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## Banking Deregulation and Growth: A Reappraisal

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# US Banking Deregulation and Growth: A Reappraisal

very preliminary

## **Abstract**

This paper builds on a large literature that has exploited the experiment of US bank branching and inter-state banking deregulation since the 1970s as a natural laboratory that allows to study the real effects of liberalization and financial integration. Whereas most of the literature presented sizable effects of intra-state deregulation on a wide range of economic outcomes, interstate deregulation has generally been found to be much less important. Exploring the interaction between financial development, financial integration and long-term growth we suggest that it is the state-specific chronological order between inter-state banking and intra-state branching deregulations that has interesting implications for the patterns of growth and industrial structure. On the one hand, intra-state branching deregulation was especially important in states that had not yet deregulated their interstate banking regime and for the manufacturing sector. On the other hand, abolishing inter-state banking restrictions had a pronounced effect in states that integrated prior to intrastate branching deregulation and for the financial sector.

# 1 Introduction

Bulky pre-crisis literature commonly shows that financial systems and economic growth are positively related: more financially developed countries or regions grow faster than their counterparts.<sup>1</sup> However, following recent financial crisis the broad support for the positive finance-growth nexus has become more wobbling. Masten et al. (2008); Arcand et al. (2015); Cecchetti and Kharroubi (2012) and many others argue that financial development benefits economic growth only to a certain threshold. Crossing such a threshold entails negative economic prospects, so that “too much finance” may hinder growth.

While theory provides concrete measures of financial development, its concepts are often difficult to implement using available real world data. The way of measuring the degree of financial depth is thus paramount in studies on finance-growth nexus and is also crucial in finding positive or negative effect. On the one hand, researchers differentiate between two different components of financial system—stock markets and banks—and generally assess the role which one of them plays in economic growth. On the other hand, since rule-based measures of financial development/liberalization are rather rare, most authors resort to outcome-based measures that reflect two broad aspects of financial development or liberalization: the size of financial intermediaries (liquid liabilities, the ratio of bank credit divided by bank credit plus central bank domestic assets, private credit to GDP, the degree of public ownership of banks) and the efficiency with which funds are intermediated (the net interest margin or the share of overhead costs in the bank’s total assets). Another possibility to measure financial development is to apply instrumental variable, e.g. legal origin IV. All these measures of financial development are prone to serious or less serious shortcomings: they may be plagued by endogeneity issues or cause for instance simultaneity or

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<sup>1</sup>See Levine (2005) for a comprehensive overview.

weak instrument bias. Therefore most of these currently used measures are a compromise between theoretical definition and data availability. Especially in cross-country studies, it is difficult to construct financial development measures that are comparable and close to what theory suggests.

Jayaratne and Strahan (1996) are the first who exploit the experiment of US bank branching and interstate banking deregulation since the 1970s as a natural laboratory that allows to study the impact of banking liberalization on a wide range of economic outcomes. Using a panel, i.e. pooled time-series, analysis they examine how relaxed restrictions in intrastate branching and interstate banking affected economic growth of individual states of the US. In so doing, they show that intrastate branching deregulation in the US increases significantly economic growth of deregulated states. Published in 1996, the paper makes use of just 35 states that have deregulated by 1991 and discloses quite short-run effects of banking deregulation on growth.

In this paper we build on Jayaratne and Strahan (1996) and extend the sample period till 2011 in order to reappraise the impact of banking deregulation on economic growth and to reckon its the long-run effects. Our results suggest that even 30 years after the deregulation there are significant positive effects of banking deregulation on economic outcomes. Consistent with Jayaratne and Strahan (1996), lifting intra-state branching restrictions boosted average annual per capita GDP growth by 0.8 percentage points and per capita personal income growth by 0.5 percentage points. Moreover, income growth increased also following inter-state banking deregulation. Allowing out-of-state banks to enter freshly liberalized local banking markets enhanced income growth by additional 0.07 percentage points. These results corroborate findings of Demyanyk et al. (2007).

