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The Bank of North Dakota: A model for Massachusetts and other states?

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The Bank of North Dakota: A model for Massachusetts and other states?

Introduction

In August 2010, Massachusetts enacted legislation (Chapter 240 of the acts of 2010) pertaining to the state government's role in economic growth and development. The law restructures state agencies that finance development projects, and introduces new mechanisms to address the credit needs of small businesses in particular.

The law merges two funding sources into a new entity called the Massachusetts Growth Capital Corporation, which provides capital and advice to small businesses, and calls for enhanced oversight of all the state's public and quasi-public economic development agencies. The law also institutes new requirements for the state treasurer to report the names of institutions where the Commonwealth's cash reserves are deposited, and it encourages the state treasurer to deposit those funds in institutions with an above-average orientation toward small business lending. Going beyond these immediate reforms, the law further calls for the creation of "a commission to study the feasibility of establishing a bank owned by the commonwealth or by a public authority constituted by the commonwealth."

This study provides background information and analysis pertaining to state-owned banking for the Massachusetts commission. Despite a worldwide trend toward privatization, publicly owned banks continue to exist in many foreign nations. State-owned banks were common in the United States during the nineteenth century, and have been proposed in response to various economic and financial crises in the twentieth and early twenty-first centuries. However, the only U.S. state with an existing publicly owned bank is North Dakota. In the wake of the recent national financial crisis and economic recession, advocates of state-owned banking have touted the North Dakota model and various media reports have cited it, but it has not been examined comprehensively. This study contributes to discussions among policymakers by reviewing the evolution of the Bank of North Dakota (BND) since its founding in 1919, and considering lessons that are relevant today to other states, particularly Massachusetts.

Study focus and findings

The express mission of BND is "promoting agriculture, commerce and industry" in North Dakota. That is a broad but relatively uncontroversial mandate. To help inform discussions outside North Dakota, this study considers several specific objectives for a public bank: stabilizing the state economy, providing local businesses with greater access to credit, augmenting the lending capacity of private banks, and contributing revenues to help fund state government.

In the wake of the financial crisis and Great Recession of 2007–09, advocates of state-owned banks in states other than North Dakota have emphasized these objectives. This study provides evidence on the contributions of the Bank of North Dakota—and of other institutions and circumstances in North Dakota—to each of those objectives.

The most pertinent findings on the North Dakota experience are as follows:

- Unlike some foreign public banks, which have been accused of poor management or political bias, BND enjoys a largely favorable reputation in North Dakota.
- In financing projects that foster economic development in North Dakota, BND puts a strong emphasis on safe and sound lending

practices. Potentially riskier activities, such as community development funding and equity investments, are the purview of quasi-public agencies in North Dakota, as in other states.

- BND partners with community banks in North Dakota for much of its lending. Community banks originate the loans, and BND either participates in the loans or purchases them from the originators. The existence of BND likely enhances the viability of small banks in North Dakota. By partnering with BND, they can make loans that exceed their legal or internal lending limits.
- During the financial crisis and economic downturn of 2007–09, BND increased its loans and letters of credit to North Dakota banks that needed to develop comprehensive liquidity plans. However, BND signaled that its ability to meet additional credit demand was limited, given its own liquidity needs and its other funding obligations. Had North Dakota felt the full brunt of the financial and economic stresses hitting other parts of the nation, North Dakota banks would likely have relied more on national sources of credit.
- The state of North Dakota has sometimes used revenues from the Bank of North Dakota to help balance its budget given shortfalls in other sources. However, there is no guarantee that a state-owned bank will generate profits during periods of fiscal stress, especially if its finances depend on the health of the state's economy. BND's poor performance during North Dakota's severe agricultural crisis and recession of the 1980s exacerbated the state's fiscal stress. Rather than routinely tapping BND to fill budget shortfalls, state government maintains fiscal stabilization funds similar to those in other states.
- Experiences during the founding of BND suggest that the costs of starting up a state-owned bank would be considerable. They would likely involve a very sizable bond issue and/or the possibility of disrupting the operations of existing banks.

Drawing lessons from these findings for Massachusetts and other states is challenging. Ideally, we would want to analyze the experiences of more than one state-owned bank in the United States. Moreover, North Dakota is an unlikely state from which to draw policy lessons for Massachusetts: it is a sparsely populated rural state with numerous small, relatively isolated banks.

Absent a range of examples of state-owned banks from which to draw—or an example of such a bank in a state that bears greater resemblance to Massachusetts—this study is necessarily eclectic in its methods. For example, it compares the economic performances of South Dakota and North Dakota over the past several decades, to draw conclusions about the effects of a state-owned bank on economic stability. It identifies agencies in Massachusetts that perform functions similar to the core activities of the Bank of North Dakota. The study also provides statistics comparing the banking industries in the two latter states, to identify market weaknesses that a public bank potentially could be called upon to fill.

The report recommends that the Massachusetts study commission proceed in two steps. The first is to identify the economic and financial goals that reforming public or quasi-public institutions are intended to achieve. The second step is to consider the merits of different types of efforts to address the identified goals. One reasonable goal, for example, might be to improve access to credit for small businesses when banks are capital-constrained or otherwise unwilling to lend. For reasons that this study will show, the North Dakota experience turns out to be less helpful than some commentaries have suggested. Massachusetts policymakers would be better off studying the federal programs that have been augmented since the crisis, and then considering whether the state could adopt policies to complement the federal programs, or expand their availability locally.

Private versus public banking institutions: Guiding principles

A key principle that guides the structure of the U.S. economy is that government action is justified only when private markets produce suboptimal results. The effect of applying that principle is that federal, state, and local governments account for a substantially smaller share of overall economic activity than private businesses and other nongovernmental entities. In cases where government and the private sector share responsibilities—such as public-private partnerships—roles are assigned according to what each sector does best.

The founding of the Bank of North Dakota reflected this guiding principle. As the study will show in further detail, BND was created to address market failures associated with monopoly power among large financial and business institutions in North Dakota in the early twentieth century. This market power meant that small farming operations had inadequate access to credit.

Other market failures that could justify government intervention in banking markets include externalities, costly information, and nonexistent markets. Externalities exist, for example, if bank credit benefits a substantially larger community or segment of the economy than just the borrower. Private banks may not take these additional benefits into account when making lending decisions, and therefore their total lending might fall short of the socially optimal level.

Costly information refers to a situation where private lenders have difficulty evaluating the creditworthiness of some categories of borrowers, and therefore forgo some lending that would likely be socially desirable. Nonexistent markets are situations where lending institutions are either absent altogether (as in the early stages of economic development) or inadequately capitalized (as might occur in an advanced economy during an economic or financial crisis).

According to this logic, banks should be privately owned and operated unless such an arrangement results in market failures that government intervention could correct. Furthermore, even if government intervention is warranted, policymakers need to consider the form of that intervention carefully. For example, would public ownership yield better results than other changes in how government interacts with private banks—such as information, insurance, regulation, taxes, and subsidies? A related question is whether government intervention should be contingent or permanent. For example, government involvement may be justified during periods of crisis but not on an ongoing basis.

The past several years have exposed major failures of markets and the regulatory environment of financial institutions. Policymakers have already taken several steps to address those failures. At the national level, the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 overhauled the financial regulatory structure. New programs of the U.S. Treasury Department, and the Small Business Job and Credit Act of 2010, were also designed to remedy credit shortfalls for bank-dependent businesses.

