

The Dodd-Frank Act and Banking Industry Consolidation: A Classroom Experiment

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ABSTRACT

After introducing the Dodd-Frank Act and the costs associated with implementing the new law, this classroom experiment divides students into small teams that strategize on how to best position their bank for known increases in regulation (costs) in periods 3 of a 7 period game. Teams are divided into three categories: “Large” (for national banks) with initial assets of \$100 million, “Medium” (for regional banks) with initial assets of \$35 million¹ and “Small” (for community banks) with initial assets of \$5 million. Banks choose whether or not to merge in each period and pay (receive) the costs (payoff) associated with each decision. The winning teams (banks) are those that reach the goals listed for their bank’s asset class. Classroom discussion summarizes the outcomes after 5 periods and the impact of the regulation on the number of banks remaining, banks’ asset-size, and other market mechanisms that could arise that would minimize consolidation. Students can also discuss the future of the banking industry after in terms of customer service, the elasticity of supply of banking, and the role of community banks. The analysis can be extended to any other industry that has/will experience expensive regulation of primarily fixed cost in nature.

HANDOUTS: Student Handout 1, Student Handout 2, and Appendix A

Relevant Classes: Financial Markets and Institutions, Money and Banking, Regulation, Finance and Economics, Current Events.

INTRODUCTION

The Dodd-Frank Act is a massive piece of legislation that will drastically change the way the financial industry in the United States operates and is regulated. Though it was passed in 2010 and partially implemented in 2012, all of the changes will not be complete until the summer of 2014 (which is the anticipated date as of November 2013). This in-class experiment introduces students to the banking industry and the Dodd-Frank legislation. The experiment’s outcomes and analysis can then be used to stimulate classroom discussion on many points, including but not limited to: predicted industry consolidation, the distribution of social surplus, the effectiveness of regulation and “loopholes”, the role of community banking, and much more.

¹ Assets and Asset Size are the chosen unit of measure for simplicity. My focus is on individual bank decision making under “new” regulation and how that pertains to M&A activity and hence industry consolidation. One could use another measure – revenues or profitability but I found that both of those overly complicate the activity for the type of discussion I am seeking to motivate.

After introducing the Dodd-Frank Act and the costs associated with implementing the new law, this classroom experiment divides students into small teams that strategize on how to best position their bank for known increases in regulation (costs) in period 3 of a 5 period game.

Teams are divided into three categories: “Large” (for national banks) with initial assets of \$100 million, “Medium” (for regional banks) with initial assets of \$35 million² and “Small” (for community banks) with initial assets of \$5 million.

Banks will choose whether or not to merge in each period and pay (receive) the costs (payoff) associated with each decision. Individuals keep track of their asset gains on the sheets provided. The winning teams (banks) are those that reach the goals listed for their bank’s asset class.

Classroom discussion summarizes the outcomes after 5 periods and the impact of the regulation on the number of banks remaining, banks’ asset-size, and other market mechanisms that could arise that would minimize consolidation. Students can also discuss the future of the banking industry after in terms of customer service, the elasticity of supply of banking, and the role of community banks. The analysis can be extended to any other industry that has/will experience expensive regulation of primarily fixed cost in nature.

The experiment could also be extended to focus on subsets of the Dodd-Frank Act like its impact on derivatives desks and “plain vanilla” consumer products (the Consumer Finance Protection Act). The professor has the option to run the experiment and discuss as a class and/or have students provide written summaries of their strategies and market predictions which can then be graded for economic thought and analysis.

Handouts:

Hand out all handouts to all students (for example, do not just give “small” banks the gains tracker for “small” banks, give them the sheet for “large” banks as well). The entire experiment could be handed out to everyone but if your preference is to keep the discussion points hidden until the end, you will not want to handout page 10 (Notes to the Professor).

Students would then receive only: Handout 1, Handout 2 which includes pages 6-9, and Appendix A. It is best if students have read at least Appendix A (the Wall Street Journal Article) before coming to class. At first students will focus on just their bank’s sheet and potential “outcomes” but then they will realize that their outcomes depend on what other banks do and they will want to go back through and see where the other banks’ incentives lie. This adds a level of difficulty and robustness to the students’ analysis and projected merger plan.

You could also have students add an “expected gains/loss” row in the Gains Table which the class could then compare to the “actual” gains once the class experiment has been completed. Additional discussion could then focus on why/if the expected gains differed from the actual.

Predicted Results:

² Assets and Asset Size are the chosen unit of measure for simplicity. My focus is on individual bank decision making under “new” regulation and how that pertains to M&A activity and hence industry consolidation. One could use another measure – revenues or profitability but I found that both of those overly complicate the activity for the type of discussion I am seeking to motivate.