In the next step, we explore the interaction between financial development, fi-

nancial integration and long-term growth using intra-national evidence from the US. Our contribution to this literature is that we draw attention to the distinction between the economic effects of intra-state bank branching liberalization and the liberalization of inter-state banking and – importantly – to the different ways in which states have sequenced these two types of deregulation over time. Interstate banking deregulation is shown to increase the interstate asset ratio from 10 percent in 1975 to 60 percent in 1994. Therefore, we view —like Morgan et al. (2004)— the dismantling of interstate-banking restrictions that increased mobility of bank capital as a step towards better financial integration between states. In contrast, we interpret the removal of intra-state branching restrictions as an increase in financial development that facilitates access to credit for bank-dependent borrowers within the state. This is particularly due to bank consolidation that increased competitive pressure and subsequently improved the efficiency of bank lending.

Most of the literature has found sizable effects of intra-state deregulation on economic outcomes, whereas interstate deregulation has generally been found to be much less important. We argue that it is the interaction between banking integration and intra-state deregulation that has interesting implications for the patterns of growth in output and income (and possibly: for cross-state ownership patterns): some states liberalized intra-state branching restrictions before allowing interstate banking. Other states only loosened the intra-state branching regime well after having allowed market access by out-of-state banks. We argue that this sequencing is important for the patterns of growth.

Our findings are as follows: using a longer and updated sample, we find that intra-state deregulation increased output growth in particular for states that had not yet liberalized their interstate banking regime. Conversely, for states that allowed interstate banking deregulation before dismantling intra-state branch-

ing restrictions, it is mainly interstate banking integration that is associated with higher growth. However, the coefficient estimated on interstate banking deregulation for states that integrated before allowing intrastate branching is three times as large as on intrastate branching deregulation in a group of states that deregulated their intrastate branching restrictions first. Personal income growth exhibits the same pattern as output growth: the reform implemented first plays a much more important role than the subsequent reform. These results point to the substitutability of financial development and banking integration.

We examine further the specific sequencing of intra- and interstate banking deregulation and its role in sectoral GDP growth. Our findings indicate that whereas lifting intrastate branching restrictions increases growth in manufacturing industry (only durables), interstate banking deregulation has no growth effects on it. On the contrary, intrastate branching deregulation only marginally increases growth in financial sector. The main growth driver of financial sector is interstate integration, especially in states that abolished interstate banking restrictions first.

This paper is related to the literature emphasizing the importance of the interaction between financial development and financial integration for economic growth (Edison et al. (2002); Alfaro et al. (2004)) or global imbalances (Mendoza et al. (2009)).

The rest of the paper is organized as follows. In the next section we briefly present the history of US banking deregulations and highlight the state-specific sequencing of them. Section three describes the data and econometric framework. Section four discusses results, and section five concludes.

## 2 A Brief History of US Banking Deregulation and its Sequencing

The literature has distinguished between two dimension of state-level deregulation: intrastate deregulation removed branching and merger restrictions for banks and bank holding companies that were domiciled in a state. Interstate deregulation allowed access to the local market by out-of state banks and bank holding companies (often on a reciprocal basis) thus making the interstate pooling of bank funds possible.

Since the 1920s bank's ability to branch and form multi-bank holding companies both within and across state borders has been subject to state legislation. Although some states deregulated the branching restrictions in the 1930s, most of them generally prohibited the operation of out-of-state banks and also strongly limited bank branching within a state, to the point that in some states banks were allowed to operate only a single branch. The Douglas Amendment to the Bank Holding Company Act of 1956 gave states the seigniorage to prohibit out-of-state banks from acquiring banks outside the state where it was headquartered. All states exercised this privilege and thus effectively preclude interstate banking.

