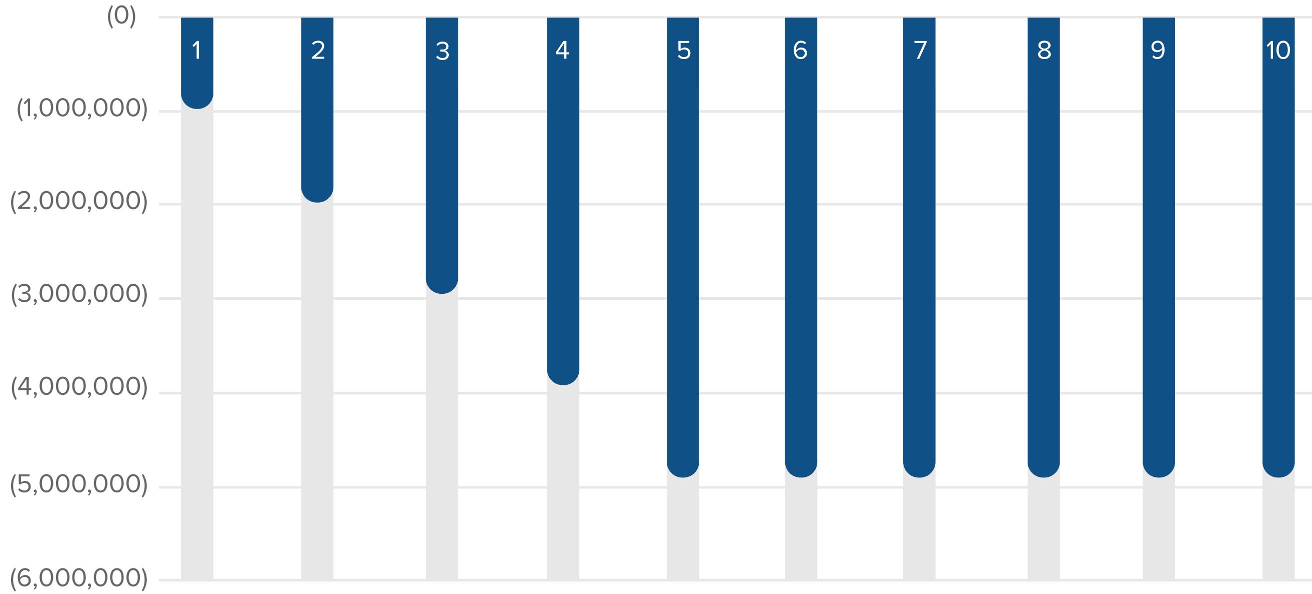
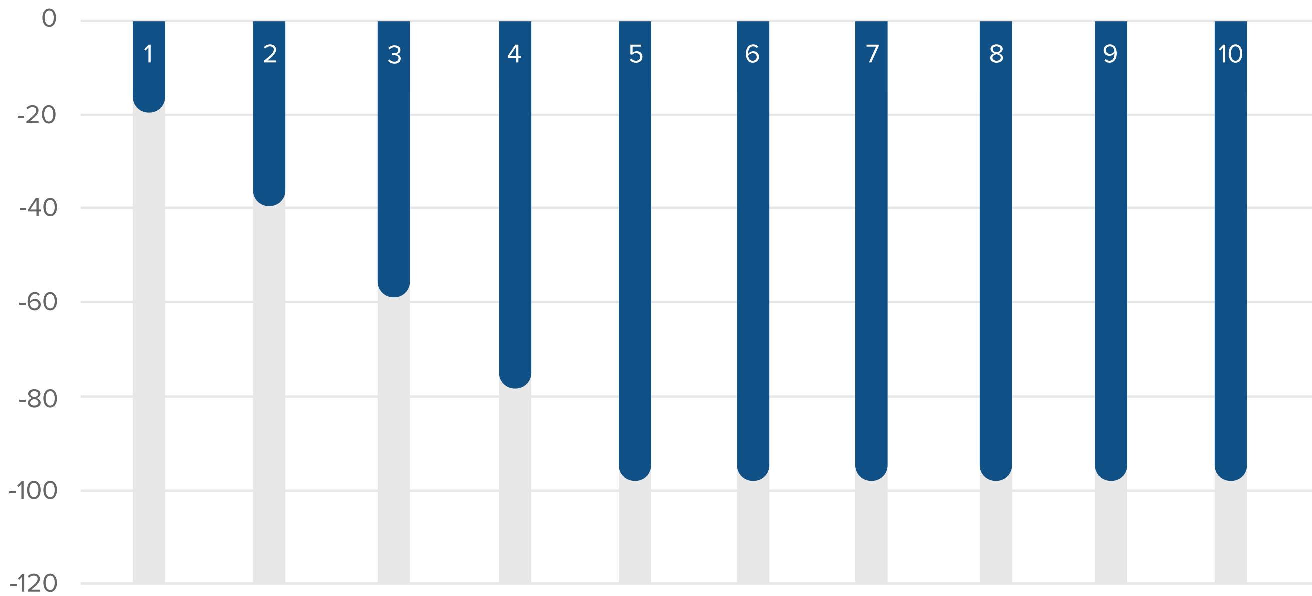