Several different outcomes are possible, discussion can hinge on what would need to occur to obtain the different outcomes when game is complete.

1. 2 large conglomerates - Small & Medium banks merge to form a “Large” bank with gains being equally split
2. 1 conglomerate with a few small to medium sized banks on the fringe. This occurs when the original “Large” bank acquires many small banks with the majority of gains going to “Large” bank.

The outcome depends on communication across groups, timing of regulation and number of “medium” banks assigned. The more communication students undertake, the more likely several “large” banks will emerge. When students or “banks” are isolated, and do not know with certainty what others are doing, the original “large” bank is more likely to merge with the medium and then small banks.

STUDENT HANDOUT 1: Background and Introduction to the Dodd-Frank Act

Introduction to the Dodd-Frank Act

- Dodd–Frank Wall Street Reform and Consumer Protection Act was enacted in 2010 in response to the Credit Crisis of 2008.
- Significantly changes financial regulation in the United States and is predicted to be totally implemented in the summer of 2014.
- The stated aim of the legislation is: “To promote the financial stability of the United States by improving accountability and transparency in the financial system, to end "too big to fail", to protect the American taxpayer by ending bailouts, to protect consumers from abusive financial services practices, and for other purposes.”

What did the legislators’ law claim to accomplish through this legislation (as stated by Obama in June 2010³)?

1. Consolidation regulatory agencies, and create a new oversight council to evaluate systemic risk;
2. Comprehensive regulation of financial markets, including increased transparency of derivatives (derivatives were formerly sold OTC or “over the counter” and Dodd-Frank would require them to trade on exchanges).
3. Consumer protection reforms including a new consumer protection agency and uniform standards for "plain vanilla" products like mortgages, credit cards and car loans;
4. To allow the Federal Reserve (the "Fed") to receive authorization from the Treasury to lend money to any company or agency in "unusual or exigent circumstances";
5. To improve the regulation of credit rating agencies.
6. The Volker Rule was added later to the law which prohibits banks from making certain kinds of “speculative trades (investments) that do not benefit their customers”.

To summarize the six bullet points listed above, the Dodd-Frank Act states that it will reduce the number of regulatory agencies to which banks report; but at the same time, adds an additional agency to “evaluate systemic risk”. Systemic risk can be thought of as the risk one bank poses to the entire (or majority of) the U.S. financial system. One example of how this impacts the “real world” involves commercial banking. Bankers who grant credit (loans) to businesses must now be able to report to the government agency and prove that they “made a good loan and did not take unnecessary risk”. Any loan is now subject to oversight by the OTC.

Historically, most derivative trades occurred on the OTC (“over the counter”) market. This market is characterized by both large and small or “niche” investors, hedgers and speculators. OTC markets differ from standard exchanges in that there are no pre-set specifications that must be abided by (i.e. the contract size is NOT pre-determined, the interest rate is NOT pre-determined). For example, you could purchase a foreign exchange future on an exchange but you may have to purchase in standard units of \$100,000 – so \$100,000, \$200,000, \$300,000, etc. If you only needed \$25,000 in a currency future you either don’t buy one or you are forced to

³ Summarized from the webpage of the White House: <http://www.whitehouse.gov/the-press-office/remarks-president-wall-street-reform-1>

purchase the \$100,000 contract. The contract size is not pre-specified on the OTC, as long as you can find a willing party to “take the other side” (if you are buying, then the other party is selling to you) then the two parties write their own contract and both must agree to the terms. This OTC market allows for a lot of flexibility and allows even small investors to participate.

“Plain vanilla” products refer to consumer products typically offered by banks. The big one here is mortgages because many congressman state (no proof has been provided) that individuals buying mortgages before the Credit Crisis of 2008 did not know “what they were getting themselves into”. This portion of the Dodd-Frank Act is known as “The Consumer Finance Protection Agency”. In practice, this results in a checklist that banks must complete before a mortgage is granted. One portion of this checklist includes a delay between when you initiate the mortgage process and when you can actually sign the documents for the credit underwriting to begin (3 days). All in, the Consumer Finance Protection Agency increases the number of documents signed at closing by 50-100%. If you had to read through 100 pages before, now you have to read and sign through 150-200 pages at your closing (when you actually borrow the money and take possession of the real estate).

As you can see, the language regarding the Federal Reserve is quite ambiguous. Before Dodd-Frank, the Fed could only lend money to Banks (and technically depository institutions so NOT investment banks) as a “lender of last resort” – meaning the Fed swooped in when no other bank would lend the troubled bank money. Historically, this did happen but rarely because banks avoided it at all cost because it was a signal to shareholders that the problems were really bad. After Dodd-Frank, the Fed has virtually no restrictions – it can lend any company money as long as it says the company is in “unusual circumstances”.