Prior to the 1970s, almost all states had laws restricting within-state branching. Statewide branching were allowed only in twelve states. Gradual abolishment of these restrictions has started in the late 1970s, so that all states, but Iowa, have deregulated their restrictions on branching within states by 1994. Intrastate banking deregulation took place in two main forms: First, states permitted branching through mergers and acquisitions (M&A) and followingly allowed banks and bank holding companies to acquire another bank and convert it into branch. Second, de novo branching was permitted, whereby regulation

prohibiting existing banks from entry by outside banks was lifted. In most cases, branching by M&A occurred first, then unrestricted branching deregulation occurred soon thereafter. So, in the empirical analysis I will apply a single branching indicator based on the date at which a state first permitted branching by M&A.

Interstate banking (as opposed to branching) through bank holding companies was gradually permitted by each state during the 1980s. Maine was the first to allow in 1978 entry by bank holding companies from any state that allowed entry by Maine banks. It took 17 years till Hawaii had passed reciprocal entry laws in 1995 as a last state. The deregulatory process was completed with the Reigle-Neal Interstate Banking and Branching Efficiency Act, which became effective in 1997.

States deregulated in waves, or cohorts, rather than all at once. The staggered timing of both inter- and intrastate deregulations provides an ideal laboratory to explore empirically how these regulatory changes affected banking and the real economy.

Moreover, the sequencing of interstate and intrastate deregulations was not fixed, so that we can split the states into two groups. The first group consists of the states, where intrastate deregulation has been conducted before interstate deregulation. The second group includes the states, where intrastate deregulation has taken place after interstate banking deregulation. Table 1 provides the years of intrastate and interstate banking deregulations. It is clear that there is a high variability in the timing of both deregulations: on the one hand, 12 states have already relaxed intrastate branching restrictions in the early 60s, others have postponed it till the mid 90s, but almost half of the states have implemented intrastate deregulation in the 80s; on the other hand, it took much less time for US states to implement interstate deregulation all over the coun-



try, with majority of states having deregulated in the 80s. Since there was no fixed sequencing for the deregulations being implemented, there are 32 states that have accomplished intrastate deregulation prior to interstate deregulation, 17 states that have proceeded vice versa and two states that have implemented both deregulations simultaneously.

Thus, we differentiate between two groups of states: the first group includes states that have already accomplished intrastate deregulation before they undertake interstate deregulation. Therefore, we assume that these states have already had more developed financial markets before they opened them for other states. The second group of states has at first implemented interstate banking deregulation and later on intrastate deregulation, so that we consider these states as less financially developed at the moment of banking integration. Figure 1 illustrates the history of intrastate deregulation and also provides an insight on the allocation of developed and non-developed states.

Interestingly, the date of intrastate deregulation across more developed states ranges from 1963 till 1990 with standard deviation of more than ten years. Though interstate deregulation took place prior to intrastate deregulation across less developed states, it started later there than across more developed states. This indicates that less developed states were generally late deregulators.

### 3 Regression Strategy and Data

Our main specification is a panel regression of growth building on Jayaratne and Strahan (1996):

$$\Delta y_{k,t} = \gamma SD_{k,t} + \tau_t + \delta_k + \epsilon_{k,t} \quad (1)$$

The dependent variable,  $\Delta y_{k,t}$ , is a real, per capita income (output) growth in year  $t$  in state  $k$ . In our estimations, we construct per capita growth rates using two measures of economic activity, gross state product (also by industry) and state personal income by state (and industry) from the BEA. These logarithmic data are per capita and deflated by personal consumption expenditures. Personal consumption expenditures and population by state is provided by the BEA.

$SD_{k,t}$  is a state-level deregulation dummy, that is 0 before and 1 from the year in which intra-/interstate deregulation took place in state  $k$  onward, that is, when the state permitted statewide branching or interstate banking. State deregulation years are from Amel (1993). We also control for the state-specific component of long-run economic growth,  $\delta_k$ , and for the common US-wide shock to (trend in) growth,  $\tau_t$ . Our empirical analysis is based on a panel of variables for the 49 U.S. states excluding Delaware for the period 1963-2011. Standard errors are clustered by state and time.

