Containing Systemic Risk by Taxing Banks Properly

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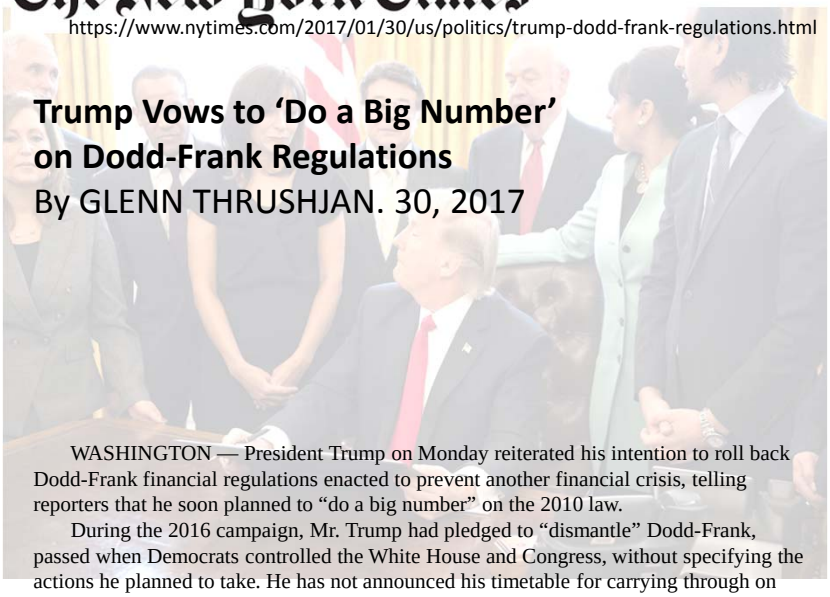
Big picture overview

- Motivation
  - If current systemic safety regulation cut back
  - Then seek to restructure incentives
- Considerable advances in safety regulation post-2008/09 crisis
  - Dodd-Frank
  - Increases in equity
- Yet, wide sense that incomplete and still not safe enough
  - Regulatory quotes
  - Academic quotes
  - Summers study

The New York Times

https://www.nytimes.com/2017/01/30/us/politics/trump-dodd-frank-regulations.html



Trump Vows to 'Do a Big Number' on Dodd-Frank Regulations

By GLENN THRUSHJAN. 30, 2017

WASHINGTON — President Trump on Monday reiterated his intention to roll back Dodd-Frank financial regulations enacted to prevent another financial crisis, telling reporters that he soon planned to "do a big number" on the 2010 law.

During the 2016 campaign, Mr. Trump had pledged to "dismantle" Dodd-Frank, passed when Democrats controlled the White House and Congress, without specifying the actions he planned to take. He has not announced his timetable for carrying through on that pledge as president.

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Biggest US banks have more than $120bn of 'excess' capital

Large buybacks and dividends could be on the way under Trump administration

FEBRUARY 7, 2017 by: Ben McLannahan in New York

The biggest banks in the US are sitting on more than $120bn of "excess" equity capital, according to Morgan Stanley, much of which could end up in bumper buybacks and dividends under the administration of President Donald Trump.

Banks have spent the years since the crisis building up capital under the close watch of the Federal Reserve in Washington, which requires them to undergo tough tests every year to assess whether they could cope with a catastrophic shock to the system.

"Probably left to our own devices, we wouldn't hold as much capital as we're holding," said Lloyd Blankfein, Goldman chairman and chief executive. "We clearly have enough capital," said Jonathan Pruzan, chief financial officer at Morgan Stanley.

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- The Financial Stability Board estimates that a 7% equity requirement, roughly the current rule, would have stabilized no more than one-quarter of the largest banks.
  - Fin. Stability Bd., Historical Losses and Recapitalisation Needs Findings Report, at 23, tbl. A2 (Nov. 9, 2015).
- An IMF study points to 17% equity as the level needed to withstand a financial crisis such as the one we had.
  - Jihad Dagher et al., Benefits and Costs of Bank Capital (IMF Staff Discussion Note SDN/16/04, Mar. 2016).
- "Merrill Lynch . . . lost 19% [of its value]. It would have needed a core-capital ratio of 23% to avoid falling through the 4% floor. . . ."
  - *Reforming banking: Base camp Basel, Regulators are trying to make banks better equipped against catastrophe*, ECONOMIST, Jan. 21, 2010, at 68.

