

Bankruptcy, Delinquency and Debt after the 2005 Bankruptcy Law

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Abstract

Using a comprehensive panel dataset on U.S. households, we study the effects of the 2005 bankruptcy reform on bankruptcy, delinquency and debt accumulation. We find that the reform coincided with a 23% permanent drop in the bankruptcy rate relative to pre-reform level. We further document that the non-filing individuals are shifting into being persistently derogatory, which may induce additional economic strain on these households. Moreover, we show that the drop in bankruptcy and rise in delinquency is concentrated among non-homeowners and individuals with low prior credit scores, which suggests that the well documented rise in filing cost may be responsible for these patterns.

1 Introduction

This paper studies the impact of the 2005 Bankruptcy Abuse Prevention and Consumer Protection Act (the Act hereafter) on the finances and behavior of U.S. households. The Act is the single most important piece of legislation regarding personal bankruptcy regulation since the Bankruptcy Reform Act of 1978. It overhauled the eligibility, costs and filing requirements for individuals intending to file for bankruptcy protection, making regulation decidedly more pro-creditor.

Two features of the aggregate bankruptcy behavior around the introduction of the law stand out. First, in anticipation of the law, the first half of 2005 saw the highest number of filers in the history of the U.S. In the single quarter immediately preceding the introduction of the new law, nearly seven hundred thousand individuals filed for bankruptcy protection. Second, the introduction of the law was followed by what seems to be a persistent drop in the

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bankruptcy rate, which reached pre-reform levels only during the height of the most recent crisis and then immediately dropped (Figure 1). Since the Act was meant to discourage abuse, a natural question arises of whether households are indeed refraining from abusing the system or simply discouraged by the now more stringent filing requirements and costs. In the former case, we would conclude that the Act fulfills its desired role, in the latter, it would just be preventing financially distressed individuals from obtaining a ‘fresh start’ intended by the very existence of personal bankruptcy provisions.

A large literature following the Act’s introduction studies its effects on the composition of the cohorts of bankrupts, mainly basing the findings on surveys of bankrupts or bankruptcy courts data. In a leading study, Lawless et al. (2008) use the 2007 Consumer Bankruptcy Project to document the changes in the characteristics of bankrupts when compared with data from similar studies in 1981, 1991 and 2001. They find that the the Act did not change the income composition of bankrupts but increased their in-bankruptcy debt and the length of time before filing. Their conclusion is that at least one of the heralded goals of the law - discouraging wealthy individuals from filing - did not work out as planned. One limitation of that and other studies is that it focuses solely on the bankrupt sample, and hence is not equipped to investigate what happened to the ‘missing’ bankrupts, i.e. the missing number households who would have applied were the bankruptcy rates to continue at pre-2005 levels.

This paper is the first analysis of the full effects of the 2005 Act which provides a systematic analysis of filers and non-filers across time. In particular, using a large panel dataset of U.S. households’ credit files from 1999 to 2013, we are able to observe the drop in bankruptcies and the changing characteristics of bankrupts, as well as the behavior of financially distressed individuals who post-2005 decide not to file for bankruptcy. Hence, we are the first to be able to answer the question of where the now non-filing individuals end up: paying off their debts or in even bigger financial distress.

In work to date, we find striking regularities in terms of the behavior of U.S. households post-2005 Act. First, we document a significant and persistent drop in the bankruptcy rates starting exactly in the quarter following the introduction of the Act. We show that this drop is concentrated among non-homeowners and individuals with low prior credit scores, which interpret as a proxy for low-income individuals. Second, we show that the drop in bankruptcy filings is associated with a large increase in the number of households who are delinquent or derogatory. Both the drop in bankruptcy rates and an increase in delinquency rates are very persistent. For example, if we take the average household who shows a delinquency pre-2005, and compare it to the average such household post-2005, the fraction of these households who end up in bankruptcy (with no foreclosure) 12 quarters later drops 2.6%

to 2%, while the fraction of these households who end up in delinquency of any kind 12 quarters ahead rises from 12.8% to 14.9%. At the same time, the fraction of households who have clean records 12 quarters later drops from 71.6% to 68.2% (Figure 3). These numbers are consistent with the interpretation that the households who would file pre-2005 are now pushed into persistent delinquency and are not really able to pay off their debts. One rationale for such outcome would be the impact of the increase of financial cost of filing implied by the Act. Several authors have emphasized the dramatic increase in the filing fee and filing requirements and the associated increase in lawyer fees and overall financial cost of filing, reporting average increases in excess of 50% (Jones (2008), Lupica (2010), White (2007)). Our findings that low credit scores and non-homeowner households - which are usually lower income households - are the most affected by the new law is consistent with this rationale.

In ongoing work, we are pursuing several additional avenues which address, from the perspective of the 2005 Act, questions about the financial fate of filing and non-filing individuals, as well as the driving forces behind bankruptcy and delinquency in the data. Some of these include:

- Questions about the the composition and level of debt of filing and non-filing individuals in financial distress. Are the persistently delinquent individuals paying off their debts or actually accumulating more debt? Are they cut off from new credit relative to the bankrupts or vice versa? How much does the persistently delinquent household's situation have to deteriorate in order for them to file (if they ever file)?
- What is the effect of persistent delinquency versus bankruptcy on the evolution of individual credit scores.
- What leads individuals to bankruptcy? In particular: Are individuals staying delinquent longer before filing? Are they filing with larger amounts of debt or more credit lines in delinquency? How does that compare to those who never file but stay delinquent?
- Questions about identifying our mechanism by exploring the geographic variation in filing cost increases and labor market shocks, combined with location information of our individuals.

Below, we provide a short overview of the bankruptcy law in the U.S., including the changes implied by the Act. Then we provide a description of the dataset we use for our analysis, and describe our findings. We conclude by sketching ongoing work.

2 Bankruptcy Law in the US

Households in financial distress in the U.S. have two main options of resolving their problems through bankruptcy: Chapter 7 and Chapter 13 bankruptcy. Upon filing, debtors obtain immediate relief from all collection efforts, including direct communication, lawsuits and wage garnishment. Most unsecured debt is dischargeable under either chapter, excluding most taxes, alimony and child support obligations, student loans and debt obtained by fraud.

Chapter 7, usually called ‘straight bankruptcy’ or a ‘fresh start’ option, is the most commonly used procedure for bankruptcy - up to 2005 a remarkably stable 70% of bankruptcies were Chapter 7 bankruptcies. Under Chapter 7, filers submit a list of all their assets to the courts. The part of the assets which exceeds certain exemption levels¹ is then used to satisfy unsecured creditors. The rest of the debts are discharged, and debtors are not obliged to use future income for debt repayment (hence ‘fresh start’). Chapter 7 bankrupts are not allowed to re-file another Chapter 7 case for the next 6 years (increased to 8 by the 2005 Act), and have a bankruptcy flag on their credit report for 10 years after filing.

Under Chapter 13, bankrupts keep all of their assets, but must use their future income to repay part of their unsecured debt². Debtors propose their own repayment plans (pre-2005, post-2005 they must use all of their law-defined disposable income to pay off debts) lasting 3-5 years, with the restriction that the total proposed repayment cannot be lower than the value of their non-exempt assets under Chapter 7. A Chapter 13 bankruptcy flag stays on the credit record for 7 years after filing.

Historically, ever since the introduction of the bankruptcy law as we know it, both unsecured debt levels and bankruptcy rates have been rapidly rising over time (Figure 1, the trend extends all the way back to 1978), which gave rise to numerous studies on the sources of the rise³, as well as active policy discussion on the efficiency of existing law. That discussion

¹Asset exemptions are determined at the state level. Exempt assets may include clothing, furniture, ‘tools of trade’, a vehicle up to some value. Additionally, most states have homestead exemptions, which protect equity in the house up to a state-level specified limit.