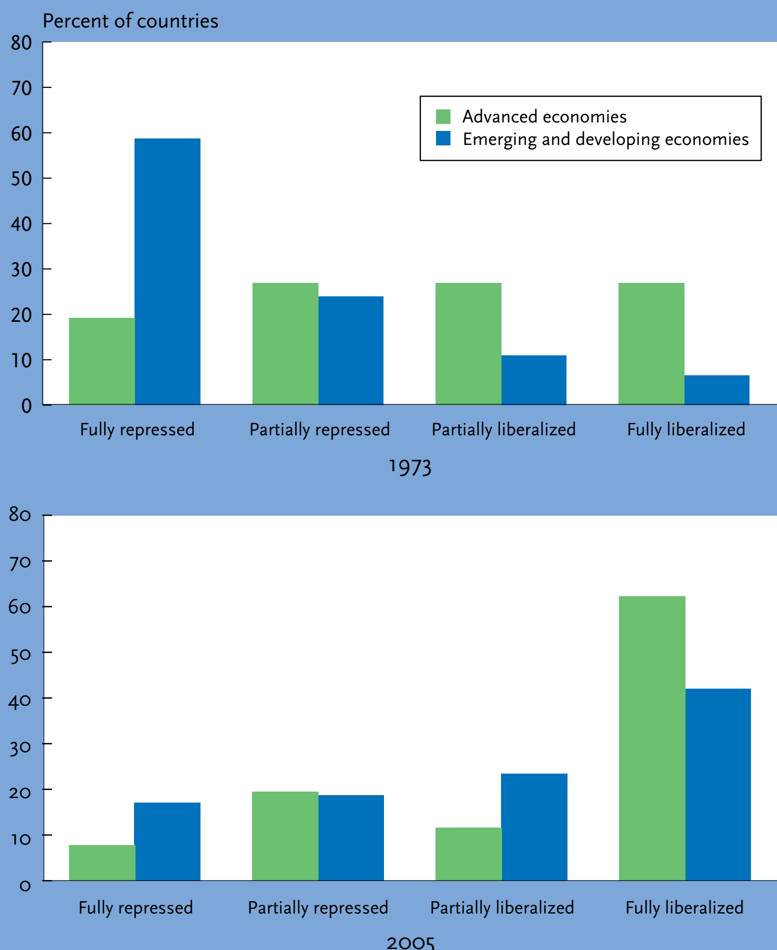
These reforms and other federal regulatory changes are still in the implementation stage, so it is too early to assess their effectiveness. In the meantime, state governments are in the throes of considering other corrective actions. These changes include establishing publicly owned banks.

The context for considering a state-owned bank

Banks are entities that accept deposits and make loans. North Dakota is unique among the U.S. states in having a publicly owned bank. State governments in the other 49 states deposit their cash reserves in private institutions that also serve a wide array of other customers. These private depositories are subject to federal and state regulations and oversight, but their lending and investment decisions are based on their own independent assessments of risks and returns, and are not under the direct control of public officials.

Advocates of state-owned banks argue that they provide a mechanism whereby state governments can use public funds to support local economic development, and particularly to improve access to credit for small businesses. These advocates also cite the potential fiscal benefits of state-owned banks to state governments. Just as corporate shareholders may earn dividends, state governments are entitled to a share—if not all—of the profits of any bank they own. These purported

Figure 1. Over the past three decades, governments have reduced their ownership stakes in the financial sector.
Trends in governmental involvement in the financial sector based on ownership stakes



Source: NEPPC calculations, based on Abdul Abiad, Enrica Detragiache, and Thierry Tressel, Financial Reform Dataset, International Monetary Fund, 2008.
Note: Economies were defined using the World Economic Outlook, International Monetary Fund, September 2005. Advanced economies included 26 countries across 1973 and 2005. Emerging and developing economies included 46 countries in 1973, and 65 in 2005.

benefits of state-owned banks are particularly salient during credit crunches and recessions, when small businesses are likely to have cash-flow problems, and state coffers are likely to be depleted.

The severe financial crisis and recession of 2007–09 heightened interest outside of North Dakota in forming publicly owned banks. Besides Massachusetts, at least eight other states have considered legislation to either study or create a state-owned bank.[1]

This interest in state-owned banks has historical precedents. During the Great Depression, Oregon voted on a referendum to create a state-owned bank.[2] At least six states explored starting a state-owned bank during the 1970s.[3]

New York provides the best documented example from that era. As a result of its near-insolvency in the mid-1970s, New York City faced great difficulty in getting private banks to purchase its bonds or invest in neighborhood development. The city's struggles prompted the speaker of the New York State Assembly to file legislation to establish a state-owned bank. The bill passed through the Assembly but was opposed by the New York Stock Exchange and the New York Chamber of Commerce, and failed to become law.[4]

Publicly owned banks are more prominent in many other nations than in the United States. However, to our knowledge, these foreign government-owned banks were established when countries had less well developed private financial markets. There are no examples of recently formed government-owned banks in developed nations. Moreover, the market share of public banks has fallen over time.

According to the International Monetary Fund, the 1970s and 1980s were marked by a large divide between the banking industries of developing and developed nations.[5] While developed nations were fairly evenly distributed between "liberal" (free of government control) and "repressed" (government-controlled) banking systems, banking sectors in developing nations were more often characterized by a stronger state presence (Figure 1).[6]

During the past three decades, developed and developing nations alike have shifted toward more liberal banking sectors. Still, some major economies—such as China, India, Germany, and South Korea—maintain significant state involvement in the financial sector.[7]

While no U.S. state other than North Dakota has a state-owned bank that serves as a depository for state funds, all states (including North Dakota) have public or quasi-public lending entities that intervene in the private sector to address market failures or support social goals. Unlike banks, these lending entities do not accept deposits. Moreover, in contrast to the arrangement with BND, the earnings of these quasi-public entities typically are not transferred to state governments to augment general fund revenues. These quasi-public lending agencies fund their operations through retained earnings and bond offerings. They either never or only occasionally receive state appropriations after their initial formation.

The most ubiquitous quasi-public lending entities are the state housing finance authorities (SHFAs), which exist in every state. For example, MassHousing is the SHFA in Massachusetts. These authorities arose starting in the 1960s with the goal of increasing the supply of affordable housing beyond what the private sector would likely provide.[8] While their structure varies from state to state, the majority of SHFAs issue tax-exempt bonds, and use the proceeds to finance low-interest mortgages and support the production of affordable rental apartments.

Besides SHFAs, many U.S. states have specialized agencies that promote the development of particular industries, or that provide financing for certain categories of businesses that are unlikely to receive adequate financing from the private sector alone. (See Providing Credit for Small Businesses, page 14, for Massachusetts examples.) Like SHFAs, these quasi-public agencies function somewhat independently of the state, and finance their operations by issuing bonds based on their own credit. Some receive supplementary funding through state appropriations, while others have dedicated revenue streams, such as special taxes or mandatory contributions from private industry.[9]

Evolution of the Bank of North Dakota

Much like current interest in state-owned banks, the founding of the Bank of North Dakota (BND) in 1919 came in the wake of economic hardship that led to heightened anti-big-bank and anti-big-business sentiment.[10] In the early 1900s, most North Dakotans made their living from agriculture. Most of the available credit facilities, however, were based outside the state, in money centers such as Minneapolis, Chicago, and New York.

North Dakota's farmers complained that out-of-state financiers were providing insufficient credit and charging usurious rates. Farmers also accused powerful owners of grain mills, grain elevators, and railroads of engaging in fraudulent and discriminatory practices that held down farm incomes. A populist movement developed that pushed for institutions to support agricultural interests. Among its achievements was the creation of BND, which was charged with "promoting agriculture, commerce and industry" in North Dakota.

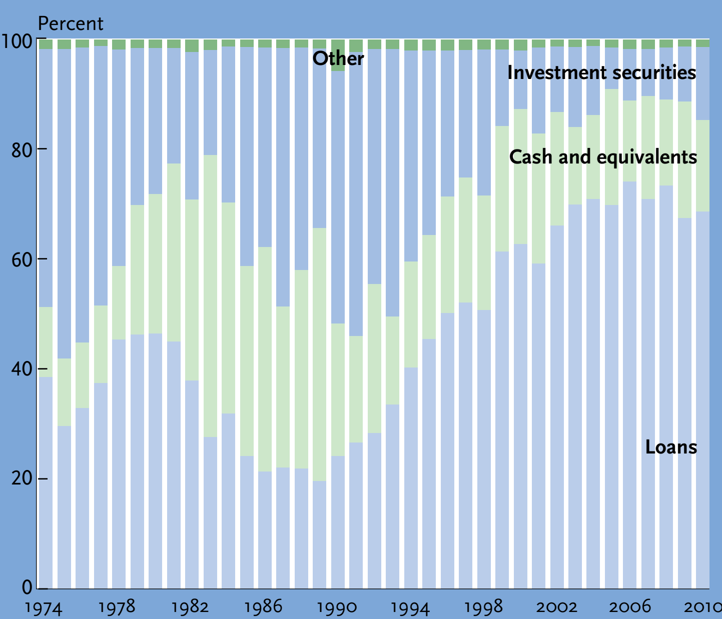
Members of the North Dakota banking community initially feared that a state-owned bank would drive small local banks out of business. To soothe those concerns, the North Dakota legislature imposed limits on BND activities. The bank was initially prohibited from opening branches, engaging in retail banking, and providing commercial lending other than farm real estate loans. Although these restrictions were relaxed in later years, to this day BND operates out of a single location in Bismarck, which limits the degree to which it can compete for customers.