[Int'l] Systemic Risk Council (2017: 3)

- **"To the finance ministers . . . and leaders of the G20 countries[:]"**
- "[W]hen the next downturn comes, financial institutions will likely be more exposed to losses than in the past. . . . [The] macroeconomic policy response will . . . be weaker . . . . [M]ore businesses are liable to fail and more jobs are liable to be lost. As defaults mount and financial intermediaries come under pressure . . . lenders [will] constrain the supply of credit and other services, which would amplify the slowdown, and so on through feedback channels . . . ."
  - Paul Tucker, former Deputy Governor Bank of England, Sheila Bair, Jean-Claude Trichet, Paul Volcker, plus members

- Hensarling's "Choice Act" would gut Dodd-Frank.
  - It passed the House in the last Congress
  - On the agenda for this Congress
- This paper's focus: if it passes, can bank/financial-firm incentives be changed to accomplish much of the safety-enhancing benefit that's embedded in Dodd-Frank and related regulation
- Paper was substantially written in 2016.
  - The original motivation was for a Clinton presidency
  - Command-and-control regulation pushed as hard as possible and is reaching (or surpassing its limits), but withOUT the system being safe enough (according to many)
  - Hayekian limits
  - Policy motivation: ***supplement*** command-and-control with alteration of baseline incentives

Primary goals for the paper

Primarily: Put the idea on the table and deal with first-order problems to show that the idea isn't a "nonstarter."

First, will a tax "fix" make a safety difference?

Second, can a tax "fix" be revenue neutral without undermining its effectiveness?

Third, how would a tax "fix" for banks differ from prevailing debt-equity fix ideas for industrial firms?

Fourth, will tax arbitrage immediately upset the effort? (Or will the level of arbitrage be "normal science?")

Big picture: II

- Oddity of tax structure vs. regulatory structure
  - Regulators: command banks to own more equity
  - Tax structure: tax equity unfavorably, debt favorably
- Long-standing critique for nonfinancial firms
  - Modigliani-Miller
  - Currently-favored resolution: deduction or credit for dividends paid
    - Good corporate governance fit with industrial firm proclivities
    - Very bad fit with bank safety

XYZ:		TUV:	
Earnings from operations:	100,000	Earnings from operations:	100,000
		Deductible interest:	(25,000)
		Net income before corp. taxes:	75,000
Corporate income tax:	**(33,333)**	Corporate income tax:	**(25,000)**
After-tax income to SH of XYZ:	66,667	Income to SH of TUV:	50,000
Income to creditors of XYZ:	0	Income to creditors of TUV:	25,000
Total income to XYZ's investors:	**66,667**	Total income to TUV's investors:	**75,000**

Overview: III

- Concept for banks: repurpose a concept: the allowance for corporate equity (ACE)
  - Impute a cost to equity
  - I.e., the public firm raises capital, some from creditors, some from stockholders
  - Capital has a cost
  - Impute the cost of equity, then allow the firm a deduction for that cost
    - Formulaic: 120% of long-term US Treasuries, for example

Overview: IV

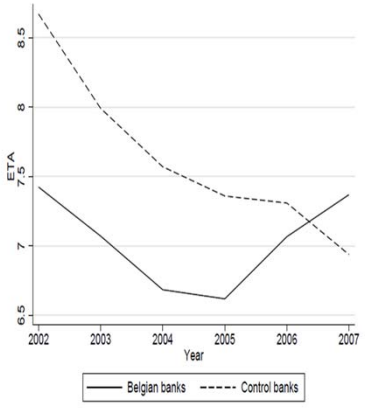
- Revenue neutrality
  - Better: leverage neutrality. Same tax, regardless of bank choice of leverage.
  - Quasi-built-in.
    - Substitution effect, long-term deductible debt changed into "long-term" safe equity, with a tax deduction
  - If needed: Tax something else to offset reduced tax bill to the bank
    - Best candidate: reduce the interest deductibility
- Marginal analysis/application
  - ACE, but only for equity above the regulatory-required amount
  - Rationale:
    - Minimize disruption. Minimize tax arbitrage. (?)
    - Minimize need for tax offset
    - But, b/c ACE impact is on marginal dollar of equity, impact on equity level should approximate that of a full-scale ACE, but without the full costs of a transformation

Will it make a difference?