²More debts are dischargeable under Chapter 13 than Chapter 7, including some car loans and debts incurred by fraud or cash advances shortly before filing (the so called ‘super discharge’)

³Including Athreya (2002), Domowitz and Eovaldi (1993), Domowitz and Sartain (1999), Gross and

resulted in the passing of the 2005 Act, the main provisions of which we discuss below.

2.1 The 2005 Act

The BAPCPA was signed by president George W. Bush on April 20, 2005 and applied to bankruptcy cases filed on or after October 17, 2005. It introduced several major changes to bankruptcy regulation which increased the burden, financial and otherwise, of filing for bankruptcy protection. Among the most notable new features are the introduction of an income ‘means test’ which determines eligibility for filing for Chapter 7 bankruptcy; the abolishment of the possibility of filers to propose their own Chapter 13 plans; and a significant increase in the filing documentation burden, which drove up the cost of filing significantly (Jones (2008) reports an average increase in lawyer fees alone of 50%).

The feature of the new law we highlight in this paper is the increased financial cost associated with filing. Among the newly introduced provisions, the Act requires debtors to enroll in a credit counseling class before they file and a financial management course before their debts are discharged. They must file detailed financial information with the bankruptcy court, essentially showing proof of sufficient indebtedness and inability to pay, as well as good faith attempts at paying back. Bankruptcy lawyers must certify the accuracy of the information, with strict fines for inaccuracies. By some estimates, the total out-of-pocket cost of filing for bankruptcy increased from \$600 and \$1600 for Chapters 7 and 13 to \$2500 and \$3500, respectively (White (2007), other studies confirm these findings, e.g. Lupica (2010)).

3 Results

Below, we briefly describe the dataset used for our study, and then report our empirical findings on the paths of households to bankruptcy, delinquency or repayment before and after the introduction of the new law.

3.1 Data

We use the Federal Reserve Bank of New York’s Consumer Credit Panel (CCP) data, which is of a longitudinal panel of individuals on quarterly frequency, starting in 1999:Q1 and ending in 2013:Q3. The panel includes all individuals who have a credit report with Equifax. (See

Souleles (2002), Fay, Hurst, and White (2002), Livshits, MacGee, and Tertilt (2007), Livshits, MacGee, and Tertilt (2010)

Lee and van der Klaauw (2010) for details.) In most of the analysis, we use a 5% sample from the database, including information on approximately 40 million individuals in each quarter.⁴

The data contains over 600 variables⁵, allowing us to track all aspects of individuals' financial liabilities, including bankruptcy and foreclosure, mortgage status, detailed delinquencies, various types of debt, with number of accounts and balances. Apart from the financial information, the data contains individual descriptors such as age, ZIP code and credit score.

3.2 Findings

To understand the dynamics of bankruptcy and delinquency behavior, we compute the paths of behavior of individuals in our dataset, given initial conditions. This approach uses to the full extent the panel nature of our data - we can track where each individual ends up at different horizons, given her initial financial condition. This gives rise to a set of Markov transition matrices (one for each quarter) which describe the evolution of our population over time.

Specifically, we compute transition probabilities based on frequency distributions of individuals, for a set of mutually exclusive delinquency states. In any given quarter, an individual's state is Current, if there are no delinquencies of any type in her record for that quarter, and no bankruptcy or foreclosure flags. An individual's state is Delinquent, if she has accounts that are 30, 60 or 90 days delinquent. An individual's state is Derogatory if she has accounts that are 120 days plus delinquent, accounts in charge-off or in bankruptcy. An individual is in foreclosure, if she has a foreclosure flag and she is in bankruptcy if she has a bankruptcy flag. The foreclosure flag is activated by a new foreclosure record on the individual's account, and lasts for 7 years from its first appearance. The bankruptcy flag is activated by a new bankruptcy record (voluntary or involuntary, both Ch.7 and Ch. 13) and lasts for 10 years after its first appearance.

This yields the following set of mutually exclusive states: Current, Delinquent Only (Delinq in figures), Derogatory Only (Derog), Delinquent and Derogatory (Del &Der). These states can occur with no foreclosure (NF) or with foreclosure (YF) if an individual is not in

⁴The results presented here are based on smaller 0.1% and 1% samples. Since the results coming from these two are qualitatively and quantitatively similar to each other, we conjecture that the full 5% exercise will yield identical and even more robust findings. We reserve that analysis for the final version of the paper.

⁵For data dictionary, go to http://www.newyorkfed.org/householdcredit/2013-q3/data/pdf/data_dictionary_HHDC.pdf.

bankruptcy (NB). Alternatively, an individual can be in bankruptcy (YB), with or without a foreclosure flag, leading to a total of 10 possible states.

To examine the effects of the bankruptcy reform, we estimate the 1-quarter-ahead transition probabilities across these states for each quarter in the sample, and use them to conduct simulations of 4, 8 and 12 quarter ahead transitions. We first consider these transitions for the overall population.

Figure 2 displays the four-quarter-ahead probability of being in each state for an individual who is currently Delinquent NB NF⁶. Quarter 1 in the figure is 1999:Q2, and Quarter 58 is 2013:Q3. The vertical line corresponds to the first quarter of implementation of the 2005 bankruptcy reform. The top row corresponds to states with no foreclosure, the bottom row to the states with foreclosure. There is a clear discontinuity in the transition probabilities before and after the 2005 reform. Specifically, conditional on no foreclosure, there is a sharp rise in the probability of derogatory accounts (about 5 percentage points), a marked decline in the probability of becoming current (about 10 percentage points), and a decline in the probability of bankruptcy (from about 1% to about 0.7%). Conditional on foreclosure (bottom row), there is a sharp rise in the probability of derogatory accounts, and a rise in the probability of being current, as well as a rise in the bankruptcy rates, though the probability of transitioning into these states from the starting point (delinquent only accounts with no foreclosure) is very low.

The overall pattern in Figure 2 is that post-reform, individuals transition in 4 quarters much less into bankruptcy and being current, and more to delinquent and derogatory states. To capture the average post- and pre-reform behavior of individuals, we compute the mean transition probability matrix for 1999:Q2-2005:Q1 and separately for 2006:Q2-2013:Q3. Hence we cut out 1 year around the bankruptcy introduction, and look at the average dynamic behavior of the pre- and post-reform individuals. This allows us to compute the average pattern at different horizons, when we start a representative individual in the same state in the pre- and post- sub period.

The results for individuals starting in the Delinquency NB NF state are displayed in figure 3. The horizontal axis corresponds to the transition horizon in quarters. Conditional on no foreclosure (top row), the figure shows a sharp rise in the probability of having derogatory accounts, a decline in the probability of having all accounts current and a 25% decline in the

⁶Delinquent NB NF, Current and in bankruptcy are the three most populous states in the data. The transitions for all initial conditions look qualitatively similar to Figure 2. We view Delinquent, which includes relatively minor delinquencies, as the most relevant state for our evaluation. It captures individuals who are potentially at the start of financial turmoil.

bankruptcy rate. There is also a sizable rise of the probability of transitioning into foreclosure (bottom row), both with Delinquent and Derogatory, and Delinquent and Derogatory states. However, conditional on foreclosure, there is a higher probability of having all accounts current and a higher probability of bankruptcy after the reform.