## 4 Results

### 4.1 Baseline results

The results of the estimated growth regression 2 outlined in previous section are provided in Table 2. The Panel A presents the estimates with growth rate of gross state product as the dependent variable. The first two columns show the results for intrastate and interstate deregulation dummy stand-alone. The third column accounts for the growth effects of both intra- and interstate deregulation. The Panel B repeats these specifications using state personal income to construct the dependent variable. Every couple of years the Bureau of Economic Analysis revises the data on gross state product and state personal income, so that the

data used by Jayaratne and Strahan (1996) is not any longer available. That is why we present the results using our revised data for two different time periods: columns I-III for the whole available time period 1964-2011, and columns IV-VI for the Jayaratne and Strahan (1996)-time period.

First of all, our results are consistent with Jayaratne and Strahan (1996): in the period 1978-1991 output increases on average by 1.7 and income by 0.8 percentage points following intrastate branching deregulation. The coefficients on interstate banking deregulation are not statistically significant. Moreover, in 1964-2011 real per capita economic growth (both output and income) increases significantly following intrastate branching deregulation. The effect of interstate banking deregulation on economic growth is not so clear-cut. Whereas we corroborate the results of Jayaratne and Strahan (1996) for output growth (the coefficients are only marginally significant), we find that income growth rises additionally after the interstate banking restrictions have been abolished.

## **4.2 Interaction of financial development and integration**

In this sub-section we exploit the interaction between financial development, alias intrastate branching deregulation, and financial integration, alias interstate banking deregulation. Given the state-specific sequencing of the data, we split our sample into two groups: the first group consists of the US states in which intrastate branching restrictions were lifted before country-wide integration was allowed. The results for this group are presented in the columns I-III of all subsequent Tables. States that opened their banking systems to the out-of-state banks prior to intrastate deregulation constitute the second group. Columns IV-VI contain the results for the second group.

From the Table 3, it is obvious that intrastate branching deregulation plays an important role in economic growth of states that deregulated their intrastate

branching restrictions first. In this group of states interstate banking deregulation does not affect output and income growth. Conversely, for states that allowed interstate banking deregulation before dismantling intrastate branching restrictions, it is mainly interstate banking integration that is associated with higher growth. Note that the effect of interstate banking deregulation is threefold compared to the effect of intrastate branching deregulation. Strikingly, the reform implemented first plays much more important role for economic growth of the state than the subsequent reform. These results suggest that financial development and integration – or here, interstate and intrastate banking deregulations – seem to be substitutes for economic growth.

### 4.3 Sectoral output growth decomposition

Tables 4-6 document how sectoral output in previously defined two groups of states reacts to the reforms of intrastate branching and interstate banking. We examine the output growth in seven broad sectors: manufacturing (durables and non-durables), retail trade, wholesale trade, finance and real estate, services, transportation and construction as they are defined by the BEA.

First, while lifting intrastate branching restrictions increases growth in manufacturing sector (only durables), interstate banking deregulation has no growth effects on manufacturing. Second, intrastate branching deregulation only marginally increases growth in financial sector. The main growth driver of financial sector is interstate integration, especially in states that abolished interstate banking restrictions first.

The results for retail trade, wholesale trade, construction and services are analogous to the aggregate data results: in states that deregulated intrastate branching first, this deregulation plays the key role in economic growth, and the

states that opened their banking markets to out-of-state banks first profit rather from this banking integration and not from intrastate branching deregulation. Moreover, both deregulations do not benefit transportation sector and non-durable manufacturing.

## 5 Conclusion

This paper reassesses the finance-growth nexus documented by Jayaratne and Strahan (1996) using extended data sample from 1963 to 2011. The effect of banking deregulation on economic growth remains statistically and economically significant even 30 years after deregulation. Contrary to the previous study, we found that interstate banking deregulation also plays an important role, in particular for the income growth.

Our results additionally suggest that the sequencing of interstate banking and intrastate branching deregulation affects the magnitude and significance of these reforms itself. It appears that only the first conducted reform considerably affects economic growth. This fact hints to the assumption that financial integration and financial development may serve as substitutes for the economic growth.