Impact of Debt-Equity Tax Neutrality on Equity Levels

Study	Firms	Scope	Methodology	Key result	Impact	Additional results
Gu , de Mooij & Poghosyan, 2012	Bank subsidiaries	60 countries, 1998-2011	Leverage reaction to changes in corporate tax rate	Increase in equity of 3% for each 10% decrease in corporate tax rate	10.5%	Debt shifts to subsidiaries in high tax countries
Keen & de Mooij, 2016	Commercial Banks	82 countries, 2001-2009	Leverage ratio reaction to changes in corporate tax rate	Long-run increase of equity of 2.7% for each 10% decrease in corporate tax rate	9.6	Banks holding smaller equity buffers and larger banks less sensitive
Hemmelgarn & Teichmann, 2013	Commercial Banks	87 countries, 1997-2011	Leverage ratio reaction to changes in the corporate tax rate	A 10% increase in the statutory tax rate increases leverage by 0.98%	3.4	Lower taxes reduce dividend payout
Schandlbauer, 2016	Bank holding companies	US, 1998- 2011	Reaction of non-depositary debt to increase in U.S. state taxes	Tax increase of 1% increases non depositary debt ratio by .60%	10.5	Tax increases have an effect, not decreases
Schepens, 2016	Universal Banks	Belgium, 2002-2007	Relative change in equity in Belgian and European banks after Belgium ACE	After 2 years, Belgian banks equity levels rise 1.03% more	1.0	Interrupted by the crisis and Belgian cutbacks in ACE
Average impact on equity for banks from neutral tax					7%	
Heider & Ljungqvist, 2016	Non-financial Corporations	US, 1990- 2011	Reaction of debt ratio to increase in local U.S. state taxes	Average state tax rise of 1.24% increases leverage ratio by 1.14%	16.1	Increases have an effect, not decreases
Panier, Pérez-González & Villanueva, 2012	Non-financial Corporations	Belgium, 2001-2009	Equity change compared to that of European firms after Belgium ACE	6.6% lower leverage ratio in 2009	6.6	Larger, newer firms strongly affected
Faccio & Xu, 2015	Non-financial Corporations	29 OECD countries, 1981-2009	Leverage change in reaction to tax rate changes.	6.35% (one standard deviation) tax increase assoc-iated with 2.52% leverage increase	13.8	Firms in OECD countries with low rates of tax evasion.
Devereux, Maffini & Xing, 2015	Non-financial Corporations	UK, 2001-2010	Leverage differences correlate with tax rate differences	10% increase in the marginal tax leads to increase in leverage between 7.6% and 14.0%	26.6	External debt of multinationals is less sensitive to taxation
Faulkender & Smith, 2016	Multinational firms	US firms and their worldwide subsidiaries, 1994-2011	Leverage correlated to weighted average tax rate paid by multinationals	10% decrease in tax rate leads to between a 2.4% and 5.9% decrease in debt	14.5	Increase in a multinational's debt is usually located in high-tax US
Doidge & Dyck, 2015	Canadian Trusts	Canada, 2006	Reaction to surprise tax rate increase from 0% to 31.5%	Debt increases by 6% after tax increases by 31.5%	6.7	Presence of non-debt tax shields reduces leverage
Overall average impact on equity of neutral tax					10.8%	