One plausible explanation for the difference in behavior of households with and without a foreclosure flag in Figure 3 is the effect of the 2007-2009 housing crisis and the resulting financial crisis. To partially distinguish the effects of the crisis from the effects of the law, we perform the same analysis distinguishing between homeowners and non-homeowners. Specifically, we split the sample into "Current homeowners" and "Current non-homeowners." Current homeowners are individuals that display any type of real estate debt in the current quarter, whereas current non-homeowners do not have any type of real estate debt on their records in the current quarter. Real state debt includes first mortgages and home equity lines of credit.⁷ The results for this categorization are presented in Figures 4- 7.

The pattern emerging from our homeownership status is that these two sub-populations exhibit sharply different behavior in the post-reform period, which we conjecture is due to the effect of the housing crisis. In particular, for our homeowner population, there was a sharp drop in four-quarter ahead bankruptcy rates immediately after the reform, followed by a dramatic increase in essentially all bankruptcy, delinquency and foreclosure categories (Figure 4). This is a clear indication of the impact of the housing crisis on these individuals. As a result, on average, we see no effect on bankruptcy rates with no foreclosure of the 2005 reform (top row of Figure 5), but we do see increases in delinquency, and especially delinquency and bankruptcy combined with foreclosure (bottom row of Figure 5).

Moving on to our non-homeownership population, the picture is dramatically different. For the non-homeowners who start in Delinquent NB NF, the bankruptcy rate drops immediately after the reform and stays permanently lower, showing a bump due to the financial crisis and then an immediate drop, from pre-2004 level of 1.2% to 0.6%, a 50% decrease (Figure 6). At the same time, the Current NB NF category falls sharply and the Derogatory NB NF category rises, suggesting the non-filing individuals end up with severe delinquencies. Our non-homeowners can have foreclosures, but the frequency numbers are essentially zero

⁷Of course, in the population there may be some homeowners who do not have any real estate debt. These could be individuals wealthy enough to be able to purchase a home without credit, or individuals who repaid their real estate loans before the data was collected. So our definition of homeowners does not capture the full universe of homeowners in the population. Additionally, the non-homeowners may be negatively selected, as this group will include individuals whose credit history is too short or whose credit score is too low to qualify for a mortgage.

(bottom row of Figure 6). The average pre- and post-reform behavior is presented in Figure 7. The most striking feature of that figure is the enormous drop in bankruptcy rate, both with and without foreclosure. Where do these non-filers end up? In the derogatory category, with an increase of about 5 percentage points in the frequency of being Derogatory NB NF 12 quarters ahead, accompanied by a drop in the fraction of households that end up being current (top row of Figure 7).

Figures 4-7 clearly show that the decline in the bankruptcy rate post-reform only affects the non-homeowners, according to our definition. Since this group is negatively selected, we also estimate transition probabilities by credit score, to gauge robustness and further understand the determinants of the decline in bankruptcy rates post-reform.

We divide the sample into three groups. The first comprises individuals in the bottom 20% of the credit distribution in a given quarter, the second group comprises individuals in the 40-59% of the credit score distribution, and the third group individuals in the top 20% of the credit score distribution. To avoid joint endogeneity concerns, we rank individuals based on the credit score at $t - 4$ when estimating the transition probabilities between t and $t + 1$.⁸

The results, presented in Figures 8-13, indicate that the permanent downward shift in the 4-quarters ahead bankruptcy rates is concentrated in the lowest quintile of the credit score distribution (top rows of Figures 8, 10 and 12). In the bottom quintile, the households which start in Delinquent NB NF, most likely end up derogatory, and the frequency of that transition rose from about 38% pre-reform to around 45% post-reform, rising immediately after the reform. In the middle and top quintiles, both the derogatory and bankruptcy transition frequencies are clearly linked to the crisis, with both rising much later in the sample. The average behavior across horizons in Figures 9, 11 and 13 reinforces these findings. We observe a drop in the bankruptcy post-reform only in the bottom quintile of the credit score distribution, with the higher quintiles showing an increase. The determination of where these individuals end up is harder to determine and clearly affected by the mortgage status. Generally, individuals in the bottom quintile of the credit score distribution who start in Delinquent NB NY state seem to be transitioning more to foreclosure states rather than pure bankruptcy states. This calls for a homeownership *and* credit score classification, which we are in the process of constructing using a larger sample of the data.

⁸We also estimate versions in which the ranking by credit scores is performed at $t - 2$ and t for the transition between t and $t + 1$. The results are very robust to these alternative rankings.

4 Work in Progress

Our initial analysis in Section 3.2 indicates that an overwhelming portion of the drop in bankrupts is accounted for by an increase in the severely delinquent individuals. Hence, the law seems to have pushed individuals from bankruptcy into long-term delinquency. This finding naturally calls for more empirical analysis, addressing questions as to the detailed financial fate of the persistently delinquent individuals, as well as the driving forces behind bankruptcy and delinquency before and after the 2005 reform, and the robustness of our results. Below, we outline some of the major questions we are addressing in ongoing work:

Debt Relief One of the main ideas of allowing bankruptcy of individuals is to provide relief from debt and collection efforts by the creditors. The idea is that maintaining an individual persistently burdened with bad debt is more costly to the society than forgiving his debts altogether and offering him a fresh start. In this extension of our results, we ask about the debt level and its composition of individuals who file for bankruptcy and those who do not file but stay persistently in delinquency. Are the persistently delinquent individuals paying off their debts or actually accumulating more debt? Are they cut off from new credit relative to the bankrupts or vice versa? How much does the persistently delinquent household's situation have to deteriorate in order for them to file (if they ever file)?

Creditworthiness In this set of results, we compare the evolution of the credit score, which is supposed to capture the industry's belief about a household creditworthiness, in the cohort of bankrupts versus the persistently delinquent households pre- and post- bankruptcy reform. Credit scores nowadays are a common way of evaluating an individual not only for new credit but for job applications, apartment rental applications, etc. This exercise is intended to capture the effect of pushing people away from the bankruptcy option on the opportunities they have in real life, both in terms of opening new credit lines and otherwise.

What Leads to Bankruptcy This exercise investigates whether the Act changed the manner in which individuals fall into financial distress and end up in bankruptcy. Our results suggest that individuals are either avoiding or are unable to file for bankruptcy after the introduction of the Act. The type of questions we address in this set of results which shed light on this process are: Are individuals staying delinquent longer before filing? Are they filing with larger amounts of debt or more credit lines in delinquency? How does that compare to those who never file but stay delinquent? The literature suggests some of the

answers pertaining to the bankrupt population. Lawless et al. (2008), which uses the court-level and questionnaire data to study the bankrupt population, find very extremely modest effects on the income composition of bankrupts, while larger effects on the total debt of bankrupts as well as time struggling before filing. We complete this characterization by looking at the overall U.S. population representative sample, not just the bankrupts. In particular, we can also tract people who in principle chose to remain delinquent without filing for bankruptcy (Dawsey and Ausubel (2004)).

Robustness: Geographic Variation To identify the mechanism through which increases in filing costs result in lower bankruptcy rates and higher delinquency rates, we combine the location information of individual contained in our data (ZIP code level) with additional data on the geographic variation in the rate of increase of the costs as well as geographic variation in labor market shocks.

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Figure 1: Total Quarterly Bankruptcy Filings.