To further calm private-sector fears of competition from a publicly owned bank, the state used a $2 million bond offering to provide the initial capital for BND, rather than withdrawing existing deposits at local banks. However, when this initial capitalization proved inadequate several years later, the state withdrew funds from banks in western North Dakota, leading to 18 bank failures in the following three weeks. As explored below, over time BND came to play a more supportive role with respect to private banks in North Dakota.

BND's actions during the Great Depression reflected its populist roots and public purpose. In the wake of unprecedented farm foreclosures, BND leased back farms to their prior occupants on reasonable terms, and later sold back the farms to the occupants' heirs at below-market prices.[11] The bank also helped counties and cities meet their fiscal needs by financing government projects and investing

Figure 2. BND's balance sheet holdings have shifted away from investment securities and cash equivalents toward loans.

Breakdown of BND's assets



Source: NEPPC calculations, based on Bank of North Dakota, *Annual Report*, 1975-2010.
Note: Due to changes in the format of the annual report, prior to 1989 cash and equivalents were calculated by summing Cash and due from banks as well as Federal funds sold.

in municipal bonds. In the 1940s and 1950s, BND became more passive, shifting its focus from farm lending to managing state investments and providing services to local banks.[12]

In the 1960s and 1970s, BND once again assumed a more active role in promoting economic development in North Dakota. This shift included issuing the nation's first federally insured student loan, and participating in commercial and residential mortgage loans.[13]

Starting in the early 1990s, BND focused even more strongly on lending and less on investing in securities (Figure 2). Loans now account for nearly 70 percent of BND's balance sheet—a slightly higher fraction than at comparably sized private banks nationally and in Massachusetts.[14]

During its first several decades, BND did not make transfers to the state general fund. Such transfers—essentially dividend payments—began in 1945.

The bank today

In 2010, BND had total assets of $4 billion and total deposits of $3.1 billion.[15] It was comparable in size to the 180th-largest private bank in the nation, making it slightly smaller than Middlesex Bancorp (headquartered in Natick, Massachusetts).[16]

BND has shown a profit each year, according to data available since 1971. In fact, BND has consistently produced high returns on its assets compared to similarly sized private banks (Table 1). This could indicate that BND, on average, is more successful in its lending and investments than its private-sector peers, has a lower cost of funds or operations, or benefits from its tax-exempt status—or some combination thereof.

BND accounts for about 15 percent of the total deposits of banks with operations in North Dakota—more than any other bank in the state.[17] Almost all of BND's deposits are attributable to state government, which is required to deposit its cash reserves in BND. Although the bank is allowed to accept deposits from many other sources, it does not actively market its services to individuals, businesses, or local governments.

BND has a diversified loan portfolio, of which the largest shares are student loans (37 percent) and commercial loans (36 percent) (Figure 3). Roughly 50 percent of the bank's loan portfolio consists of loan participations and loan purchases from community banks.[18]

Loan participations are arrangements where a lead bank (in this case, a smaller institution) originates and services a loan, and another bank (in this case, BND) is involved in some capacity.[19] This involvement can take various forms, including guarantees, capital contributions for the initial loan, and interest rate buy-downs (contributions to payments during the early years of a loan, to reduce costs to the borrower). Some 50 percent of BND's loan portfolio is guaranteed by federal and state agencies.[20]

The only major area where BND actively competes with other banks is student loans. However, as a result of the Health Care and Education Reconciliation Act of 2010, the federal government will originate future student loans. Without a dramatic increase in other business, the overall loan portfolio of BND will shrink as existing student loans are repaid.

BND's loan performance and capitalization remained robust even during the recent financial crisis and recession. In the past five years, BND saw smaller shares of its loans fall into delinquency than comparably sized banks across the nation. BND's risk-based capital ratio and Tier 1 leverage ratio also rose during the past three years, indicating strong bank capitalization.[21]

BND is overseen by the Industrial Commission of North Dakota, composed of the governor, the attorney general, and the agriculture commissioner. The governor also appoints an advisory board of seven banking and finance experts. BND deposits are backed by the full faith and credit of the state of North Dakota, and are not insured by the Federal Deposit Insurance Corporation (FDIC).[22] BND is examined annually by an independent auditor, and every 24 months by the North Dakota Department of Financial Institutions.[23] Much like any other government institution, BND's budget (including decisions on salaries, employee headcount, and major capital projects) is controlled by the legislature.

BND's contribution to state finances

The finances of BND and the state of North Dakota are inextricably linked. The state budget that the governor presents to the legislature includes a proposed transfer from BND to the general fund (or sometimes a specialized fund). In consultation with BND's president, the legislature then approves or changes the proposed transfer.[24]

During the past 35 years, the bank has returned roughly two-thirds of its profits to the state, on average. However, this share has been quite variable, ranging from a low of near zero in 1989 and 2000 to more than 150 percent in 1996 and 2001 (Figure 4).

Although the average share of profits that BND transfers to the state is large, the overall share of state expenditures financed by this means is fairly small. From 1971 to 2009, transfers from BND were equivalent to 0.75 percent of state expenditures, on average. The highest share—1.82 percent—occurred in 1996.[25]

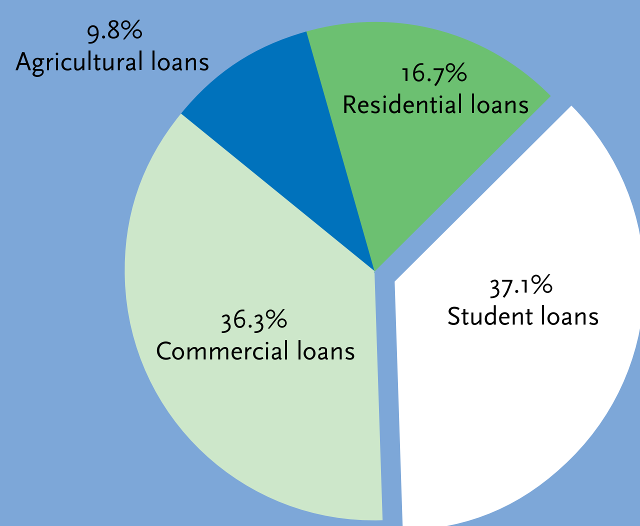
These transfers have helped state government balance its budget when other revenues have fallen during recessions. During the 2001–03 biennium, the state turned to BND to plug $25 million of its $43 million budget shortfall, mitigating the need for spending cuts and tax increases.[26]

Table 1. BND has seen a decline in its ROAA while still outperforming its peers.
Percent return on average assets

	1995	2000	2005	2010
Bank of North Dakota	2.20	1.87	1.78	1.55
Similarly-sized private banks				
U.S. banks	1.15	1.23	1.41	0.49
Massachusetts banks	1.04	1.05	0.79	0.75

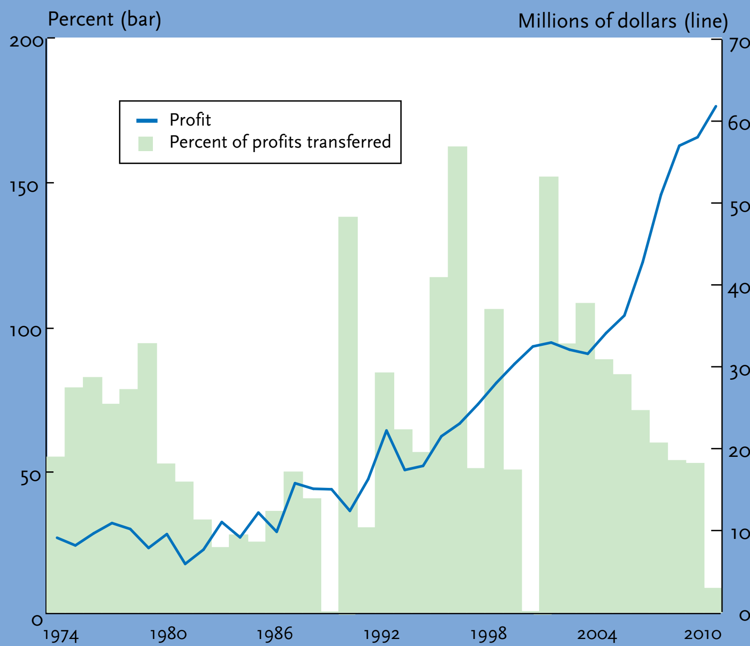
Source: Calculations by authors and supervision, regulation, and credit department of the Federal Reserve Bank of Boston based on Bank of North Dakota *Annual Reports* and Federal Financial Institutions Examination Council, *Uniform Bank Performance Reports*, selected years.
Note: Private banks include commercial and savings banks with between $2 and $5 billion in total assets.