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Table 1: Years of deregulation						
Intra	bevor	Inter	Intra	Inter	Inter after Intra	Intra Inter
Alabama		1981	1987	Arkansas	1994	1989
Alaska		1963	1982	Colorado	1991	1988
Arizona		1963	1986	Florida	1988	1985
California		1963	1987	Illinois	1988	1986
Connecticut		1980	1983	Indiana	1989	1986
Delaware		1963	1988	Iowa	1997	1991
DColumbia		1963	1985	Kentucky	1990	1984
Georgia		1983	1985	Louisiana	1988	1987
Hawaii		1986	1995	Massachusetts	1984	1983
Idaho		1963	1985	Michigan	1987	1986
Kansas		1987	1992	Minnesota	1993	1986
Main		1975	1978	Missouri	1990	1986
Maryland		1963	1985	New Mexico	1991	1989
Mississippi		1986	1988	Oklahoma	1988	1987
Montana		1990	1993	Texas	1988	1987
Nebraska		1985	1990	Wisconsin	1990	1987
Nevada		1963	1985	Wyoming	1988	1987
New Jersey		1977	1986			
New York		1976	1982			
North Carolina		1963	1985			
North Dakota		1987	1991	Intra=Inter		
Ohio		1979	1985	New Hampshire	1987	1987
Oregon		1985	1986	Tennessee	1985	1985
Pennsylvania		1982	1986			
Rhode Island		1963	1984			
South Carolina		1963	1986			
South Dakota		1963	1988			
Utah		1981	1984			
Vermont		1970	1988			
Virginia		1978	1985			
Washington		1985	1987			
West Virginia		1987	1988			



Table 2: Growth and US banking deregulation — baseline results

Panel A: dependent variable is logarithmic output growth, $\Delta gsp_t^k$						
States	1964-2011			1978-1991		
	I	II	III	IV	V	VI
$SD_{k,t}^{intra}$	0.009 (2.75)		0.008 (2.33)	0.017 (2.93)		0.017 (2.90)
$SD_{k,t}^{inter}$		0.012 (1.32)	0.010 (1.09)		0.008 (0.75)	0.008 (0.71)
$R^2$	0.12	0.12	0.16	0.23	0.21	0.23
Panel B: dependent variable is logarithmic income growth, $\Delta inc_t^k$						
States	1964-2011			1972-1992		
	I	II	III	IV	V	VI
$SD_{k,t}^{intra}$	0.005 (3.02)		0.005 (2.79)	0.008 (3.28)		0.008 (3.19)
$SD_{k,t}^{inter}$		0.008 (2.68)	0.007 (2.44)		0.007 (1.89)	0.006 (1.84)
$R^2$	0.68	0.27	0.28	0.26	0.25	0.26

Data are annual. Sample includes 49 US States (Delaware and District of Columbia are left out). OLS estimates, all regressions include time- and state fixed effects. Standard errors are clustered by state and year, t-statistics appear in parentheses.

Table 3: Growth and US banking deregulation — deregulation sequencing

Panel A: dependent variable is logarithmic output growth, $\Delta gsp_t^k$						
States	Intrastate prior to interstate deregulation		Interstate prior to intrastate deregulation			
	I	II	III	IV	V	VI
$SD_{k,t}^{intra}$	0.011 (2.15)		0.010 (2.04)	0.004 (0.64)		-0.002 (-0.53)
$SD_{k,t}^{inter}$		0.003 (0.29)	0.002 (0.21)		0.035 (2.52)	0.036 (2.60)
$R^2$	0.13	0.12	0.13	0.26	0.28	0.28
Panel B: dependent variable is logarithmic income growth, $\Delta inc_t^k$						
States	Intrastate prior to interstate deregulation		Interstate prior to intrastate deregulation			
	I	II	III	IV	V	VI
$SD_{k,t}^{intra}$	0.006 (2.62)		0.005 (2.55)	0.005 (1.22)		0.002 (0.91)
$SD_{k,t}^{inter}$		0.005 (1.54)	0.005 (1.45)		0.016 (2.77)	0.015 (3.02)
$R^2$	0.24	0.23	0.24	0.43	0.44	0.44

Data are annual. Sample includes 49 US States (Delaware and District of Columbia are left out). OLS estimates, all regressions include time- and state fixed effects. Standard errors are clustered by state and year, t-statistics appear in parentheses.