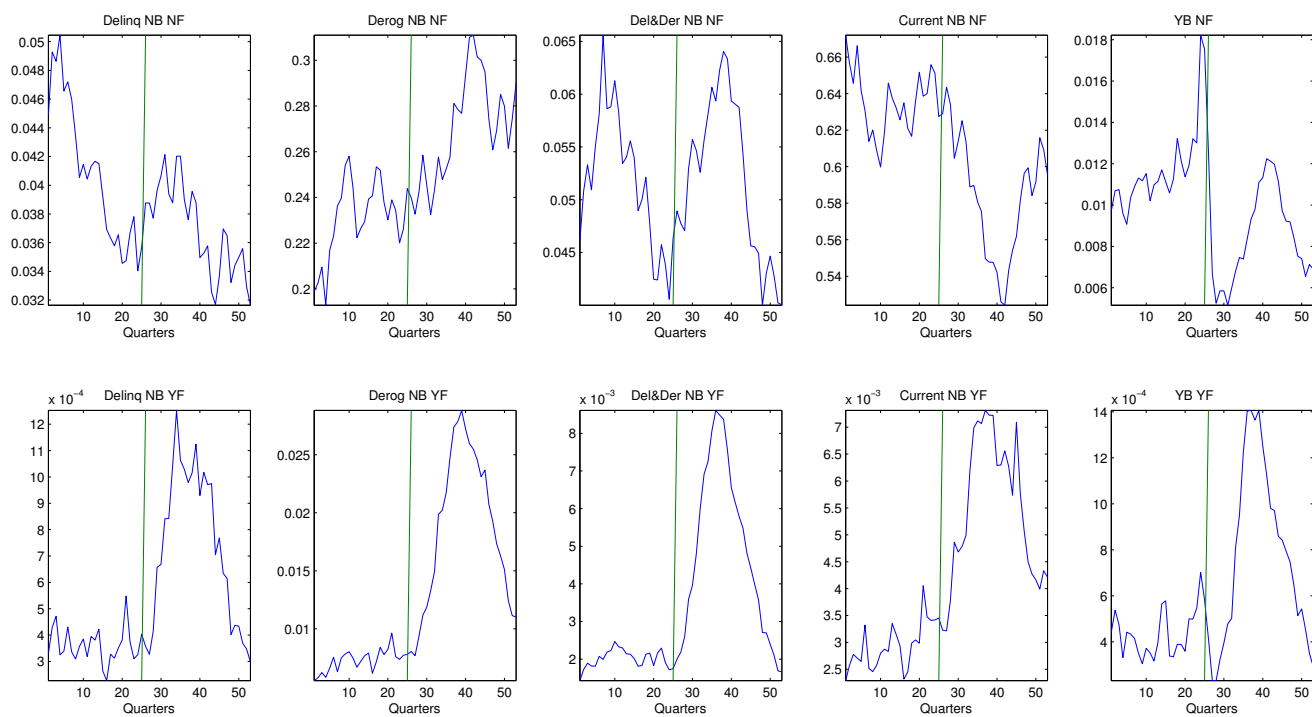


Figure 2: Four quarter ahead transition probability from Delinquent NB NF. All.

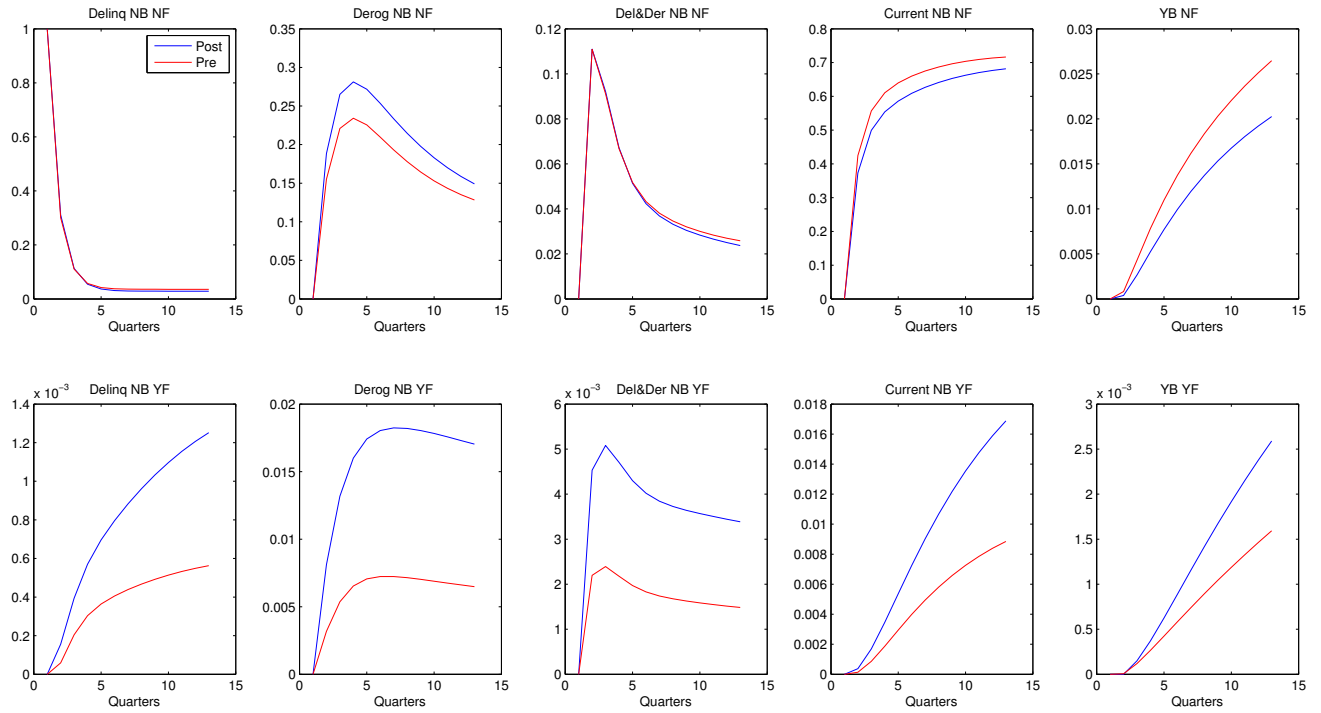


Figure 3: Transition probabilities from Delinquent NB NF by horizon, pre- and post-reform. All.