Figure 3. BND's loan portfolio is heavily concentrated in commercial and student loans.
BND loan portfolio breakdown



Source: NEPPC calculations, based on Bank of North Dakota, *Annual Report*, 2010.
Note: Total loan portfolio value was $2.8 billion in 2010. Student loans have been separated to show the effect of the Health Care and Education Reconciliation Act of 2010, which eliminated the Federal Family Education Loan program (FFEL). FFEL loans had amounted to approximately $120 to $130 million in annual loan originations in recent years. BND will continue its supplementary Dakota Education Alternative Loan program.

Figure 4. BND transfers varying portions of its profits to the state.
BND transfers as a share of profits



Source: NEPPC calculations, using Bank of North Dakota, *Annual Reports*, 1975-2010.
Note: Transfers include both payments to the General Fund as well as other funds.

On the other hand, financial difficulties at BND can exacerbate state fiscal problems. In the mid-1980s, bonds issued by the state to purchase BND farm loans began to sour because of difficulties in the farm sector, and state policymakers considered imposing a new tax to make up for shortfalls in debt service. BND appears to have absorbed much of the revenue loss by drawing down its capital reserves, avoiding the need for a general levy.[27]

North Dakota maintains a rainy day fund similar to those of other states. Transfers from BND to the General Fund have ranged between $15 million and $50 million throughout the 2000s; contributions from the Rainy Day Fund to the General Fund have varied considerably more. For example, in 2002 the state withdrew $15 million from its rainy day fund, while in both 2005 and 2007 it added $100 million (Figure 5).

These patterns suggest that the state views BND transfers primarily as a revenue source rather than a fiscal stabilization tool. In this respect, the bank is akin to government-operated enterprises such as state-owned liquor stores and gaming establishments in some other states.

Finally, it is important to keep in mind that BND's net contributions to state revenues are lower than its transfers. The interest rates paid by BND are said to be about 25 basis points lower than those paid on equivalent deposits at private banks.[28] Furthermore BND is a tax-exempt institution, and a state with a public bank forgoes the tax revenues it would otherwise collect from any banks the public bank displaces.[29]

BND's relationship with other banks and its role during crises

The North Dakota banking market has a robust small bank presence. Banks with less than $500 million in deposits account for almost one-half of total bank deposits in the state. In this environment, BND plays the role of sharing risk with smaller banks, ensuring that larger-scale projects can get funding.

Smaller banks and state government tend to turn to BND for funding during crises. During the financial crisis of 2007–08, for example, BND used its access to the federal funds market to purchase loans from smaller banks in North Dakota, providing liquidity to the market. In the wake of natural disasters such as flooding or drought, the bank has channeled its resources to affected areas.[30] During disasters, BND is said to react more quickly than the federal government.[31]

Overall assessment of BND

The informal consensus in North Dakota appears to be that BND lending activities are managed professionally, conservatively, and fairly independently of political forces, and are similar in many ways to those of private banks.[32] Although BND interacts extensively with North Dakota's officeholders and executive agencies, its financial accounts are separate from those of other state-sponsored entities tasked with undertaking risky or politically sensitive projects.

However, while BND appears to enjoy a favorable reputation in North Dakota, its activities do not necessarily correspond to what other states would want a publicly owned bank to do. The available analysis and anecdotal evidence indicate that BND puts a high priority on managing public funds prudently. BND is said to operate conservatively within an overall environment in North Dakota that favors conservatism.[33] The formal separation between the financial accounts of BND and those of the state's housing finance and economic development agencies serves as evidence that a key priority for BND is to maintain a strong and stable balance sheet.

An alternative mission for a state-owned bank might be to emphasize loans and investments that serve a social purpose but that the private sector would find too risky.[34] A logical starting point for discussions regarding establishing a public bank in other states, therefore, is to identify the specific purposes of such an institution.

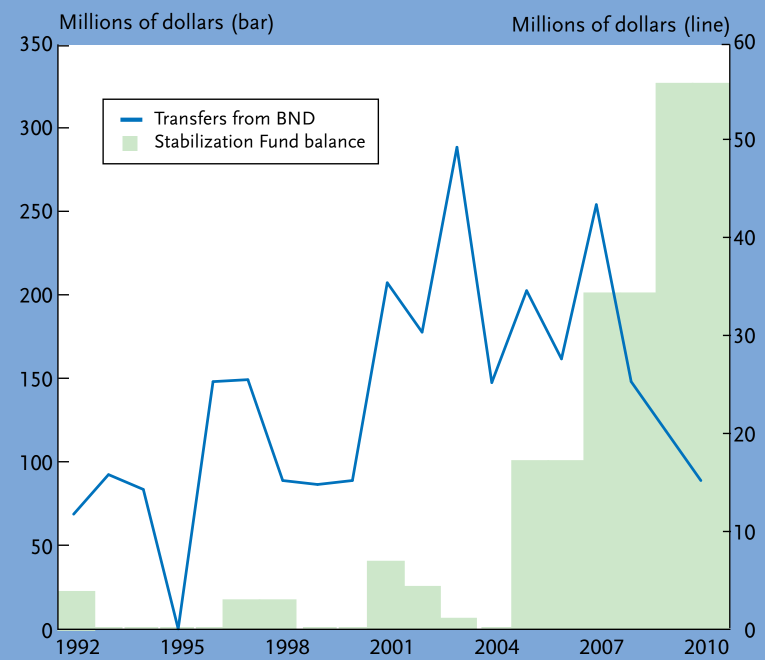
BND's success is not necessarily indicative of what stakeholders should expect of a state-owned bank in a different political or social environment. Numerous studies have compared the performance of public and private banks within countries; the performance of a banking system before and after bank privatization; or bank performance in countries with different mixes of public and private banking. The findings for publicly owned banks in developing or socialist nations—the subject of the bulk of these studies—are arguably not very relevant for decision makers in the United States.

The more limited evidence on state-owned banks in advanced market-oriented economies is mixed. Some studies have found that public and private banks perform similarly, while others have found that public banks are less efficient in allocating credit than private banks.

On the whole, a common theme of these studies has been that management quality seems to be more important than whether a bank is publicly or privately owned in determining its performance.[35] Thus, states or other jurisdictions considering a public bank should weigh the feasibility of creating the structure needed to ensure that it meets its established purposes.

Figure 5. North Dakota continues to receive transfers from BND while building up a separate stabilization fund.

Transfers to the North Dakota general fund and stabilization fund



Source: NEPPC calculations, based on The National Association of State Budget Officers, "The Fiscal Survey of States." Fall 1991- Fall 2010, data provided by Eileen Holwegner of the North Dakota Office of Management and Budget, and North Dakota *Comprehensive Annual Financial Report*, 2004 - 2010.

Note: The transfer data used here will differ from data found in BND *Annual Reports* because they are based on fiscal year.

Lessons for Massachusetts and other states

Present-day advocates of state-owned banks have advanced a variety of arguments concerning the advantages of creating such an institution, drawing heavily on North Dakota's experience. This section explores the role of a public bank in addressing four objectives cited in recent proposals. These include stabilizing the state economy, providing local businesses with greater access to credit, augmenting the lending capacity of private banks, and contributing revenues to help fund state government.

For each objective, this study provides perspectives on the contributions of BND and other institutions or circumstances in North Dakota, as well as the relevance of the North Dakota model for Massachusetts and other states. The section ends by examining the costs of starting up a public bank, based on extrapolating North Dakota's experiences in the early twentieth century to the circumstances facing Massachusetts and other states today.

Table 2 summarizes key demographic, economic, and banking data relevant for the comparison of Massachusetts and North Dakota. Similar information is readily available for other states.

The overall conclusion is that while North Dakota offers a unique and intriguing model, states should recognize that the benefits of a publicly owned bank are hard to quantify, depend on the bank's specific objectives, and likely vary depending on the structure of a state's economy and banking system.

BND's role in stabilizing North Dakota's economy

As the nation's unemployment rate hovered near 10 percent in late 2009, North Dakota's unemployment rate stayed below 4.5 percent. Some policymakers in other parts of the nation have surmised that North Dakota's relatively benign recession might be attributable in part to the existence of a state-owned bank. North Dakotans and economists, on the other hand, tend to be skeptical of that view. They are more likely to attribute North Dakota's recent economic resilience to the strong performance of industries such as agriculture and energy, which play a much more important role in North Dakota than in most other parts of the United States.

This section provides suggestive evidence on BND's contribution to the stabilization of the North Dakota economy by comparing the state's economic performance to that of other states over the past several decades. The general conclusion is that North Dakota's economy has not been marked by unusual stability, notwithstanding any positive effects BND may have had.