EXHIBIT 25

Years 1->10 Trajectory in Estimated Potential Tax Revenue Losses After Increased Taxes on Carried Interest for Combined Private Funds and Real Estate Partnerships (dollar values in billions)



SENSITIVITY OF RESULTS TO ASSUMPTIONS

Appendix C performs sensitivity analyses to assumptions used in the foregoing analyses. Calculations show that if as little as 0.02% of private funds and real estate firms exit the market and an equivalent percent of private funds-sponsored firms fail, the federal government will "lose money."

Other Negative Impacts of Increased Taxes on Carried Interest

INFRASTRUCTURE PLANS

As noted previously, the Biden administration proposes major U.S. infrastructure improvements. Downsizing of the partnership-based real estate construction industry may negatively affect such plans, with fewer firms able to bid on, and perform, such projects.

INVESTMENTS IN RENEWABLE ENERGY AND COVID RESEARCH AND PREVENTION

As discussed previously, PE and VC funds support many renewable energy firms and COVID-focused biotech firms. As noted above, private equity has invested more than $79 billion in U.S. health care throughout 2020 to fund research into deadly diseases like Alzheimer's and Parkinson's, expand and renovate facilities, modernize medical records and health care data, and make other needed investments. Similarly, numerous companies that are (or were) venture-backed startups in this sector devoted considerable resources to battling the novel coronavirus in 2020, the most famous of which may be Moderna, which produced a COVID-19 vaccine with 94% efficacy.

Other venture-backed companies include A2A Pharma, which conducted research on COVID-19 viral replication and cell entry; Biomeme, which created a technology platform that allows for COVID-19 tests to be performed on a smartphone; Formlabs, which utilized 3D printing to address supply chain shortages and provide hospitals and health systems with COVID-19 testing, PPE, and medical equipment; Ovation.io, which launched an initiative to significantly expand the nation's COVID-19 testing capacity; and Smart Monitor, which developed a remote patient triage solution for COVID-19 patients who are recovering at home in self-isolation. Beyond the fight against COVID-19, a recent study found that 42% of FDA-approved U.S. drugs between 2009 and 2018 originated with VC funding.

PE firms have also invested increasingly in renewable energy; the industry has invested over $100 billion into the sector since 2010, with $11 billion invested in 2020. Such investments include energy generation, and cleantech applications include energy conservation, water purification, waste management, and recycling and retrofitting buildings with clean energy technology.

To the extent the PE and VC industries downsize, such investments in these riskier companies may decline, a result seemingly at odds with current policy objectives.

To summarize, the resulting downsizing of these industries is seemingly at odds with policy objectives of the Build Back Better agenda, including investment in renewables and infrastructure, assisting with COVID-19 recovery, and promoting job creation.