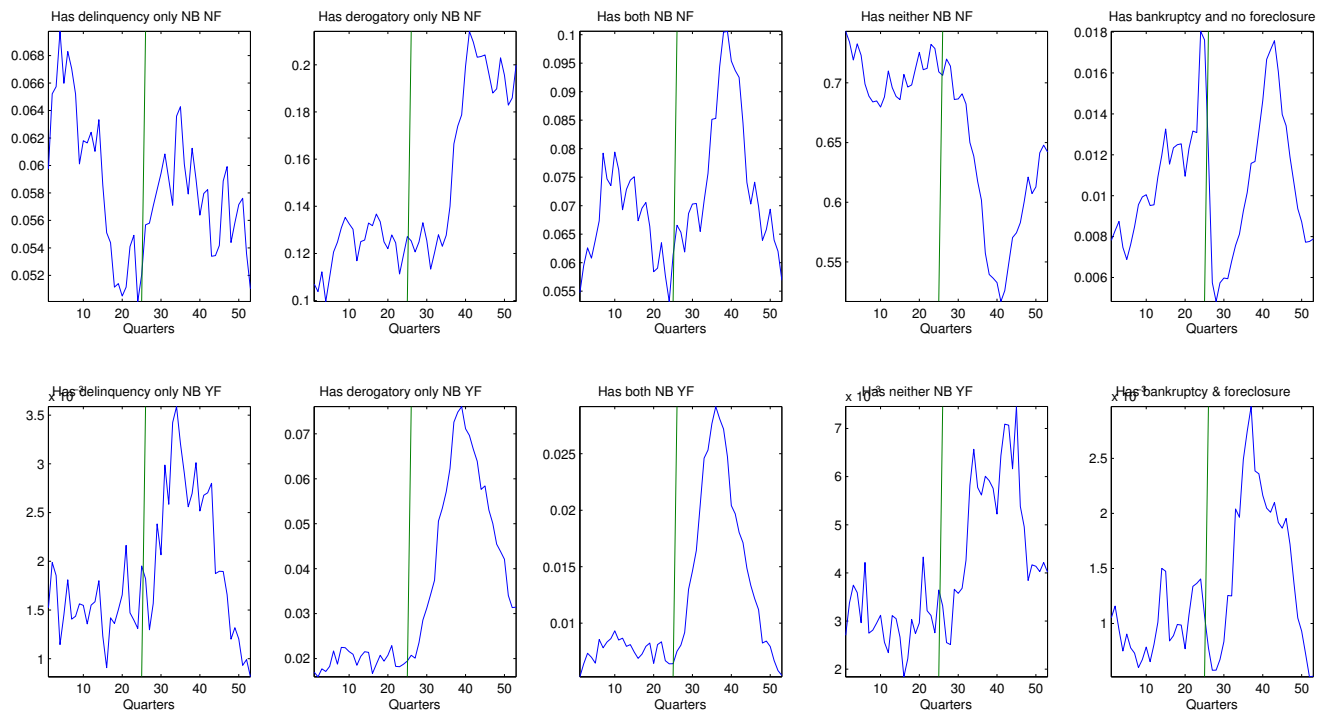


Figure 4: Four quarter ahead transition probability from Delinquent NB NF. Current homeowners.

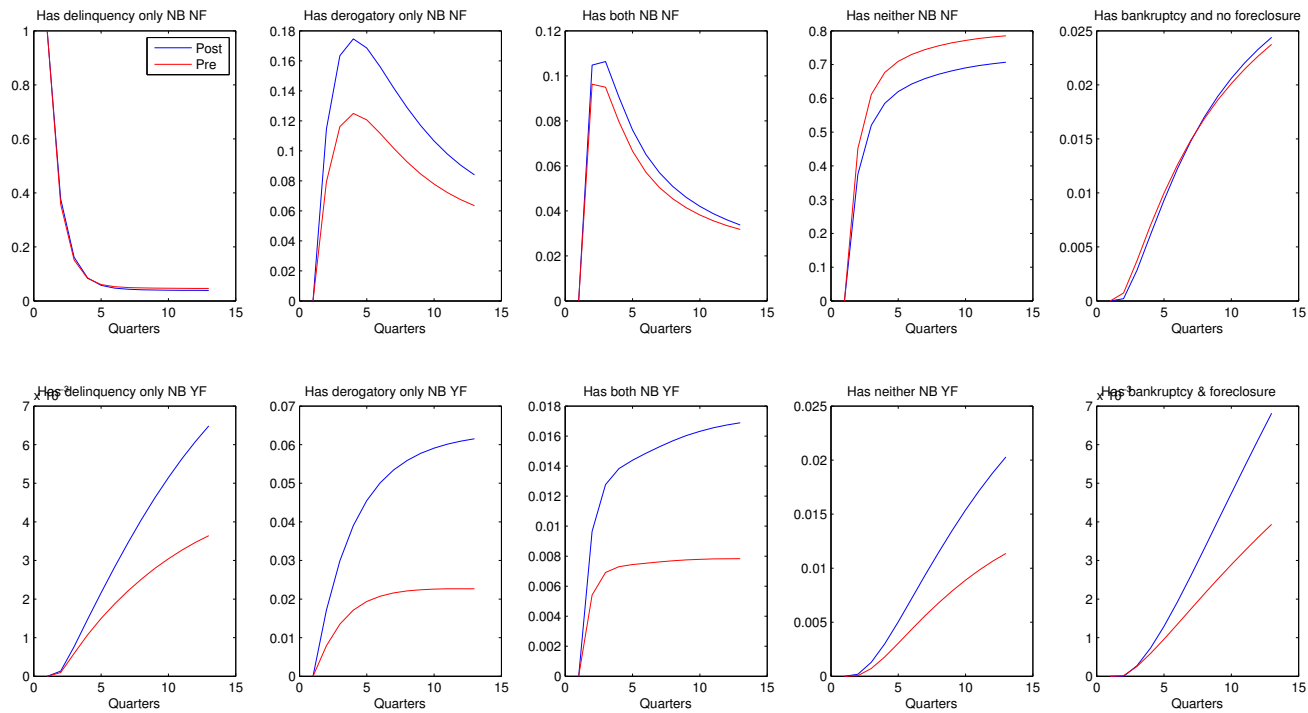


Figure 5: Transition probabilities from Delinquent NB NF by horizon, pre- and post-reform. Current homeowners.

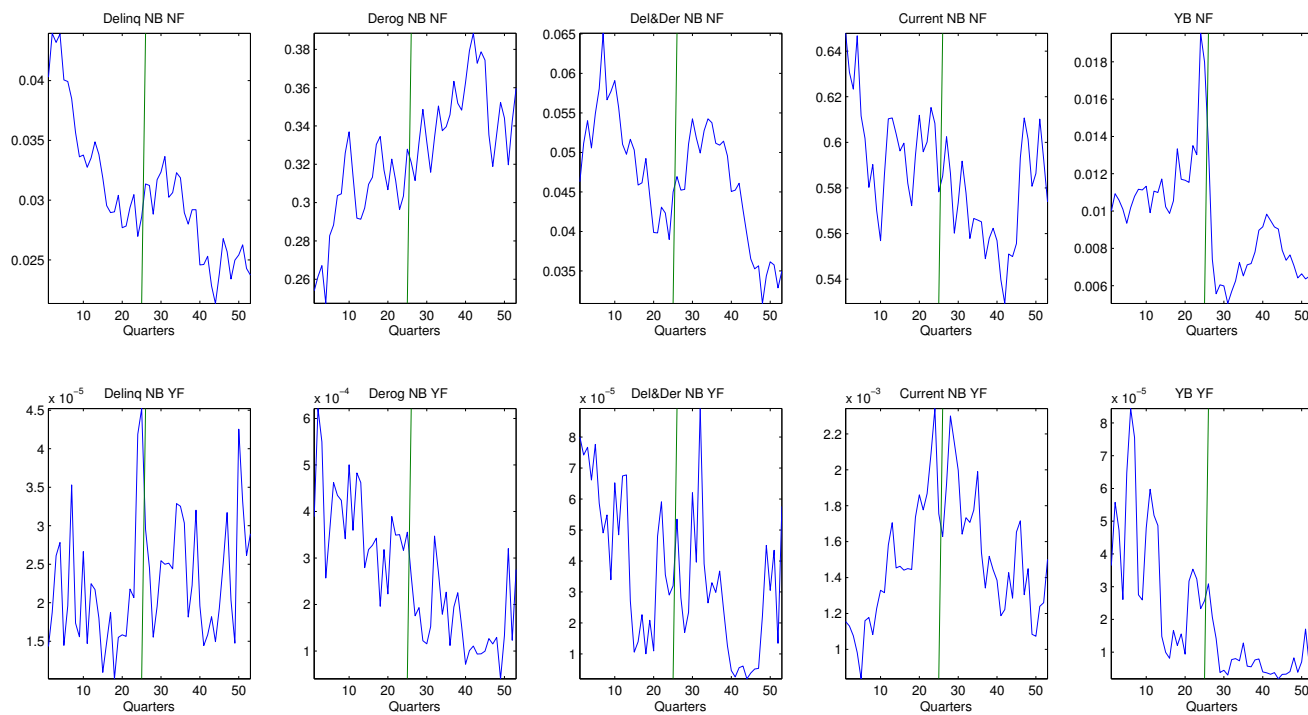


Figure 6: Four quarter ahead transition probability from Delinquent NB NF. Current non-homeowners.