Figures 6 to 8 show selected economic data for North Dakota, South Dakota, Massachusetts, and the United States as a whole. South Dakota is selected for comparison because of its proximity to North Dakota, and because

Table 2. Massachusetts and North Dakota have very different demographic, labor, and banking landscapes.

Selected statistics for Massachusetts and North Dakota

	Massachusetts	North Dakota
Population and income		
Population	6,631,280	653,778
Area (square miles)	7,840	68,976
Population density (persons per square mile)	845.8	9.5
Median income (2008 dollars)	65,304	45,996
Employment shares: full-time and part-time employees (percent)		
Health care & social assistance	13.7	11.9
Government	11.1	16.6
Professional & technical services	9.6	3.9
Retail trade	9.5	10.8
Manufacturing	6.6	5.0
Accommodation & food services	6.6	6.7
Farming	0.3	6.4
Mining & natural gas extraction	0.1	1.9
Other	42.7	36.7
State finances		
General revenue from own sources (millions of 2008 dollars)	31,560	3,422
Debt outstanding (millions of 2008 dollars)	71,892	1,952
Share of deposits within state (percent)		
Held by top three banks	48.1	29.6
Held by banks with less than $500 million in deposits	16.0	46.2

Source: NEPPC calculations, based on U.S. Bureau of the Census, U.S. Bureau of Economic Analysis, Federal Deposit Insurance Corporation, Haver Analytics, and Bank of North Dakota *Annual Report,* 2010.
Note: Employment data include individuals classified as proprietors in addition to payroll employees. Debt outstanding includes both public debt for unspecified purposes and public debt for private purposes. Indebtedness also includes all interest-bearing obligations incurred in the name of the government and its dependent agencies. Latest data available used: population (2010), area (2000), population density (2010), median income (2008), employment shares (2009), state finances (2007-08), and share of deposits (2010).

analysis by the Minnesota Federal Reserve indicates that it is the state most similar to North Dakota on key indicators such as size, population, and industry mix.[36] Yet South Dakota's banking industry is very different from North Dakota's: in South Dakota, a single private bank accounts for more than two-thirds of all bank deposits.[37]

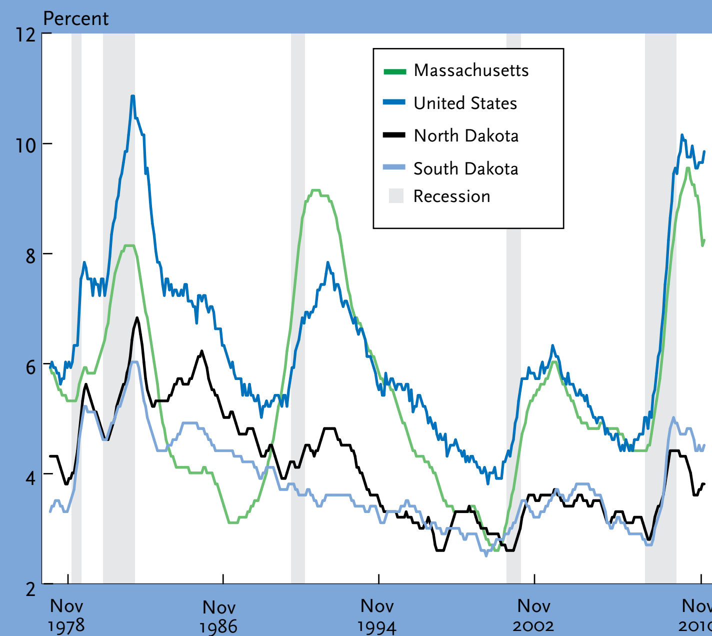
North Dakota has posted a lower unemployment rate than the nation every year since the late 1970s. In most years, its unemployment rate was below that of Massachusetts (Figure 6). South Dakota's unemployment rate, in contrast, has been very similar to that of North Dakota throughout this period. That suggests that the presence of a state-owned bank may not be the major explanation for North Dakota's low jobless rate relative to other parts of the nation. A plausible alternative hypothesis is that the low unemployment rates in the Dakotas are due to demographic and geographic characteristics that influence the structure of their economies.

Other indicators show that North Dakota's economy has been quite volatile, especially during the sharp swings in commodity prices in the late 1970s through the late 1980s. Measured by real personal income, North Dakota's economy has been more cyclical than South Dakota's, Massachusetts', or the nation's (Figure 7).

Mortgage foreclosures reached particularly high levels in North Dakota in the 1980s, almost equaling rates in the current foreclosure crisis nationwide (Figure 8). The high foreclosure rates stemmed from problems in the agricultural sector throughout the Midwest. Encouraged by high commodity prices, farmers incurred significant debt during the 1970s, but had difficulty repaying those loans when commodity prices plunged in the 1980s. BND had a program in the 1980s to provide financing for farmland foreclosed by other lenders, but it was relatively small, resulting in only 18 loans.[38]

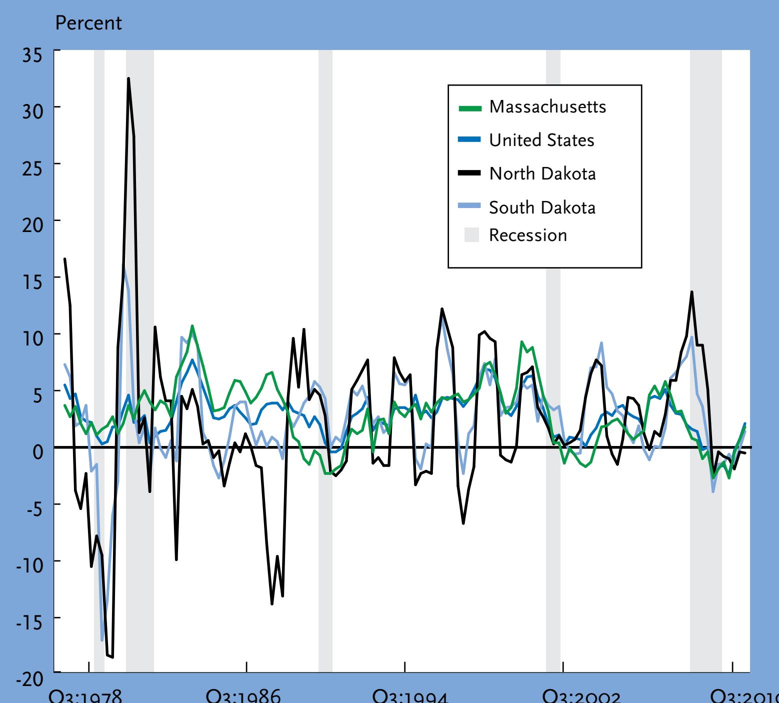
Even the head of BND tends to downplay the bank's role in stabilizing the North Dakota economy. He noted: "I think that we've played a significant role in the state's recent success, but to quantify a role and tell

Figure 6. North and South Dakota have historically experienced very similar unemployment rates.
Historic unemployment rates



Source: U.S. Bureau of Labor Statistics and NBER/Haver Analytics.
Note: Graph displays seasonally adjusted unemployment rates.

Figure 7. North Dakota's personal income has historically been more volatile than South Dakota's.
Historic real personal income growth rates



Source: U.S. Bureau of Economic Analysis and NBER/Haver Analytics.
Note: Data present percentage change over previous four quarters.

you what that is would be difficult. But certainly to lay the success of the state's economy at our feet wouldn't be appropriate either."[39]

Providing credit for small businesses

A key impetus for renewed interest in state-owned banks has been the contraction in credit during the financial crisis and recession of 2007–09, particularly for smaller firms that depend heavily on banks. In national surveys of small businesses by the National Federation of Independent Business, the percentages reporting that their credit needs were being met has fallen from a range of about 35–40 percent in the decade preceding the crisis to just above 25 percent today (Figure 9). Responses from New England firms show similar patterns, although the much smaller sample size results in considerably more volatility from month to month.