Belgium v EU bank equity after Belgian ACE



Impact of Goldman reaching IMF's

low safety goal of $87 billion increased capital as a percentage of 2016 profit			
	Current overall interest rate for Goldman of 0.9%	Current long-term interest rate for Goldman of 5%	Long-term interest rate of 7%
Tax increase	0.9% * $87 billion * 35% = $274 million	5% * $87 billion * 35% = $1.52 billion	7% * $87 billion * 35% = $2.13 billion
Percentage of 2016 profit of $7.57 billion	3.6% of profit (from 274/7570)	20.1% of profit (from 1.52/7.57)	28% of profit (from 2.137/7.57)

high safety goal of $182 billion increased capital as a percentage of 2016 profit			
	Current overall interest rate for Goldman of 0.9%	Current long-term interest rate for Goldman of 5%	Long-term interest rate of 7%
Tax increase	0.9% * $182 billion * 35% = $573 million	5% * $182 billion * 35% = $3.19 billion	7% * $182 billion * 35% = $4.5 billion
Percentage of 2016 profit of $7.57 billion	7.6% of profit (from 573/7570)	**42% of profit** (from 3.09/7.57)	**59% of profit** (from 4.46/7.57)

Note on mechanics of safety

- Citigroup wants to avoid holding US Treasuries, which would enhance safety
- Due to tax impact
- (Regulators have mandated liquidity buffers.)
- Citigroup chart

Citigroup finances $100 billion of US Treasury 5% securities under various assumptions

	Financed by short-term 1% debt	Financed by long-term 5% debt	Financed with equity under current tax law	Financed with equity under a 5% allow-ance for corporate equity
Income	$5 billion	$5 billion	$5 billion	$5 billion
Financing cost	($1 billion)	($5 billion)	(no interest deduction)	($5 billion ACE)
Taxable income	$4 billion	0	$5 billion	0
Tax bill at 35%	($1.4 billion)	0	($1.75 billion)	0
After-tax income	$2.6 billion	0	$3.25 billion	0
Net	$2.6 billion	0	($1.75 billion loss)	0
Note:	By increasing its short-term, runnable debt, bank increases illiquidity and interest rate risk.	Taxable income zeroes out, but safety muted as bank debt rises.	Safety enhanced by equity financing, but bank loses money. Investors prefer to buy the Treasuries directly.	Safety enhanced with no after-tax loss.

Mechanics of tax bite

Aiming for minimalism (but effective!) to make revenue neutrality plausible

- Simple conceptually: no deduction for interest paid
  - Very large increase in tax hit, unless other adjustments made
    - Tax rate can then be very low
    - Because base is so much wider
  - Different tax rates for corporate and financial firms
  - Taxation fluctuates with level of interest rate, rate of inflation
- Simple conceptually: no corporate tax
  - Advantage is not just that financial institutions are no longer motivated to prefer for tax deduction debt over equity
  - Corporate sector (and ind'ls via mortgages, mainly) no longer have tax-motivated incentive to prefer debt over equity. Demand for debt from financial sector will decline
- Focused, not-so-simple conceptually
  - Allowance for corporate equity.
  - Revenue neutrality: if there's full substitution of long-term debt for equity, then no impact on aggregate tax bill
  - If not full substitution, then (presumably) need offsetting taxes to compensate for tax break to financial sector
- Focused, bordering on complex conceptually, but not complex to implement
  - ACE, but only for equity above the regulatory required amount
  - Advantage: offset for revenue neutrality is much smaller
    - Illustrate with financial statements from the paper
  - BUT: implementation over time becomes complex
    - For example: What to do when the regulatory required amounts change?
    - Regulators who determine required equity also determine tax bill

Mechanics of implementation

Traditional $1 trillion bank balance sheet

Loans & investments	100B bonds at 7%
	100B short-term debt at 5%
	700B deposits at 4%
	100B equity

Traditional bank's income statement, traditionally taxed

50B	Gross operating profit (income from loans & investments)
(7B)	Bond interest
(5B)	Short-term interest
(28B)	Deposit interest
10B	Taxable profit
(3.3B)	Corporate tax
6.7B	Net profit

Income Statement with ***Basic*** ACE

50B	Gross operating profit (income from loans & investments)
(7B)	Bond interest
(5B)	Short-term interest
(28B)	Deposit interest
10B	Basic profit
(6B)	ACE at 6% of the $100B equity
4B	Taxable profit
(1.3B)	Corporate tax
8.7B	Net profit