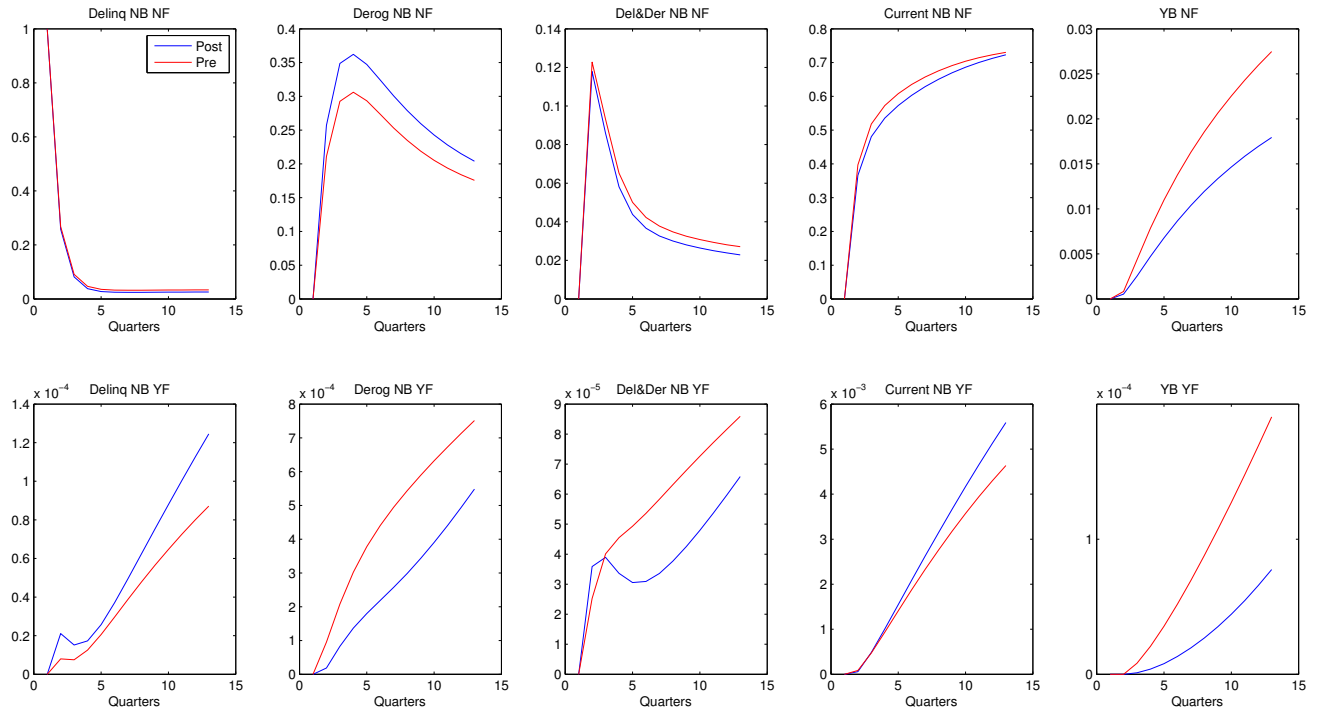


Figure 7: Transition probabilities from Delinquent NB NF by horizon, pre- and post-reform. Current non-homeowners.

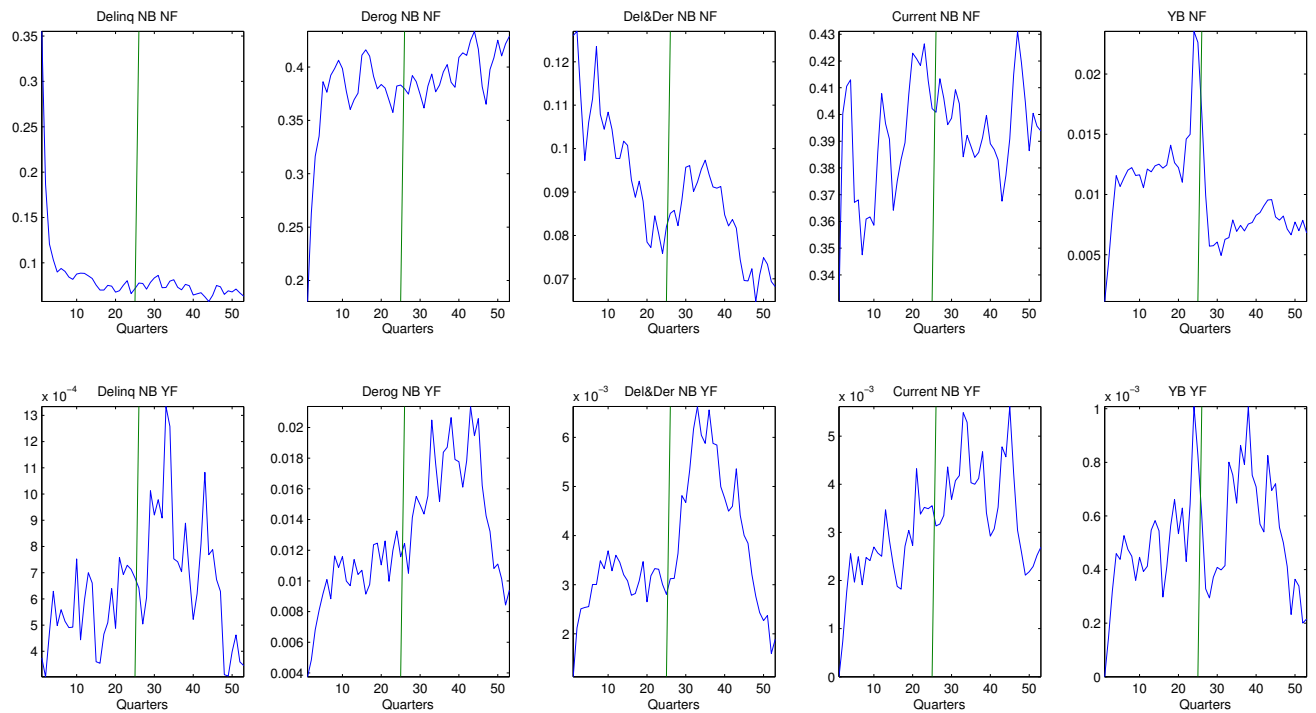


Figure 8: Four quarter ahead transition probability from Delinquent NB NF. Bottom 20% of the credit score distribution.