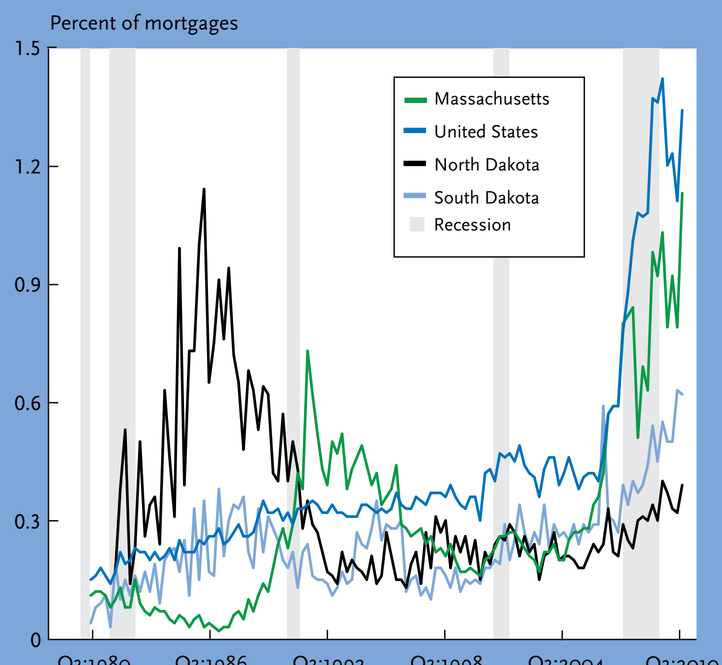
A study of small business lending in New England by the Federal Reserve Bank of Boston noted that during the financial crisis, community banks appeared to have been largely unable or unwilling to offset the contraction in the credit supply stemming from the actions of large banks.[40] The community bankers surveyed by the Boston Fed indicated that the combination of deteriorating borrower qualifications and shrinking demand for new loans reduced their lending.[41] The Boston Fed study did not specifically address the degree to which bank lending to small businesses was constrained by a lack of access to capital.

As noted, North Dakota's economy and financial system were buttressed by strong performance in the agricultural and energy sectors during this period, so we lack hard evidence on the effectiveness of BND in lowering the sorts of credit barriers that arose throughout much of the nation. Still, we do have indirect evidence that BND viewed federal agencies as having the primary responsibility and capacity for providing a liquidity backstop.

Given the national situation in mid-to-late 2008, regulatory agencies urged North Dakota banks to evaluate their exposure to fluctuations in real estate prices, and to develop and test comprehensive liquidity plans. BND did assist North Dakota banks through "record loan growth, letters of credit for public deposits, and a record amount of fed funds borrowed." However, BND warned that "our continued efforts to assist North Dakota banks with this liquidity issue must be tempered with existing federal programs including the Federal Home Loan Bank, FDIC, and the Department of Treasury (so as not to duplicate efforts). Additionally, *we will need to consider our liquidity situation and ensure that we have adequate funding for our mission-critical programs*" [emphasis added].[42]

As implied by BND's statement, the Federal Home Loan Bank (FHLB) system was an important source of liquidity nationwide during the financial crisis. The FHLB system provides "advances" to banks, thrifts, and other institutions to support small business and home lending when other sources of capital are lacking.[43] In the early days of the financial crisis, overall FHLB lending far outstripped emergency lending through the various facilities set up at the Federal Reserve Bank of New York.[44]

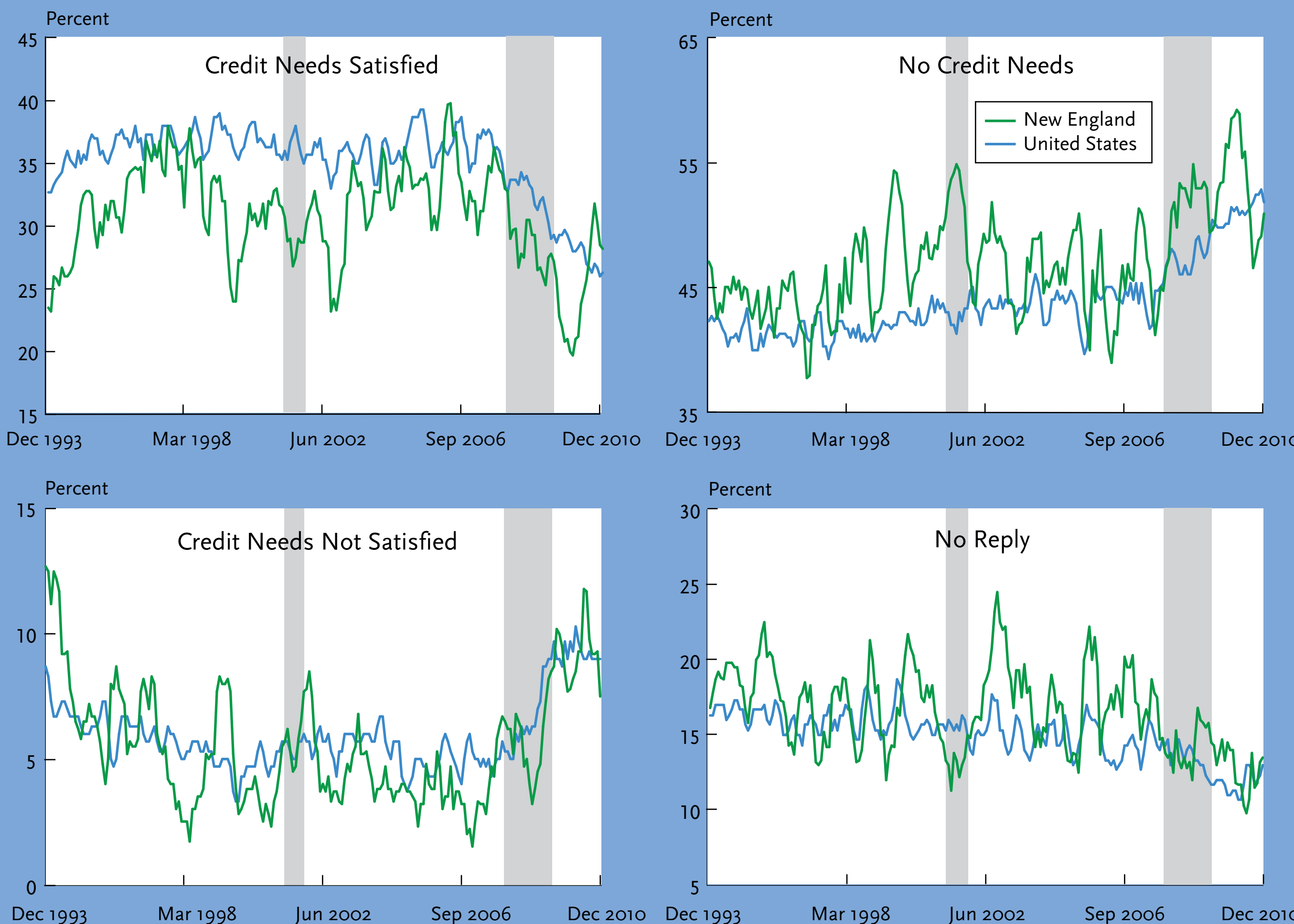
Figure 8. North Dakota saw a large spike in foreclosures in the 1980s.
Historic mortgage foreclosure starts



Source: Mortgage Bankers Association/Haver Analytics.
Note: Rates are not seasonally adjusted.

Figure 9. Since 2007, a growing share of small businesses has been unable to satisfy its credit needs.

Credit needs of surveyed small businesses



Source: NEPPC calculations based on National Federation of Independent Business, Small Business Economic Trends Survey, and NBER/Haver Analytics.

Note: U.S. and New England data based on three- and six-month moving averages, respectively.

Expanded federal support for small business lending

In the wake of the financial crisis, the U.S. Treasury Department has introduced two new vehicles to bolster lending to small businesses. The first, the Small Business Lending Fund, will use up to $30 billion for purchasing preferred stock or equivalents from banks with less than $10 billion in assets. Participating banks are then expected to increase their overall lending to small businesses. The dividend rate paid by the participating bank to the treasury is then determined by the amount by which the bank increases—or alternately fails to decrease—its small business lending.[45] Larger increases lead to dividend rates as low as 1 percent. The second vehicle is the State Small Business Credit Initiative (SSBCI), which provides $1.5 billion to strengthen state programs that support lending to small businesses.[46]

While the Treasury and the FHLB focus on providing liquidity to credit markets, other programs have supported lending by enhancing the credit of potential borrowers who may not otherwise meet loan criteria. The Boston Fed's study of New England found that expansions of several Small Business Administration (SBA) loan guarantee programs since the crisis have ameliorated possible credit constraints on small businesses. Further expansions may occur, given that the Small Business Jobs Act of 2010 relaxed various SBA loan eligibility requirements.

State-level alternatives to public banking

Many of BND's lending and development roles are the responsibility of quasi-public agencies in other states.[47] Massachusetts, in particular, has a richer array of quasi-public lending agencies than North Dakota.