ABOUT THE AUTHOR

Charles (Chuck) Swenson, Ph.D., CPA, is Professor and Leventhal Research Fellow at the Marshall School of Business at the University of Southern California, where he has taught since 1987. Dr. Swenson has previously served as a Visiting Professor at UCLA and Caltech. Author of more than 50 academic research and professional articles on taxation that have appeared in such economics journals as the *National Tax Journal, Journal of Public Economics*, and *Journal of Law and Economics*, Dr. Swenson has won the Tax Manuscript Award from the American Taxation Association three times. He is author of two tax texts and is the General Editor of the treatise *Bender's State Taxation: Principles and Practice* (LexisNexis, 2009, updated quarterly). He has presented his economics-based tax research before the New York Senate Revenue and Taxation Committee, the New York Assembly Committee on Jobs, the California State Assembly, and the City of Los Angeles, and is on the Editorial Boards of the *Journal of Accounting and Public Policy* and the *Asia Pacific Journal of Taxation*. His bio and curriculum vitae can be found at: https://www.marshall.usc.edu/personnel/charles-swenson

APPENDICES

Appendix A: Economic Impacts of Private Funds in California and New York

NEW YORK:

EXHIBIT A1:
Estimated Employment, Income, and Output Effects of Private Funds in New York (employment in thousands; dollar values in millions)

Impact Type	Employment	Labor Income	Value Added	Output
Direct Effect	133.6	$26,726.7	$25,748.0	$41,625.9
Indirect Effect	79.2	8,698.0	12,398.5	18,420.9
Induced Effect	157.2	9,629.6	16,927.9	25,802.5
Total Effect	370.0	$45,054.3	$55,074.4	$85,849.3

PE Portfolio companies contribute another 775 thousand jobs in New York.[92] When added to the 133.6 thousand direct employment above, the industry supports 908.6 thousand direct jobs in the state, and multiplier effects of these jobs would be much higher. The above figures would also be much higher if VC portfolio companies were included.

EXHIBIT A2:
Estimated Annual State and Local Taxes and Fees Generated by the Private Funds Industry in New York After Multiplier Effects[93]

Description	Employee Compensation	Tax Production and Imports	Households	Corporations
Dividends				$6,259,832
Social Insurance Tax: Employee Contribution Employer Contribution	 $46,275,106 $92,583,976			
Sales Tax		$951,294,220		
Property Tax		$1,214,472,638		

92. See EY Study, Supra.

93. Ibid. Taxes on Proprietors' Incomes excluded since tax losses are reported by the pass-through entities.

Description	Employee Compensation	Tax Production and Imports	Households	Corporations
Motor Vehicle License		$13,071,943		
Severance Tax		$528,621		
Other Taxes		$160,636,633		
Other Fees		$3,677,187		
Corporate Profits Tax				$172,832,405
Personal Tax: Income Tax			$1,530,740,622	
Personal Tax: Fines/Fees			$210,565,748	
Personal Tax: Motor Vehicle License			$29,126,076	
Personal Tax: Property Taxes			$26,754,027	
Personal Tax: Other Taxes/Licenses			$4,151,986	
Total State and Local Tax	$138,859,082	$2,343,153,622	$1,801,338,189	$179,092,237
Total Federal Tax				$27.98

Note that the above tax figures are conservative, since they do not include the economic impacts of portfolio companies owned by PE or VC firms.

CALIFORNIA:

EXHIBIT A3:
Estimated Employment, Income, and Output Effects of Private Funds Financial Services in California (employment in thousands; dollar values in millions)

Impact Type	Employment	Labor Income	Value Added	Output
Direct Effect	102.6	$11,557.8	$384.6	$18,283.2
Indirect Effect	63.6	$2,889.4	$211.5	$10,557.4
Induced Effect	87.2	$3.005.0	$57.7	$13,712.4
Total Effect	253.4	$17,452.2	$653.8	$42,053.0

PE portfolio companies contribute another 1.448 million jobs in California.[94] When added to the 102.6 thousand direct employment above, the industry supports 1.55 million direct jobs in the state, and multiplier effects of these jobs would be much higher. The above figures would also be much higher if VC portfolio companies were included.