Regarding the last two bullet points, students should read the attached Wall Street Journal Article and summarize their predictions for the following question:

- 1. Given the nature of the regulation and the costs associated with implementing the Dodd-Frank Act, how well does the legislation accomplish its goals (if at all)?**

STUDENT HANDOUT 2 – Instructions and Information for In-Class Experiment

In this classroom experiment, we are going to focus on the costs of implementing the legislation. Because the regulation applies to all banks equally, each bank must set-up its own “Dodd-Frank Compliance” which is essentially a very large fixed cost. This largely fixed cost will effect different banks (specifically, different by size) in different ways.

Case Information:

Bank size is typically measured by “asset size” with the top 10 commercial banks in the United States having upwards of \$1 trillion in assets, the “super-regional” banks have assets between \$20 billion and \$500 billion, and “community banks” with assets less than \$500 million. We know the cost structure of the banking industry is going to change considerably under the Dodd-Frank Act. This change will affect banks in the same “size bracket” uniformly; however, across asset-size brackets the costs will decrease as a percentage of assets (or revenue) with larger and larger banks.

All banks will undergo some fixed cost that is a function of some base amount and the bank’s asset-size. This fixed cost will be higher (lower) the more departments a bank operates (research, foreign exchange, fixed-income, residential mortgages, car loans, etc.). For instance, it would be possible to avoid the fixed cost associated with residential mortgages if the bank does not offer residential mortgages – the same for Foreign Exchange. That being said, the bank also forgoes any profits from that arm of operations as well if they shut it down. Furthermore, the bank may sacrifice some “reputation credit” and competitiveness in the market place as the bank is no longer a “one stop” shop like it used to be (e.g. a customer can have all of their financial products from one lending institution: car loan, mortgage, checking and savings accounts, life insurance and more).

Directions: Each team will be allotted a bank and some corresponding details – its asset size and what the cost and revenue structures will look like before and after the Dodd-Frank Act is instituted.

At the beginning of each period, teams can submit bids to buy/merge with other banks (instructor facilitates merge and the group becomes a conglomerate earning their share of their earning for each additional period (plus what they brought into the merger).

Students summarize their overall strategy within their teams before the first round and then are able to discuss mergers and strategy with other teams once the first round begins. In periods 1-2, banks have two options:

1. Maintain the status quo, or
2. Buy or merge with another bank, in which case the total new assets would be the sum of the two merging entities but nothing additional (the idea here is that the costs of completing the merger negate any growth in the two banks asset bases in the initial “merging” period).

In the case of a merger, the two merging groups must negotiate the terms (groups continue to receive an individual payout based on their asset share for the competition). E.g. If a “medium” and “small” bank decide to merge, the “small” bank may have to “pay” the “medium” bank \$1million in assets or a “split of the growth rate” for future periods (for a 1% growth rate, Bank A gets 0.75 and Bank B gets 0.25). This would be subtracted from the “small” bank’s individual total asset tally for the class competition and added to the “medium” group’s.

Each bank may only participate in **2 mergers** per period. This is fairly standard for the industry. Given the time and resources it takes to complete a merger, two per period (year) is about the maximum a bank can sustain.

Team Goals:

Large Bank – grow assets as much as possible; graded on strategy, implementation and negotiations.

Medium and Small Banks – minimize asset losses as much as possible; competition amongst small and medium banks, graded on strategy as well.⁴

For each bank – even if you merge, keep track of your own assets separately for the duration of the game (i.e. your payoffs will continue based on your assets when you enter a merger as depicted in your asset-size category below). For instance, if you are small bank that merges with a big bank in period 1, you will have negative growth each period of -3% even though the “big bank” receives a +0.50% payoff from having merged with you. This is this case unless you negotiate some of that 0.50% away from the big bank at the time of your merger (or if they pay you in assets).

⁴ Note: The team goals are identical regardless of bank size; however, I find with young or intro students it is sometimes easier for them to understand minimizing their losses as opposed to “maximizing gains”.

Projections for large banks: If a large bank does not merge its payoff resembles the following:

Periods 1-2: Assets grow by 1%

Period 3: **Dodd-Frank Implemented** - Assets grow by 0%

Period 4-5: Assets grow by 5% IF the majority of smaller banks do NOT consolidate

Or, 2% if the majority of smaller banks DO consolidate; where consolidate is defined as being involved in at least one merger with another small bank in any of the first 4 periods.