The largest entity, MassDevelopment, aims to promote economic growth and prosperity, and arranges tax-exempt bond issues for the benefit of private parties.[48] Other, smaller authorities provide credit to specialized sectors that are unable to secure competitive rates in the private market. For example, the Massachusetts Clean Energy Center specializes in arranging loans to environmentally friendly technology firms, while the new Massachusetts Growth Capital Corporation focuses on small businesses.

A full evaluation of the quasi-public agencies in Massachusetts is beyond the scope of this study. However, the analysis of BND's lending role and the need for additional liquidity during a financial crisis suggest some avenues for Massachusetts policymakers to explore.

Consolidating the functions of the quasi-public agencies in a single entity could potentially improve transparency and increase lending efficiency. Reporting standards vary among Massachusetts agencies, making it difficult to assess their scale, scope, and performance. Their criteria for evaluating projects may also vary, which may increase the likelihood that public funds are not allocated optimally. Chapter 240 of the acts of 2010 imposed new reporting requirements on the state's economic development agencies, which should clarify their role and help determine appropriate steps for either integrating or coordinating their activities.

State policymakers could also explore ways to expand state lending-related programs at times when banks are capital-constrained or particularly averse to making risky loans. This would amount to state-level countercyclical policy to offset credit supply constraints in the private sector.

To be effective, such a policy would have to rely on funds set aside before a crisis, and on a clear framework for encouraging crisis-period lending. In Massachusetts, such a countercyclical policy might entail restructuring the existing Capital Access Program (CAP). Through CAP, state government contributes to a loan-loss reserve for small business loans, facilitating access to credit. CAP has received $15.5 million in appropriations and facilitated over 4,400 loans with a total value of roughly $280 million during the past 17 years. More than 60 banks in Massachusetts participate in CAP.[49] Developing more specific plans for restructuring CAP—or designing a separate entity to address crises in the credit supply—would require considerable study.

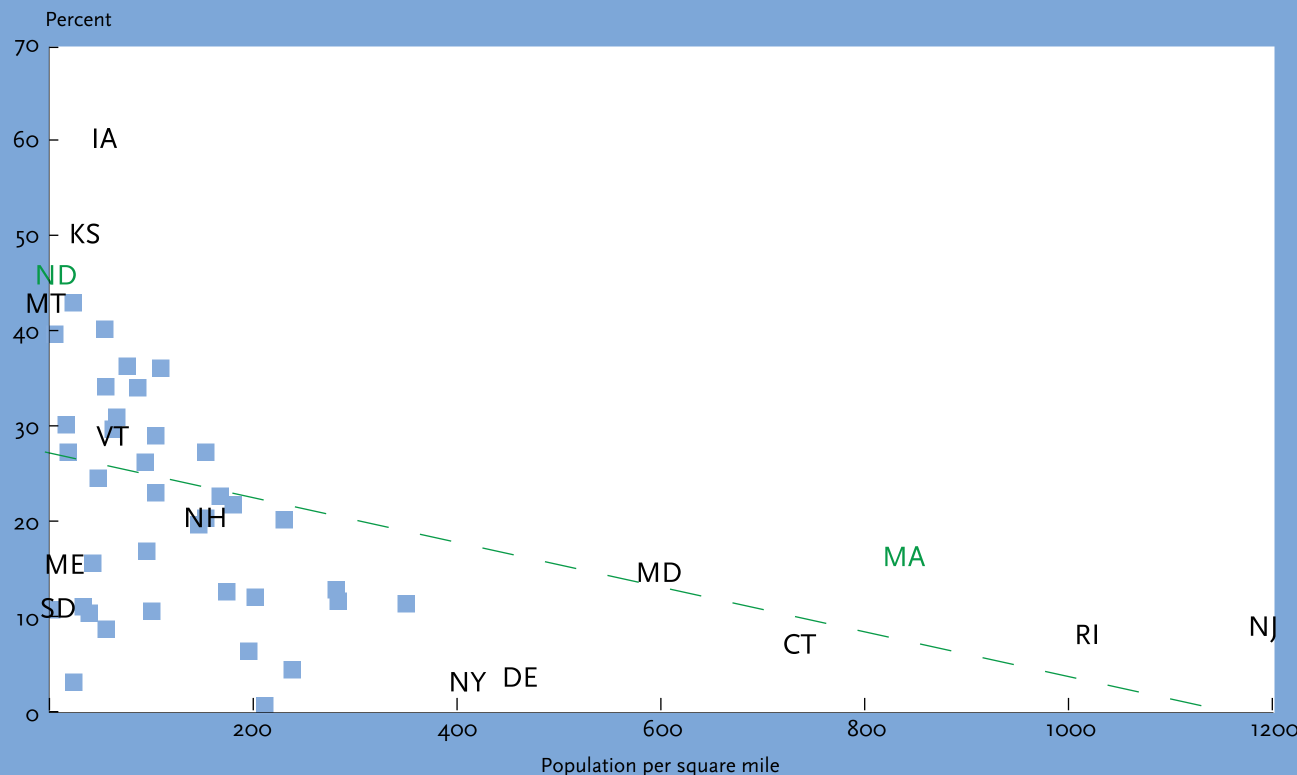
State-owned bank as a partner for community banks

As noted, BND participates in business loans largely originated by other North Dakota banks. This arrangement implies that local private banks have an informational advantage over BND in determining the creditworthiness of North Dakota borrowers. However, without the participation of another lender such as BND, local banks might be unable to meet the demand for relatively large-scale loans.[50]

In other states, community banks face competition from large private banks that have greater lending capacity and offer a wider array of services to business customers. Since BND does not compete in the same ways as private banks, its presence may strengthen the role of community banks in North Dakota and limit the presence of nationwide and international banks.

In some other states, starting with Minnesota in 1975, community bankers decided on a different institutional arrangement to serve the same purpose: bankers' banks, which are owned by their member institutions. Those banks provide both traditional and nontraditional banking services for their members. They do not take deposits from or make loans to the general public, unaffiliated

Figure 10. Small banks tend to account for a low share of deposits in densely populated states.
Correlation of deposits in banks with less than $500 million in total deposits to population density



Source: NEPPC calculations based on Federal Deposit Insurance Corporation, Summary of Deposits, 2010, Bank of North Dakota, *Annual Report*, 2010, and U.S. Census Bureau.
Note: Selected states highlighted. Regression line was included to illustrate relationship between population density and deposits in small banks. "Specialty" banks were excluded. These banks were defined as banks with more than 1 percent of deposits and fewer than five offices within a given state. These criteria may not remove all specialty banks, and may in fact remove traditional banks. Rather than operating like a traditional bank, these institutions provide specialized services, and are often located in particular states to take advantage of favorable state laws. For instance, CitiBank South Dakota is responsible for CitiBank's credit card division. Delaware, Nevada, and Utah had unusually high concentrations of such institutions. Additionally, a list of "Limited-Purpose" institutions available through an internal Federal Reserve Federal Reserve database was used to remove bankers' banks, cash management banks, cooperative banks, credit card banks, industrial loan companies, internet banks, nonbank banks, depository trust companies, and wholesale banks.

corporations, or government, and they are FDIC-insured. Bankers' banks now exist in about one-half of the states.[51]

The structure of banking markets in Massachusetts is very different from that in North Dakota. In Massachusetts, the top three banks account for nearly one-half of bank deposits, and banks with less than $500 million in deposits account for only about 16 percent of total deposits. Thus, larger private banks already exist to meet the credit and other service needs that smaller banks are unable to satisfy.

This contrast between Massachusetts and North Dakota is in keeping with a nationwide pattern: smaller banks tend to account for lower shares of overall bank deposits in densely populated states than in sparsely populated states (Figure 10). In fact, Massachusetts is a prime example of a state with a high population density and a low share of deposits in smaller banks (as are two other New England states, Connecticut and Rhode Island), while North Dakota occupies the opposite end of the spectrum.

Among sparsely populated states, banking concentrations vary considerably. In Iowa and Kansas, banks with less than $500 million in deposits account for more than one-half of total bank deposits—even more than in North Dakota. In Maine and Vermont, small banks account for 16 percent and 29 percent of total bank deposits, respectively—less than in North Dakota but more than in some other sparsely settled states.

These disparate banking structures across states reflect a combination of market forces and state regulations. Small banks are likely to provide services well-suited to the needs of remote areas with many small businesses and little commuting to and from those areas. On the other hand, big banks are likely to dominate in urban markets that have concentrations of larger businesses with multiple locations and sophisticated financial needs.