94. See EY Study, Supra.

EXHIBIT A4:
Estimated Annual California State and Local Taxes and Fees Generated by the Private Funds Financial Services Industry After Multiplier Effects[95]

Description	Employee Compensation	Tax Production and Imports	Households	Corporations
Dividends				$2,232,681
Social Insurance Tax: Employee Contribution Employer Contribution	 $36,985,620 $77,474,310			
Sales Tax		$490,418,718		
Property Tax		$404,119,112		
Motor Vehicle License		$11,120,826		
Severance Tax		$528,621		
Other Taxes		$72,707,102		
Other Fees		$13,733,836		
Corporate Profits Tax				$40,159,411
Personal Tax: Income Tax			$683,121,188	
Personal Tax: Fines/Fees			$112,336,897	
Personal Tax: Motor Vehicle License			$23,410,431	
Personal Tax: Property Taxes			$8,252,651	
Personal Tax: Other Taxes/Licenses			$4,638,125	
Total State and Local Tax	$114,459,931	$992,628,215	$831,759,292	$42,392,092

Note that the above tax figures are conservative, since they do not include the economic impacts of portfolio companies owned by PE or VC firms.

95. Ibid. Taxes on Proprietors' Incomes excluded since tax losses are reported by the pass-through entities.

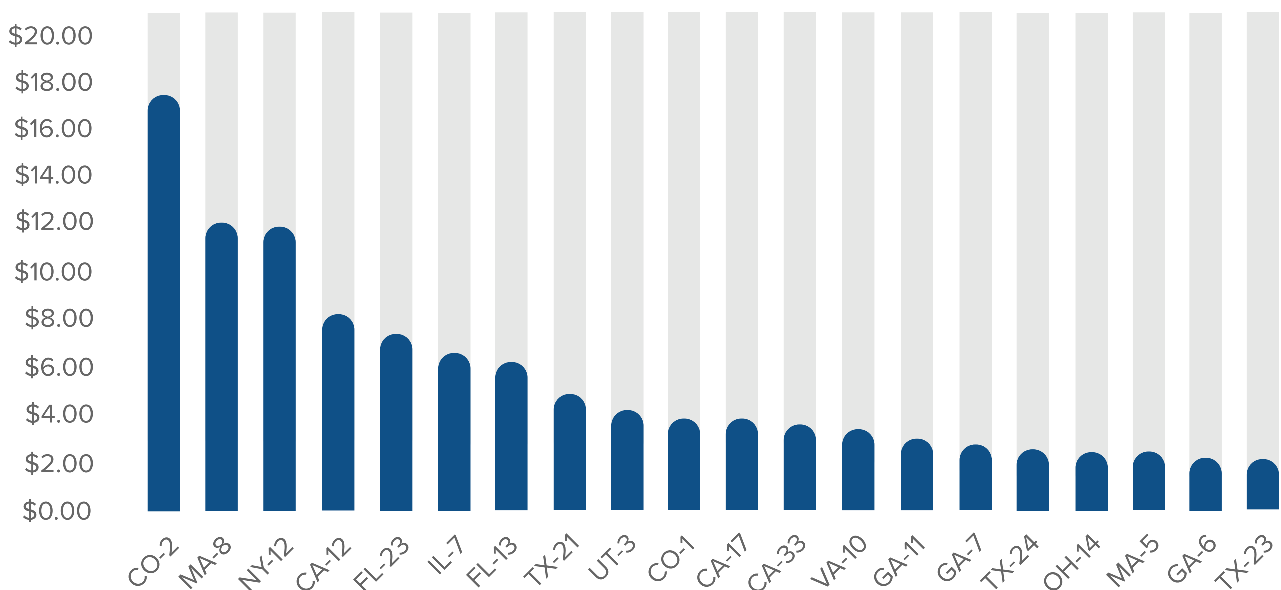
Appendix B: Private Equity Company Deals by Year/ State (in $billions, 2010-2018)*