Table 4: Growth and US banking deregulation — by industry I

Dependent variable is logarithmic output growth, $\Delta gsp_t^k$									
Panel A: Manufacturing									
States	All			Intrastate prior to interstate			Interstate prior to intrastate		
	I	II	III	IV	V	VI	VII	VIII	IX
$SD_{k,t}^{intra}$	0.010 (2.13)		0.010 (2.12)	0.011 (2.30)		0.11 (2.32)	0.018 (0.99)		0.013 (0.76)
$SD_{k,t}^{inter}$		0.012 (1.29)	0.010 (1.13)		0.03 (0.36)	0.002 (0.26)		0.034 (1.35)	0.031 (1.33)
$R^2$	0.20	0.20	0.20	0.21	0.21	0.21	0.25	0.25	0.23
Panel B: Manufacturing (durables)									
$SD_{k,t}^{intra}$	0.015 (2.54)		0.015 (2.44)	0.020 (2.81)		0.020 (2.79)	0.016 (0.77)		0.010 (0.49)
$SD_{k,t}^{inter}$		0.008 (0.75)	0.005 (0.48)		-0.004 (-0.34)	-0.005 (-0.52)		0.037 (1.37)	0.035 (1.29)
$R^2$	0.23	0.22	0.23	0.23	0.23	0.23	0.30	0.30	0.30
Panel C: Manufacturing (non-durables)									
$SD_{k,t}^{intra}$	0.009 (1.74)		0.008 (1.68)	0.008 (1.50)		0.008 (1.49)	0.014 (0.88)		0.009 (0.68)
$SD_{k,t}^{inter}$		0.012 (1.12)	0.010 (0.98)		0.005 (0.38)	0.004 (0.32)		0.031 (1.31)	0.028 (1.35)
$R^2$	0.15	0.15	0.15	0.16	0.16	0.16	0.16	0.16	0.16

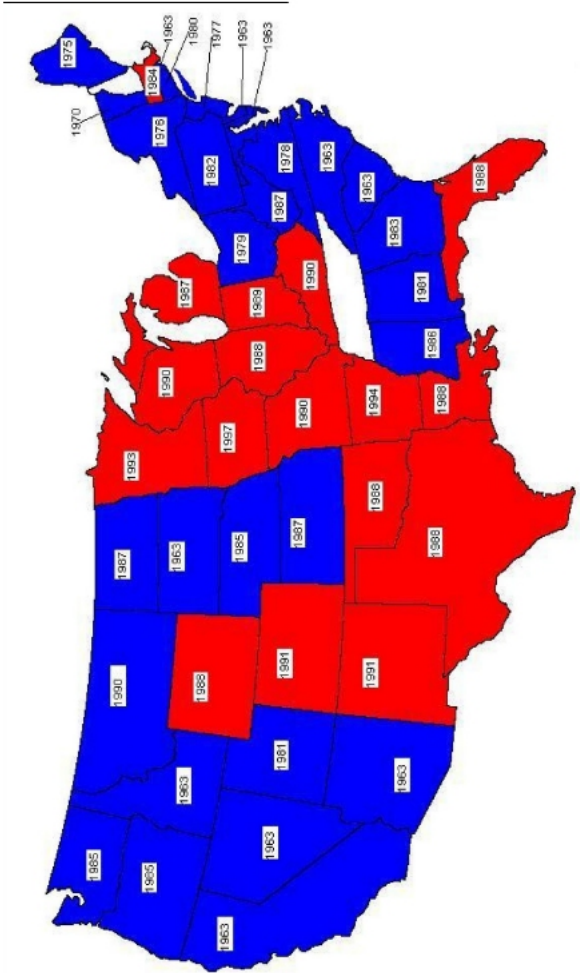
Table 5: Growth and US banking deregulation — by industry II

