A Case Study on the Effects of a Financial Transaction Tax on Savers in Illinois

October 2020

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Overview

Illinois has a population of 12.67 million people, of which an estimated 6.97 million individuals are participating in the stock market as a tool for saving for education, retirement and other savings goals. This is based on a rate of 55% of stock market participation across the United States, according to a Gallup poll last updated in June 2020.

Residents of Illinois are invested in the stock market, through pension funds such as the Illinois Municipal Retirement Fund (IMRF), 529 College Savings plans such as Bright Start 529, ABLE plan such as the Illinois ABLE Plan and individually through individual retirement accounts (IRAs) and 401(k)s.

There are various proposals pending for a financial transaction tax (FTT) in the United States and the following research provides an analysis of the projected impact that an FTT would have on holders of public pension plans, 529 College Savings plans, individual investors with IRAs and 401(k)s, among others. The below calculations are based on the projected FTT impact of a "Type 1" tax on trading (50 basis point on equities, 10 basis points on bonds, 0.5 basis point on derivatives); "Type 2" tax on trading (10 basis points on equities, 10 basis points on bonds, 10 basis points on derivatives); and "Type 3" tax on trading (2 basis points across asset classes increasing incrementally over 5 years to 10 basis points).

Key Findings

The below charts highlight the startling costs that an FTT would pose to residents of Illinois:

FTT Impact on Illinois Municipal Retirement Fund Participants:

TYPE OF FTT	**YEARLY PROJECTED BURDEN**	**20 YEARS** (Cumulative cost including compounding interest assuming a growth rate of 7.90% per year)	**30 YEARS** (Cumulative cost including compounding interest assuming a growth rate of 7.90% per year)
TYPE 1 (50 basis points on equities, 10 basis points on bonds, and 0.5 basis points on derivatives)	$110.24 million	$4.99 billion	$12.20 billion
TYPE 2 (10 basis points on equities, bonds and derivatives)	$33.82 million	$1.53 billion	$3.76 billion

TYPE 3 (2 basis points across asset classes increasing incrementally over 5 years to 10 basis points ongoing)	N/A	N/A	$3.19 billion

FTT Impact on Bright Start 529 Plan Participants:

TYPE OF FTT	**YEARLY PROJECTED BURDEN**	**20 YEARS** (Cumulative cost including compounding interest assuming a growth rate of 6.00% per year)
TYPE 1 (50 basis points on equities, 10 basis points on bonds, and 0.5 basis points on derivatives)	$22 million	$80 million
TYPE 2 (10 basis points on equities, bonds and derivatives)	$7 million	$27 million

FTT Impact on IL Able Plan Participants:

TYPE OF FTT	**YEARLY PROJECTED BURDEN**	**20 YEARS** (Cumulative cost including compounding interest assuming a growth rate of 6.00% per year)	**30 YEARS** (Cumulative cost including compounding interest assuming a growth rate of 6.00% per year)
TYPE 1 (50 basis points on equities, 10 basis points on bonds, and 0.5 basis points on derivatives)	$11,490	$422,681	$908,411
TYPE 2 (10 basis points on equities, bonds and derivatives)	$3,361	$123,641	$265,725

FTT Impact on the Individual Investor in Illinois:

TYPE OF FTT	YEARLY PROJECTED BURDEN PER INDIVIDUAL	OVER 40 YEARS (Cumulative cost including compounding interest assuming a growth rate of 6.00% per year)
TYPE 1 (50 basis points on equities, 10 basis points on bonds, and 0.5 basis points on derivatives)	$144.90	$22,452.01
TYPE 2 (10 basis points on equities, bonds and derivatives)	$56.70	$8.775.00
TYPE 3 (2 basis points across asset classes increasing incrementally over 5 years to 10 basis points ongoing)	$11.34 in Year 1 rising to $56.70 by Year 5	$7,735.17

I. Pension Fund Analysis

The following highlights the projected impact that a financial transaction tax ("FTT") would have on individuals who participate in the Illinois Municipal Retirement Fund (IMRF). The calculations are based on recent FTT proposals, including (1) an FTT of 50 basis points on equities, 10 basis points on bonds, and 0.5 basis points on derivatives; (2) an FTT of 10 basis points across asset classes on equities, bonds and derivatives; and (3) an FTT of 2 basis points across asset classes increasing incrementally over 5 years to 10 basis points ongoing.

The IMRF was founded in 1939 in order to provide retirement, death and disability benefits to local government employees. Under the plan, participants receive a cost of living adjustment based on the inflation rate (CPI) from the previous year. Currently, there are more than 177,000 participants in the IMRF.