If a large bank does merge with any of the smaller banks, its payoffs resemble the following:

1. In the period of the merger and in period 3, assets grow by 0%
2. In each period following the merger (except period 3), assets grow by whatever growth rate would have occurred without a merger +0.5% per bank acquired. The big bank can only acquire 2 smaller banks per period.

Students can use the following chart to help them keep track of their asset sizes.

	Period 1	Period 2	Period 3	Period 4	Period 5
Initial Assets					
Decide to merge? (y/n)					
+(-) asset growth in %					
Total Assets end of period					
Total Number of Remaining Banks in Class (after merger decisions are made)					

Note: Your total assets at the end of the period will be your “initial assets” in the next period. (Example: Total Assets at end of period for **Period 1** of \$1000 would show up as \$1000 in the Initial Assets row for **Period 2**).

Projections for medium and small banks: If medium and small banks DO NOT merge their payoffs are the following:

Periods 1-2: Assets grow by 5%

Period 3: **Dodd-Frank Implemented** - Assets decrease by 10%

Period 4-5: Assets decrease by 5%

If a small bank does merge with another small or medium bank (only allowed 1 per period) its payoff will be:

Periods 1-2: Assets grow by 5%-(1% in the period of the merger + 1%*number of mergers completed)

Period 3: Assets increase by -10%-(1% if new merger + 1%*number of mergers completed)

Period 4-5: Assets increase by -5%-(1% if new merger + 1%*number of mergers completed)

NOTE: At any point, if a small bank sells to the “big bank” the small bank’s assets are reduced by 1% that period reaches a constant growth rate of -3% for each subsequent period. At any point, if the total assets of a conglomerate bank reach \$100million+ the bank is classed as a “Big Bank” and will follow the projections from that point forward for a “Big Bank”. Write out each scenario to see which strategy is best for your team.

Students can use the following chart to help them keep track of their asset sizes.

	Period 1	Period 2	Period 3	Period 4	Period 5
Initial Assets					
Decide to merge? (y/n)					
+(-) asset growth in %					
Total Assets end of period					
Total Number of Remaining Banks in Class (after merger decisions are made)					

Note: Your total assets at the end of the period will be your “initial assets” in the next period. (Example: Total Assets at end of period for **Period 1** of \$1000 would show up as \$1000 in the Initial Assets row for **Period 2**).

NOTES TO THE PROFESSOR

Classroom Discussion:

1. What are the points of negotiation and how does is the asset breakdown decided for teams that decide to merge?
2. How collaborative/individualistic is your strategy?
3. How do the results change if the large bank is allowed to merge with more than two small banks per period?
4. One of the criticisms of Dodd-Frank is that it applies to chartered “Banks” and not “banking activity. What happens if there is a “loophole” discovered or a way to by-pass the costly regulation all together or in part?
5. Social welfare distribution - which participants “win” and “lose” as a result of this new legislation?
6. Can you think of other industries that have experienced a similar increase in regulation and what happened? *Reference the Clean Air Act of 1977, Smokestack scrubbers and the impacts on the coal industry. The airline industry.*
7. Is there something about the cost nature of these industries that make them more vulnerable to consolidation when costs of doing business (or regulation) increase? *Initially students may say “yes” because of large fixed costs so the big firms are more easily able to absorb the shock. However, the key is that the regulation represents a large increase in fixed costs for each firm so regardless of the industry asset bases, we would expect to observe similar results.*

Experiment Layout: For the 5 period game, I find it works best to have at least 14-15 different “banks”, of the 15 different banks the breakdown should look approximately like this:

- 1 “Big” Bank
- 3 “Medium” Banks
- 10-11 “Small” Banks

Any changes to this basic ratio of 1:3 (Big to Medium) and 1:10 (Big to Small) *can* alter the results. The more big banks you have, the more “gains” the smaller banks will get as long as collusion amongst the big doesn’t occur (in small classes it can!). The more medium banks you have, the less power the big banks will have as well and the medium-sized banks will be more likely to get together and form their own “big” bank. Ideally, you want at least a few medium-sized banks and enough small banks so they could all merge and form a big bank – this keeps competition at the “big” bank’s level for M&A activity in check.

In larger classes, extra students can all be additional “small” banks or some mix of the basic ratios above, or you can combine students to work in teams so that there are 15 banks total in the class. Note: I usually encourage the students to work with others on their strategy regardless of team size because the calculations can get tedious AND depend on what other banks are doing.

Appendix A: Wall Street Journal Article for Students to Read before Class Experiment

Banks Find Confusion in Volcker Rule

By Julie Steinberg

8 July 2013

The Wall Street Journal Europe

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The so-called Volcker rule is designed to place a buffer between banks and the risks they take, but one aspect has left broad confusion among banks, their employees and clients.