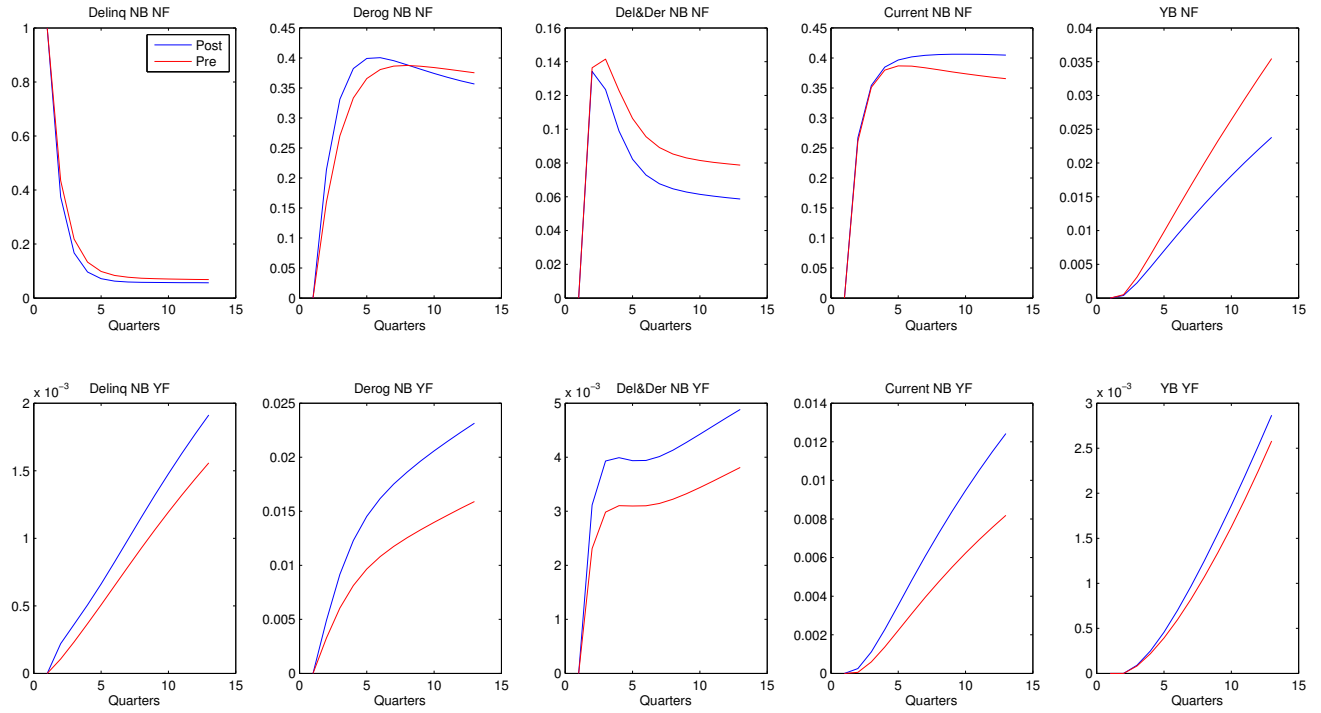


Figure 9: Transition probabilities from Delinquent NB NF by horizon, pre- and post-reform. Bottom 20% of the credit score distribution.

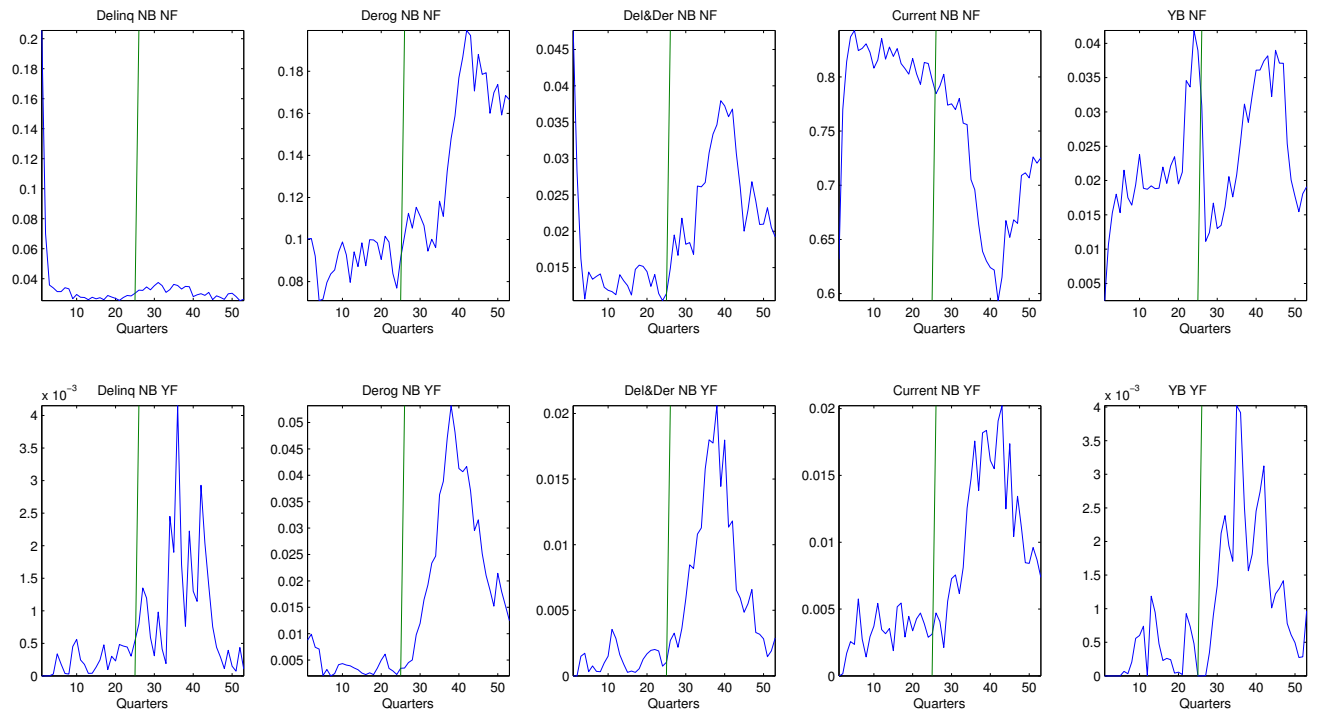


Figure 10: Four quarter ahead transition probability from Delinquent NB NF. Bottom 40-59% of the credit score distribution.