An examination of the fund's 2019 Annual Report[1] indicates that the IMRF has an AUM of $44.67 billion, of which 40.1% are invested in U.S. equities, 19.3% in international equities, 28.2% in fixed income, 6.6% in real estate, 5.4% in alternative investments and 0.4% in cash and equivalents. There are no investments in derivatives according to the annual report.

For the purpose of this calculation, it is estimated that the IMRF has a turnover rate of 0.72 for equities and 1.17 for fixed income. Calculations of the projected FTT are based on this notional value of the portfolio based on such turnover rates, rather than the assets under management (AUM). Additionally, these turnover rates were modeled after publicly available information on average pension fund turnover rates.

<u>FTT Impact on IMRF Participants</u>:

TYPE OF FTT	**YEARLY PROJECTED BURDEN**	**20 YEARS** (Cumulative cost including compounding interest assuming a growth rate of 7.90% per year)	**30 YEARS** (Cumulative cost including compounding interest assuming a growth rate of 7.90% per year)
TYPE 1 (50 basis points on equities, 10 basis points on bonds, and 0.5 basis points on derivatives)	$110.24 million	$4.99 billion	$12.20 billion
TYPE 2 (10 basis points on equities,	$33.82 million	$1.53 billion	$3.76 billion

[1] Finance Department. (n.d.). 2019 Comprehensive Annual Financial Report. IMRF. https://www.imrf.org/cmsmedia/files/multi-site-files/annual-reports/2019/2019-cafr.pdf

bonds and derivatives)			
TYPE 3 (2 basis points across asset classes increasing incrementally over 5 years to 10 basis points ongoing)	N/A	N/A	$3.19 billion

Notably, this example does not consider "widened spreads" and "deadweight loss" which would also result in increased transaction costs for the pension fund portfolio.

II. 529 Plan Analysis

The following highlights the projected impact that a financial transaction tax ("FTT") would have on individuals who participate in the Bright Start 529 Plan based on recent FTT proposals, including (1) a FTT of 50 basis points on equities, 10 basis points on bonds, and 0.5 basis points on derivatives; and (2) a FTT of 10 basis points across asset classes on equities, bonds and derivatives.

The Bright Start 529 Plan was founded to encourage saving for future education costs and is authorized by Section 529 of the Internal Revenue Code as a tax-advantaged saving plan. Overall, in the United States, over 44% of households utilize 529 College Savings plans to save for their children's education. There are 474,576 participants[2] currently in the Bright Start 529 Plan.

An examination of the 2019 report[3] indicates that Bright Start 529 Plan has an AUM of $12 billion, of which 40% are invested in equities, 51% are in bonds and 9% are in cash equivalents. There are no investments in derivatives according to the report.

For the purpose of this calculation, it is estimated that Bright Start 529 Plan has a turnover rate of 0.67 for equities, 0.67 for bonds and 0.67 for derivatives. Calculations of the projected FTT are based on this notional value of the portfolio based on such turnover rate, rather than the AUM. Additionally, the turnover rate was modeled after publicly available information on average Bright Start 529 Plan turnover rates.

FTT Impact on Bright Start 529 Plan Participants:

TYPE OF FTT	**YEARLY PROJECTED BURDEN**	**20 YEARS** (Cumulative cost including compounding interest assuming a growth rate of 6.00% per year)
TYPE 1 (50 basis points on equities, 10 basis points on bonds, and 0.5 basis points on derivatives)	$22 million	$80 million
TYPE 2 (10 basis points on equities, bonds and derivatives)	$7 million	$27 million

Assuming that the average in-state tuition for Illinois public universities is $18,329 per student, the impact of the "Type 1" FTT would equal full in-state yearly tuition for 1,179 students while

2 Illinois State Treasurer finance and budget visualization. (n.d.). OpenGov. https://illinoistreasurer.opengov.com

3 2019 & 2018 Annual report. (n.d.). Illinois treasury. https://illinoistreasurergovprod.blob.core.usgovcloudapi.net/twocms/media/doc/fy19-treasurer-csp-fin-full.pdf

the impact of the “Type 2” FTT would equal full in-state yearly tuition for 407 students.

Notably, the impact of an FTT on a “target date” fund would be substantial and multi-layered, given the number of transactions utilized for such funds.

Further, this example does not consider “widened spreads” and “deadweight loss” which would also result in increased transaction costs for the Bright Start 529 Plan.