A provision in the rule, part of the **Dodd-Frank** financial overhaul passed in 2010, outlines curbs on participation in bank-run investments by directors and employees. As regulators finalize the rule, scheduled to take effect a year from now, banks are reaching widely different interpretations of what that employee-participation measure means.

At Citigroup Inc., all 257,000 employees of the bank are no longer allowed to invest alongside customers in the bank's own funds, according to a person familiar with the decision.

But at UBS AG, the bank's financial advisers can continue to make such investments, though only if they have pitched the investment first to their clients. However, UBS executives can't invest unless they have a direct relationship with the fund, said a person familiar with the Swiss bank's plans.

The discrepancies are the latest wrinkle in the final writing of the Volcker rule, which will force banks to scale back bets they make using their own capital. Banks know the broad outlines of the rule, but regulators may not issue a final version until later this year, leaving banks little time as they scramble to comply by July 2014.

The employee-participation provision -- designed to avoid a situation where banks, in the event of a crisis, rush to rescue heavily employee-invested funds, said a person involved in the rule-making process -- is causing particular consternation.

Alan Johnson, managing director of New York-based compensation-consulting firm Johnson Associates, said he has worked with banking clients frustrated with the lack of guidance on the employee-participation portion of the rule. "This is just one more thing where the rules weren't quite clear," he said. "The skeptics said it would take a long time for the rules to come out, and I guess they were right."

Typically, bank employees who meet certain wealth thresholds have been able to invest in the bank's own private-equity funds, hedge funds and "feeder funds" that allow access to private investments. Bank employees have enjoyed the potentially lucrative investment opportunity that offers. Meanwhile, many outside investors in the funds like financial firms to make their own significant investments so that managers have a vested interest in their performance.

The current provision, as outlined, says that no directors or employees can invest unless "they are directly engaged in providing investment advisory or other services" to the fund.

Banks say it isn't clear what "directly engaged" means, and regulators haven't yet provided much help. A spokesman for the Federal Reserve, one of the agencies overseeing the rule, declined to comment.

So banks are trying to figure out which of their employees are providing services to the fund, with varying results, said Michael Wolitzer, a partner at New York law firm Simpson Thacher & Bartlett LLP who has advised banks on this issue.

Some are hewing strictly to the outlines of the rule. Citigroup's prohibition on any employee investing in funds sponsored by the bank, no matter their association, could change depending on the final rule, said a person familiar with the bank's decision.

J.P. Morgan Chase & Co. is preventing its employees from investing in bank-sponsored funds unless they have a direct relationship with the funds, said a person familiar with the bank's move. That could change once the bank gets more guidance, this person said.

Morgan Stanley has told its financial advisers that if they don't have a client in the fund, they can't invest, according to a person familiar with the firm's operations. The bank also is restricting investment to those actively managing the fund, this person said.

Other firms are still figuring out their plan of attack. Wells Fargo & Co., for example, hasn't decided yet how it will comply. "We are still analyzing aspects of the rule," a spokesman said.

Some bank employees aren't happy about having to give up the investment opportunity and don't see why the issue has attracted regulatory scrutiny.

"Why in a million years would the government have a problem if senior bankers wanted to invest?" asked a managing director at UBS. "It's crazy they don't allow it, because don't you want to know that senior management is willing to invest the same as the client? There's no real logic to it."

Banks typically don't disclose the total payouts to employees from these funds, but they can be lofty. At Goldman Sachs Group Inc., for example, 2012 distributions from employee investment funds totaled \$18.7 million for Michael Sherwood, a vice chairman, according to the firm's proxy filing. A Goldman spokeswoman declined to comment on how much Mr. Sherwood initially invested or when.

Distributions to the firm's 12 top executives totaled nearly \$170 million for 2012, according to the filing.

But it isn't just top executives who would be banned from investing. Mr. Johnson of Johnson Associates estimates thousands of employees per bank would be affected -- typically managing directors who meet the wealth minimums.

Banks often take care to mention that employees are investing in the same fund as a client to telegraph that their interests are aligned. If managers have "skin in the game," the thinking goes, they will have an incentive to produce good returns and be attuned to the risks of the investing strategy. Some employees believe the rule will dilute that comfort for clients by narrowing the universe of employees allowed to make bets alongside them.

Still, as the banks await the final wording of the rule, some employees are resigned to the loss of the perk.

"I'm personally unhappy about it and I like being in some of these funds, but I don't have clients and I don't manage the funds," said one managing director at Morgan Stanley. "The law is the law."

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