Dependent variable is logarithmic output growth, $\Delta gsp_t^k$									
Panel A: Retail trade									
States	All			Intrastate prior to interstate			Interstate prior to intrastate		
	I	II	III	IV	V	VI	VII	VIII	IX
$SD_{k,t}^{intra}$	0.008 (3.04)		0.007 (2.73)	0.010 (2.88)		0.010 (2.82)	0.002 (0.27)		-0.003 (-0.51)
$SD_{k,t}^{inter}$		0.011 (2.13)	0.009 (1.88)		0.006 (1.09)	0.005 (0.96)		0.027 (2.18)	0.028 (2.34)
$R^2$	0.71	0.71	0.71	0.68	0.68	0.68	0.77	0.78	0.78
Panel B: Wholesale trade									
$SD_{k,t}^{intra}$	0.009 (3.17)		0.009 (2.94)	0.008 (1.87)		0.008 (1.84)	0.006 (0.69)		0.002 (0.27)
$SD_{k,t}^{inter}$		0.011 (1.96)	0.009 (1.70)		0.004 (0.56)	0.003 (0.45)		0.028 (2.04)	0.028 (2.20)
$R^2$	0.44	0.44	0.44	0.44	0.44	0.44	0.50	0.51	0.51
Panel C: Finance and real estate									
$SD_{k,t}^{intra}$	0.008 (1.87)		0.008 (1.70)	0.007 (0.98)		0.007 (0.95)	0.012 (1.42)		0.009 (1.21)
$SD_{k,t}^{inter}$		0.013 (2.28)	0.011 (2.06)		0.009 (1.27)	0.008 (1.21)		0.022 (2.30)	0.02 (2.32)
$R^2$	0.20	0.20	0.20	0.17	0.17	0.17	0.31	0.31	0.31

Table 6: Growth and US banking deregulation — by industry III

Dependent variable is logarithmic output growth, $\Delta gsp_t^k$									
Panel A: Services									
States	All			Intrastate prior to interstate			Interstate prior to intrastate		
	I	II	III	IV	V	VI	VII	VIII	IX
$SD_{k,t}^{intra}$	0.006 (2.60)		0.005 (2.30)	0.008 (2.27)		0.008 (2.18)	0.002 (0.47)		-0.001 (-0.34)
$SD_{k,t}^{inter}$		0.009 (1.94)	0.008 (1.67)		0.006 (1.10)	0.006 (0.98)		0.020 (3.74)	0.020 (4.11)
$R^2$	0.21	0.21	0.21	0.20	0.19	0.20	0.29	0.30	0.30
Panel B: Transportation									
$SD_{k,t}^{intra}$	0.009 (1.53)		0.009 (1.35)	0.011 (1.30)		0.011 (1.24)	0.003 (0.42)		0.000 (0.03)
$SD_{k,t}^{inter}$		0.006 (0.69)	0.005 (0.45)		0.004 (0.30)	0.003 (0.22)		0.015 (1.32)	0.015 (1.29)
$R^2$	0.30	0.30	0.30	0.25	0.25	0.25	0.46	0.46	0.46
Panel C: Construction									
$SD_{k,t}^{intra}$	0.025 (3.03)		0.023 (2.84)	0.031 (2.80)		0.030 (2.75)	0.016 (0.73)		0.005 (0.34)
$SD_{k,t}^{inter}$		0.036 (2.38)	0.031 (2.18)		0.028 (1.60)	0.026 (1.52)		0.065 (1.88)	0.063 (2.03)
$R^2$	0.22	0.22	0.23	0.21	0.20	0.21	0.32	0.33	0.33

Figure 1: Deregulation of restrictions on intrastate branching



NOTES: Blue states are states that have implemented intrastate deregulation prior to interstate banking deregulation. Red states are the states that have implemented intrastate branching deregulation after interstate banking deregulation. New Hampshire and Tennessee are not colored because intrastate and interstate deregulations were implemented simultaneously.