	2010	2011	2012	2013	2014	2015	2016	2017	2018
Alabama	$2.26	$1.75	$2.44	$2.26	$3.40	$4.84	$2.90	$4.06	$3.12
Alaska	$0.08	$0.01	$0.05	$0.20	$0.70	$0.46	$0.23	$0.37	$0.52
Arizona	$4.41	$7.19	$7.32	$4.37	$6.12	$27.22	$6.74	$8.49	$10.45
Arkansas	$0.19	$0.79	$0.99	$0.20	$1.44	$1.42	$1.29	$1.07	$1.73
California	$32.68	$43.01	$46.95	$44.35	$61.13	$65.37	$72.22	$67.34	$85.61
Colorado	$11.92	$7.38	$7.40	$10.04	$18.28	$10.79	$18.02	$24.03	$16.43
Connecticut	$8.96	$5.65	$6.45	$7.09	$6.71	$8.52	$7.96	$7.55	$8.39
Delaware	$0.70	$0.52	$1.15	$0.55	$3.00	$0.85	$0.64	$1.06	$0.83
District of Columbia	$0.91	$2.24	$0.63	$0.95	$0.70	$1.46	$0.57	$1.34	$2.75
Florida	$13.67	$18.96	$19.31	$15.77	$34.72	$24.66	$36.04	$35.10	$29.13
Georgia	$12.41	$9.99	$19.36	$14.11	$23.12	$15.85	$19.73	$14.59	$22.33
Guam		$0.10						$0.13	
Hawaii	$0.33	$0.36	$0.34	$1.17	$0.83	$0.27	$0.79	$0.78	$2.27
Idaho	$0.46	$0.30	$0.81	$1.18	$0.80	$0.71	$1.29	$0.87	$1.87
Illinois	$21.53	$15.57	$18.47	$46.82	$33.02	$85.02	$26.81	$34.14	$25.05
Indiana	$4.04	$3.94	$3.69	$4.18	$4.59	$11.70	$8.89	$9.45	$6.08
Iowa	$0.56	$0.16	$1.07	$1.91	$2.92	$1.45	$1.21	$4.00	$3.03
Kansas	$2.60	$1.42	$4.11	$2.25	$3.51	$2.63	$5.28	$3.25	$5.06
Kentucky	$2.38	$1.74	$2.87	$1.51	$3.42	$4.62	$5.82	$4.33	$13.24
Louisiana	$1.71	$1.60	$3.71	$3.33	$6.02	$3.11	$9.06	$5.67	$3.78
Maine	$0.93	$0.78	$0.91	$0.79	$0.95	$0.84	$1.43	$1.63	$0.96
Maryland	$4.07	$4.12	$3.17	$8.08	$10.73	$5.56	$6.74	$8.43	$9.85
Massachusetts	$12.93	$10.31	$9.11	$11.68	$13.70	$12.06	$99.34	$35.86	$26.24
Michigan	$5.30	$4.98	$8.49	$5.46	$14.91	$6.78	$12.19	$13.72	$16.63
Minnesota	$5.36	$6.95	$6.61	$5.02	$8.05	$11.76	$7.74	$7.77	$30.75
Mississippi	$0.63	$0.90	$2.24	$0.30	$1.85	$0.73	$0.65	$0.76	$1.49
Missouri	$3.22	$2.82	$4.09	$3.72	$6.44	$5.60	$7.40	$15.28	$9.27
Montana	$0.24	$0.20		$0.52	$1.09	$0.28	$0.27	$1.12	$0.55
Nebraska	$1.44	$0.97	$0.73	$0.55	$2.03	$1.46	$1.67	$9.47	$1.09
Nevada	$2.36	$1.95	$1.13	$1.35	$3.66	$2.45	$7.77	$2.30	$4.59
New Hampshire	$0.46	$1.71	$2.33	$0.80	$3.74	$1.70	$1.68	$3.05	$2.17
New Jersey	$7.60	$9.77	$12.76	$9.23	$20.20	$13.58	$12.07	$13.12	$14.91
New Mexico	$0.44	$0.32	$0.75	$0.70	$1.09	$0.51	$1.29	$2.21	$0.99
New York	$20.50	$24.99	$27.21	$28.32	$34.50	$46.60	$35.11	$50.03	$43.63
North Carolina	$9.41	$16.57	$12.46	$7.75	$12.53	$15.37	$11.17	$24.44	$20.58
North Dakota	$0.34	$0.93	$0.30	$0.93	$1.13	$2.82	$0.59	$0.46	$0.24