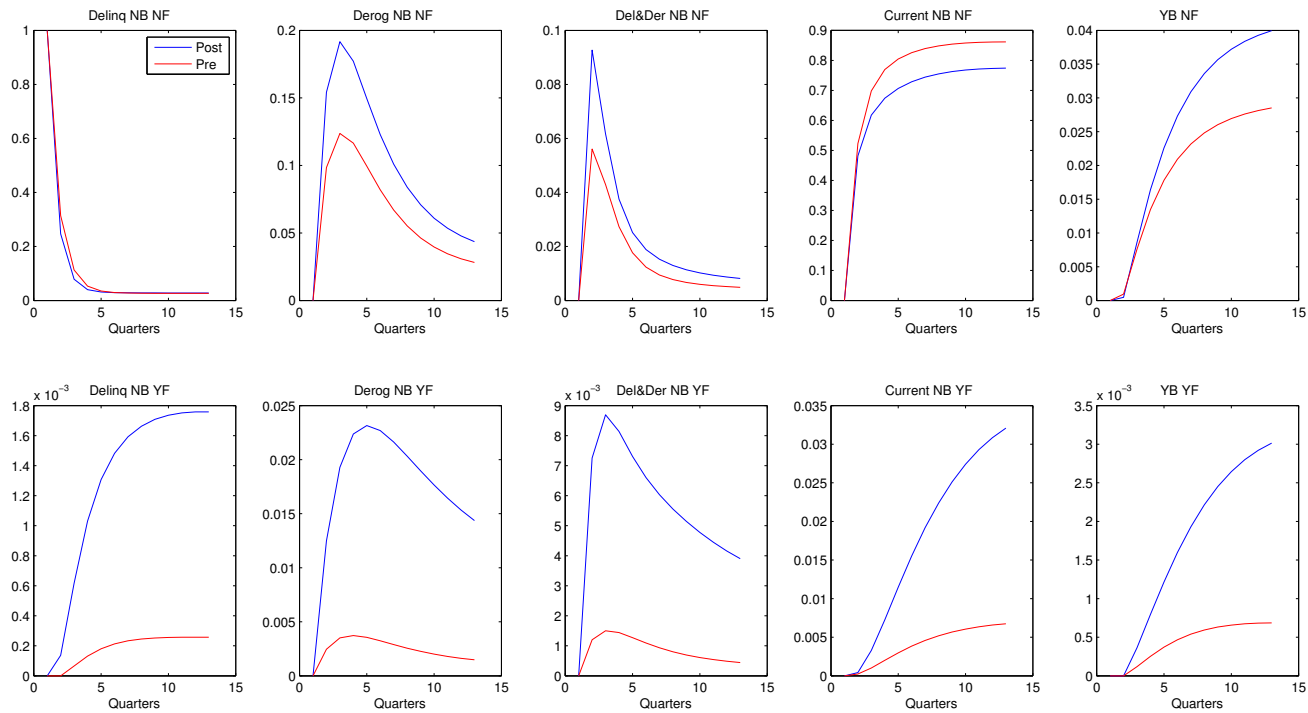


Figure 11: Transition probabilities from Delinquent NB NF by horizon, pre- and post-reform. 40-59% of the credit score distribution.

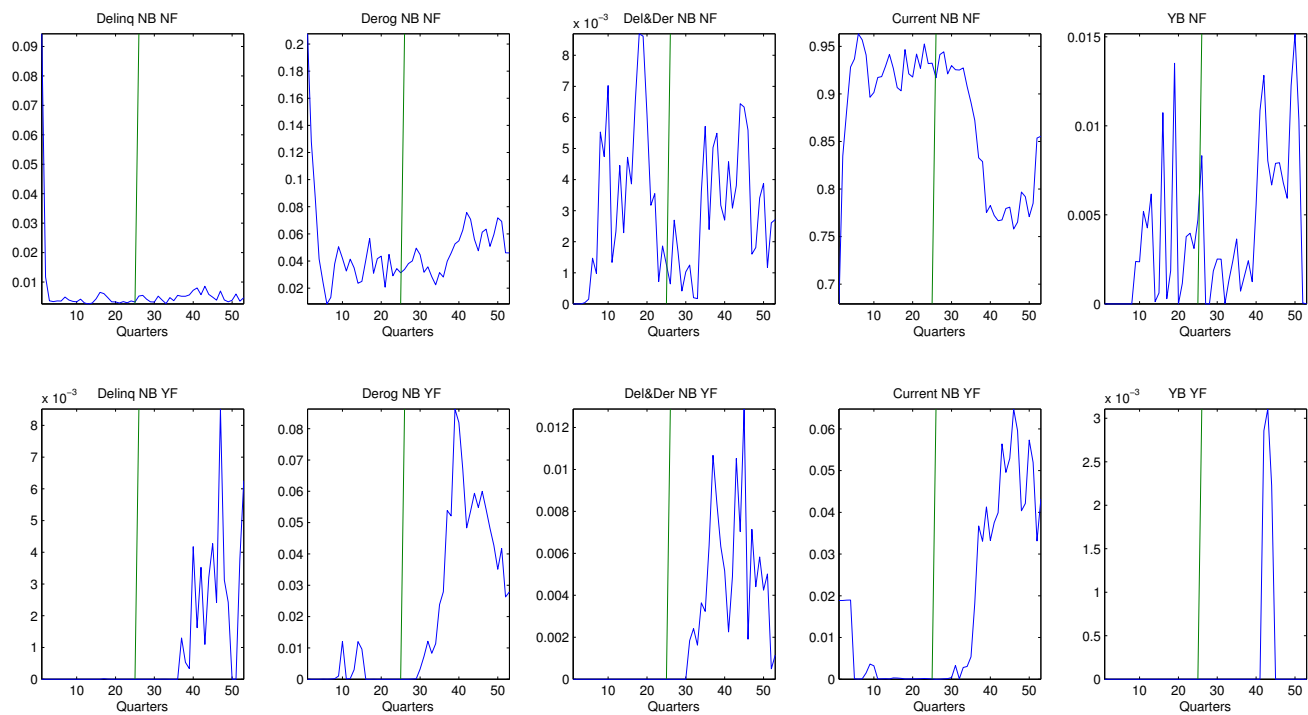


Figure 12: Four quarter ahead transition probability from Delinquent NB NF. Top 20% of the credit score distribution.

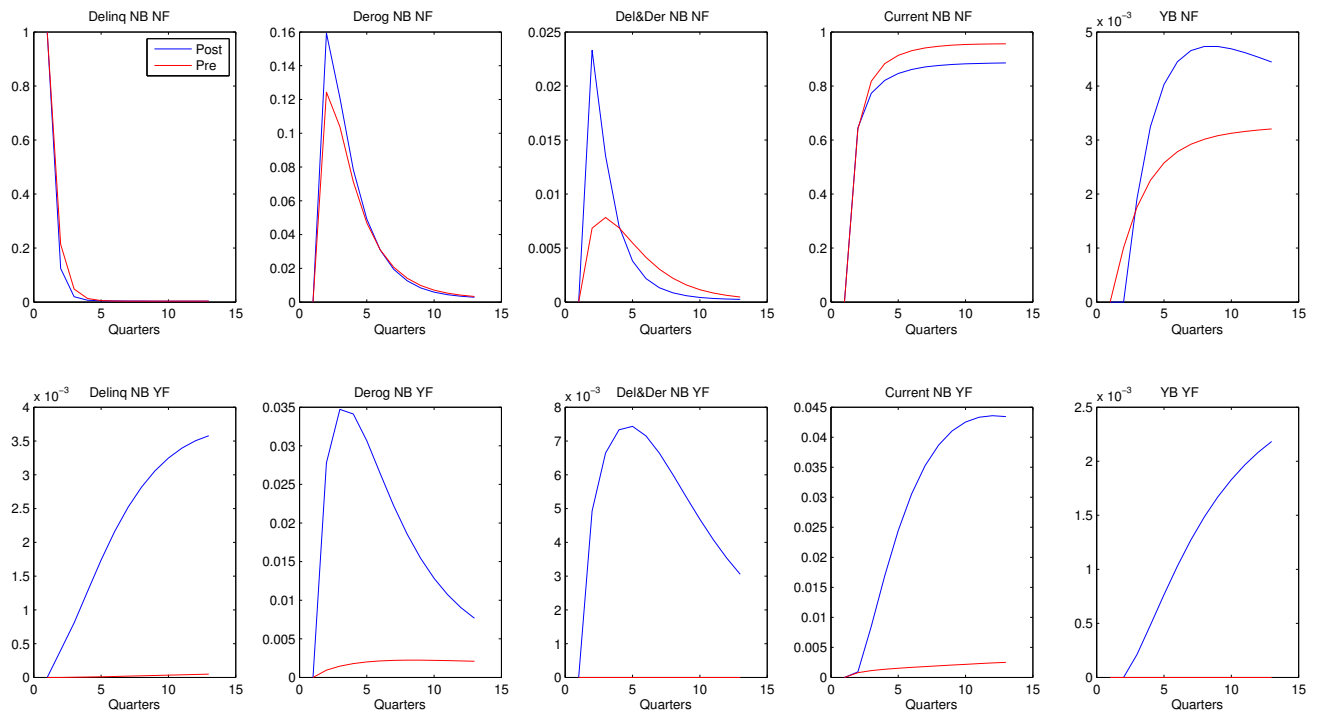


Figure 13: Transition probabilities from Delinquent NB NF by horizon, pre- and post-reform. Top 20% of the credit score distribution.