III. ABLE Plan Analysis

The following highlights the projected impact that a financial transaction tax ("FTT) would have on participants of the Illinois ABLE Plan. The data is based on recent FTT proposals, including (1) an FTT of 50 basis points on equities, 10 basis points on bonds, and 0.5 basis points on derivatives; and (2) an FTT of 10 basis points across asset classes on equities, bonds and derivatives.

The IL ABLE Plan, a type of 529A account, was founded in 2017 to provide individuals with disabilities and their families with a tax-advantaged way to save money for disability-related expenses. There are nearly 1,000 participants currently in the IL ABLE Plan.

An examination of the 2019 report[4] indicates that the IL ABLE Plan has an AUM of $5.83 million, of which 52% are invested in equities, 34% are in bonds and 14% are in cash equivalents. There are no investments in derivatives according to the report.

For the purpose of this calculation, it is estimated that IL ABLE Plans have a turnover rate of 0.67 for equities, 0.67 for bonds and 0.67 for derivatives. Calculations for the projected FTT are based on this notional value of the portfolio based on such turnover rate, rather than the AUM. Additionally, the turnover rate was modeled after publicly available information on average IL ABLE Plan turnover rates.[5]

<u>FTT Impact on IL ABLE Plan Participants:</u>

TYPE OF FTT	YEARLY PROJECTED BURDEN	20 YEARS (Cumulative cost including compounding interest assuming a growth rate of 6.00% per year)	30 YEARS (Cumulative cost including compounding interest assuming a growth rate of 6.00% per year)
TYPE 1 (50 basis points on equities, 10 basis points on bonds, and 0.5 basis points on derivatives)	$11,490	$422,681	$908,411
TYPE 2 (10 basis points on equities,	$3,361	$123,641	$265,725

[4] State of Illinois Office of the Treasurer Illinois Achieving a Better Life Experience Program. (n.d.). Illinois Auditor General. https://www.auditor.illinois.gov/Audit-Reports/Compliance-Agency-List/Treasurer/Treasurer-ABLE/FY19-Treasurer-ABLE-Fin-Full.pdf

[5] The turnover rate was modeled after the range of average rates of turnover of 0.67, among other ABLE funds with more detailed monthly accounting of transactions on the annual reports.

bonds and derivatives)			

Notably, this example does not consider "widened spreads" and "deadweight loss" which would also result in increased transaction costs for the IL ABLE Plan.

IV. Individual Investor/401(k) Analysis

The following highlights the projected impact of a financial transaction tax ("FTT") on individuals invested in 401(k) plans in Illinois. The data is based on recent FTT proposals, including (1) an FTT of 50 basis points on equities, 10 basis points on bonds, and 0.5 basis points on derivatives; (2) an FTT of 10 basis points across asset classes on equities, bonds and derivatives; and (3) an FTT of 2 basis points across asset classes increasing incrementally over 5 years to 10 basis points ongoing .

An examination of a "typical" 401(k) portfolio and individual retirement account (IRA) indicates that on average, asset allocation includes 35% invested in equities, 55% in bonds and 10% in cash equivalents.

For the purpose of this calculation, it is estimated that the individual investor has $100,000 invested in a mutual fund over 40 years, with an estimated growth rate of 6% a year. For the purpose of this case study, the turnover rate of 0.63 was modeled after publicly available information from Morningstar on average turnover rates. Notably, turnover rates can vary widely, as high as 800% for some mutual funds and as low as 10% for some index funds.

<u>FTT Impact on the Individual Investor in Illinois:</u>

TYPE OF FTT	**YEARLY PROJECTED BURDEN PER INDIVIDUAL**	**OVER 40 YEARS** (Cumulative cost including compounding interest assuming a growth rate of 6.00% per year)
TYPE 1 (50 basis points on equities, 10 basis points on bonds, and 0.5 basis points on derivatives)	$144.90	$22,452.01
TYPE 2 (10 basis points on equities, bonds and derivatives)	$56.70	$8.775.00
TYPE 3 (2 basis points across asset classes increasing incrementally over 5 years to 10 basis points ongoing)	$11.34 in Year 1 rising to $56.70 by Year 5	$7,735.17

Further, this example does not consider "widened spreads" and "deadweight loss" which would also result in increased transaction costs for the individual Illinois investor.

V. Appendix: Turnover Rates

For the IMRF, the turnover rate is 0.72 for public equities, 1.17 for fixed income and 0.95 for derivatives.

For the Bright Start 529 Plan, the turnover rate is 0.67 across equities, fixed income, and cash and equivalents.

For IL ABLE Plan, the turnover rate is 0.67 across equities, fixed income and cash and equivalents.

For individual investors with 401(k) plans or IRAs, the turnover rate is 0.63 across equities, fixed income and cash and equivalents.

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