Incremental ACE

Bank income statement with incremental ACE	
50B	Gross operating profit (income from loans & investments)
(7B)	Bond interest
(5B)	Short-term interest
(28B)	Deposit interest
10B	Pre-tax profit
(1.2B)	ACE at 6% on $20B of nonregulatory equity
8.8B	Taxable profit
(2.9B)	Taxes (at 33% of adjusted profit)
5.7B	Net profit

Defining the threshold

ACE for equity above the regulatory required amount

- Tying directly to actual required amount creates perverse incentives
  - Tax authorities want to INCREASE required equity to raise revenue
  - Banks have even stronger incentive than now to DECREASE required equity (to get a bigger ACE)
- Oddness of safety regulators determining tax bill
  - And when regulators raise required equity, they are raising banks' tax bill
    - Banks' opposition, already vociferous and frequently effective, increases
    - Regulators hesitate: raising required equity will also *damage* banks
      - By sapping of cash to IRS
      - (Also: this is an unusual delegation of taxing authority/impact)
- Best alternative: pick the level now, with a view to required equity, but keep that level fixed over time
  - Downside: Over longer run, conditions change and there's reason to change the ACE level.
  - But change will be sticky (or impossible).
    - However, tax rules/rates have this problem, generically.

Added issues

1. Corporate governance issues
   - The currently favored fixes to the corporate debt-equity imbalance will work poorly for banks
   - Major corporate governance interactions to consider
2. Best broad mechanism for offset is revenue neutral as to the financial system and least likely to drive more activity into the shadow banking system
   - First order substitution creates revenue neutrality (less long-term debt, more long-term equity, each with same tax impact)
   - But hard to estimate size of this substitution. To make revenue neutral as to financial system, tax the least safe instruments
     - Given incremental ACE, such an offsetting tax need to be huge
     - E.g., fee on repo, esp MBS repo
3. Reforming bank income taxation is superior to targeted taxes
   - Examples of targeted taxes: financial transaction fee or an excess profits fee
     - FTT: small, easily beaten, comes with costs to liquidity
     - Excess profits: a tax on equity. Exactly the wrong way to go. Britain is doing it
   - Size of impact
   - Hayek
4. Other impediments to the marginal ACE
   - One, to effectiveness
     - Arbitrage
     - Bank size
     - Unintended consequences
     - Response over time
   - Two, to political viability

Advising the real world players

- U.S. Congress
- Chancellor Osborne

Counterarguments

- Tax arbitrage
  - Subchapter M, subchapter L
  - Move into shadow banking?
    - But a major part of shadow banking is movement from taxed banks to untaxed money mkt funds, SIVs
      - Hence, the tax fix could reduce (some) existing arbitrage
      - Should reduce pernicious bank competition with the shadow, by reducing incentive to leverage
    - Much of impact should NOT move (ultimate tax take is revenue neutral)
      - Perhaps functional debt, if taxed, will move. Perhaps some activities would move back to better capitalized banks
  - BUT: if marginal equity untaxed, banks have reason to move fee-based business into the bank (and thereby turn that into a "tax-free" business)
    - Regulation still needed. Tax mechanisms to separate
    - (However, the combined entity may well still be systemically safer: the fundamental goal)
- International
  - To extent debt moves to foreign jurisdictions that accord it a continuing favorable tax treatment, this benefits the initiating country
    - Will int'l coordination be easier on tax fix than on other matters?
- Fix it all
- Politically viable?
  - Maybe not
  - But: small banks
  - Can be revenue neutral and reduce chance of taxpayer-financed bailouts
  - Congressional committee structure undermines

Conclusions

- Much safety benefit can be obtained by evening up the taxation of bank debt and equity
  - Best: entire corporate tax reform
  - Next best: bank tax reform
  - Best plausible bank tax reform: ***ACE for equity above regulatory requirements, with threshold fixed***
- Especially important:
  - 1. As command-and-control reaches its limits
  - 2. If we roll back post-2009 safety regulation

End