	2010	2011	2012	2013	2014	2015	2016	2017	2018
Ohio	$11.40	$13.12	$9.31	$10.84	$19.16	$15.11	$15.73	$13.02	$18.82
Oklahoma	$3.84	$11.04	$6.60	$8.34	$10.27	$6.30	$3.72	$7.52	$8.73
Oregon	$1.23	$1.37	$3.37	$3.13	$3.68	$3.51	$4.18	$3.22	$6.66
Other U.S. Territory	$0.09		$0.02	$0.43	$0.20				
Pennsylvania	$9.16	$14.98	$16.21	$21.26	$19.27	$21.39	$31.68	$24.48	$27.12
Puerto Rico	$0.64	$1.66	$0.20	$0.09	$0.63	$0.23	$0.23	$0.26	$1.39
Rhode Island	$0.71	$0.48	$0.47	$0.75	$0.49	$0.89	$0.84	$0.81	$0.77
South Carolina	$1.71	$1.63	$2.01	$2.88	$2.56	$3.05	$5.53	$3.48	$5.69
South Dakota	$0.19	$0.19	$0.20	$0.51	$1.01	$0.63	$0.42	$0.22	$0.28
Tennessee	$10.31	$10.25	$5.42	$7.09	$10.87	$7.65	$10.82	$18.94	$32.97
Texas	$30.49	$51.42	$54.95	$90.16	$70.29	$54.42	$63.40	$72.25	$110.62
Utah	$2.64	$4.13	$9.28	$3.67	$5.26	$4.66	$3.58	$6.72	$4.57
Vermont	$0.45	$0.78	$0.40	$0.44	$0.57	$0.29	$0.44	$0.10	$1.48
Virgin Islands						$0.01	$0.23		$1.25
Virginia	$7.61	$12.00	$6.89	$19.34	$7.99	$15.44	$14.45	$17.29	$8.21
Washington	$2.57	$3.11	$10.44	$4.92	$9.24	$8.22	$9.72	$7.12	$16.30
West Virginia	$1.01	$0.62	$0.82	$0.06	$0.96	$0.35	$0.50	$1.07	$0.51
Wisconsin	$2.31	$4.98	$7.76	$8.88	$8.83	$8.73	$5.20	$8.39	$11.67
Wyoming	$0.27	$0.30	$0.14	$0.73	$2.11	$0.89	$0.52	$1.32	$0.44
Unknown	$1.10	$0.53	$0.77	$2.56	$2.60	$0.93	$1.49	$6.56	$4.07
TOTAL	**$284.74**	**$343.53**	**$374.69**	**$433.53**	**$527.05**	**$551.77**	**$605.28**	**$610.07**	**$687.17**

*Source: Pitchbook

Top 20 Congressional Districts in PE Activity in 2020 (by capital invested)**



Appendix C: Sensitivity Analyses

We can solve for the minimum response rate to increased taxes on carried interest before governments start to lose tax revenues. For the federal case, we solve:

($564 billion X y) - $0.1 billion = 0, (C1)

where y = % response rate to taxation, $0.1 billion is the presumed gain to the federal government on the new taxes from increased taxes on carried interest (without behavioral responses), and $564 billion is the total federal tax revenue generated by the combined private funds and real estate industries (see above tables). Solving for y, the above yields approximately 0.02%. So, if as little as 0.02% of firms (private funds + real estate) exited the market, the federal government would lose money.

CENTER FOR CAPITAL MARKETS
COMPETITIVENESS