State-specific barriers to entry into the banking market—and the timing of their relaxation—influence the degree to which state banking structures have evolved in line with market forces. Most states began relaxing restrictions on intrastate branching and interstate banking in the 1970s and 1980s. New England states were relatively early adopters of bank deregulation, which allowed out-of-state and larger banks to enter their markets. At the other extreme, Kansas, Montana, and North Dakota—states where small banks predominate—were among only four states that did not allow out-of-state bank holding companies to enter their markets as of the beginning of 1991.[52]

To summarize, the strong presence of small banks in North Dakota largely reflects its population and business patterns, as well as its historical antipathy to out-of-state banks. As a result of inherent economic and geographic characteristics and its regulatory stance, Massachusetts has a greater presence of relatively large financial institutions with the capacity to fund sizable projects. In this market environment, existing private-sector banks would likely view a new public bank as an undesired competitor rather than a welcome partner.

Role of a state-owned bank in state finances

The possibility of using a state-owned bank to provide supplemental rainy day funds may be appealing to states struggling with budget shortfalls. Over the past decade, BND has returned about $30 million per year to the state general fund. The economy of Massachusetts is about 11 times the size of the North Dakota economy, so an equivalently scaled entity in Massachusetts might have contributed more than $300 million per year.[53]

By comparison, Massachusetts pulled $1.9 billion from its rainy day reserves to fill large budget gaps from the end of FY 2007 to the end of FY 2010, and is expected to draw down another $175 million in FY 2011.[54] Rainy day reserves at the end of FY 2011 are expected to fall far short of the projected budget shortfall for FY 2012. As a result, the state will have to make further spending cuts or raise revenues in the coming fiscal year. Having access to additional resources would have allowed the Commonwealth to adopt more stable budgets during this period.

As noted, North Dakota relies primarily on a separate fiscal stabilization fund to meet revenue shortfalls rather than counting on transfers from BND. The likely reason is to give BND relative autonomy in its lending decisions. A state bank that managed its activities with an eye toward optimizing its transfers to state government would likely fall short in its basic mission to provide credit to qualified borrowers to promote economic development. This point is especially pertinent in times of economic difficulty, when state coffers often drain, and a state bank would have to serve the competing goals of stabilizing state budgets and providing credit to a sluggish economy.

North Dakota also seems especially focused on maintaining fiscal stability, and as such has a variety of tools besides BND to respond to revenue shocks. These include the Permanent Oil Tax Trust Fund,[55] the newly created Legacy Fund,[56] and the newly expanded rainy day fund.[57] In fact, North Dakota expects to receive roughly 16 percent of its revenue from transfers from various funds and miscellaneous sources—about the 73 percent of the amount it will derive from individual income taxes, and about 43 percent of what it will derive from sales and use taxes. A large portion of these transfers come from oil- and gas-related revenues.

Massachusetts and most other states obviously cannot rely on revenues from natural resources to the same degree as North Dakota. However, the North Dakota example shows that states intent on stabilizing their finances can design a variety of methods to reserve revenues for future use. Massachusetts' recent decision to allocate abnormal capital gains tax receipts to its rainy day fund is one such option.[58]

Startup considerations

Creating a state bank would entail significant startup costs. BND was capitalized initially through a $2 million bond issue in 1919. Adjusting for inflation, that amounts to a state bond issue of approximately $25 million. However, that calculation does not adjust for growth in the size of the economy between 1919 and today. Assuming a 13-fold expansion—the growth in the national economy over the past 70 years—puts the required capitalization at $325 million.[59] Scaling up that amount to reflect the larger size of the Massachusetts economy yields a required capitalization in the range of $3.6 billion. That is equivalent to some 21 percent of the state's outstanding direct debt, and would be an especially ambitious amount of debt to issue when state finances remain under pressure.[60]

Beyond the initial capitalization, the state would need to determine a schedule for depositing funds in the newly created public bank. Massachusetts state government deposits in private financial institutions total $522 million.[61] Another $3.5 billion in state funds are managed by the Massachusetts Municipal Depository Trust, an investment fund overseen by the state treasurer. (These figures do not include the funds of state institutions, such as the University of Massachusetts System.) An aggressive timetable that required the state to withdraw such deposits from private institutions would be disruptive, as it would require them to reduce their lending and investment portfolios, which would likely have a negative impact on the Massachusetts economy.[62] A gradual phase-in would mitigate these disturbances but limit the capacity of the new bank in its startup years.

Finally, the recently enacted Dodd-Frank Act gives federal agencies new authority over large and systemically important institutions. Due to its potential size, a fully capitalized state-owned bank in Massachusetts would likely pose supervisory and regulatory challenges. BND has not spurred questions regarding federal oversight of state institutions because it is relatively small and its deposits are not FDIC-insured.

Conclusions

The Bank of North Dakota is a unique institution. Although it has played various roles since its founding in 1919, **BND's most important role in 2011 is serving as a lending partner for North Dakota's numerous small banks.** Over one-half of BND's current loan portfolio consists of loan participations and loan purchases from community banks. Student loans account for most of the remainder. In about 20 other states, some community banks have chosen to join private bankers' banks that provide similar lending-related services, albeit on a smaller scale than the Bank of North Dakota. Furthermore, unlike in North Dakota, the banking sectors in many U.S. states are marked by a strong presence of relatively large institutions that can take on complex lending projects. Massachusetts, in particular, offers a natural setting for larger institutions because it is densely populated, and because the state relaxed restrictions on intrastate branching and interstate banking comparatively early.

The willingness and capacity of a state-owned bank to offset a serious credit crunch has not been shown. This study confirmed that BND served as a source of backup credit in North Dakota during the financial crisis and economic recession of 2007–09. However, the strong performance of North Dakota's core agricultural and energy sectors limited the stresses on its private banks compared with those in other parts of the nation. BND also viewed its backup credit functions as secondary to its core economic development lending programs. Whether states should attempt to set up their own facilities to mitigate future credit crunches—in addition to programs available nationally through the

Federal Home Loan Bank system, the U.S. Treasury Department, and the Small Business Administration—is an intriguing question, but beyond the scope of this study.

With the possible exception of the Great Depression, BND's contributions to stabilizing the state economy and finances appear to have been relatively minor. The North Dakota economy has exhibited considerable sensitivity to commodity prices. Judging by indicators such as unemployment, personal income, and mortgage foreclosures, the state's economy has not been more stable than that of South Dakota, which has many similar characteristics but no state-owned bank. While the government of North Dakota receives dividend-type payments from the Bank of North Dakota, it relies much more heavily on traditional fiscal stabilization funds to smooth out its overall revenue stream. These findings suggest that Massachusetts and other states should continue to pursue their stabilization goals primarily by encouraging a diversified mix of economic activities and revenue sources, and by maintaining or even augmenting their use of rainy day funds to smooth public service provision during the business cycle.

The potential costs of starting up a state-owned bank could be significant. Capitalizing a new bank along the lines of the initial size of BND—but scaled up to reflect the current size of the Massachusetts economy—would require funds roughly equal to one-fifth of the state's general obligation debt. Transferring funds from existing private bank accounts and the investment fund of the Massachusetts Municipal Depository Trust would result in cutbacks in existing sources of credit. To the extent that these funds are now used to finance activities in Massachusetts, the state economy would be affected.

Although much of this analysis has focused on evidence from North Dakota, it is important to emphasize that **Massachusetts and other states should start any discussions of financial-sector reforms by identifying the problems that public policy needs to address.** Depending on which market failures need correcting, the appropriate solutions could include establishing a public bank that differs from the one in North Dakota, further reform of the structure of public and quasi-public economic development and financing agencies, or some other form of government intervention such as enhanced information or regulation.

Endnotes

1 These states are Hawaii, Illinois, Michigan, Missouri, New Mexico, Vermont, Virginia, and Washington.

2 *New York Times*, "State Bank for Oregon; Proposal to Be Voted on Opposed by the Local Bankers," October 18, 1936.

3 These states included Colorado, Maine, New York, New Jersey, Oregon, and Washington.

4 *Palm Beach Post*, "Bank of North Dakota: Only One of Its Kind," November 8, 1975.

5 Abdul Abiad, Enrica Detragiache, and Thierry Tressel, A New Database of Financial Reforms, International Monetary Fund, 2008.

6 Nations were categorized as one of the following: fully liberalized, if no state banks existed, or state-owned banks did not constitute any significant portion of banks, and/or public banks had less than 10 percent of total banking assets; largely liberalized, if most banks were privately owned and/or the public banks had 10 to 25 percent of total banking assets; partially repressed, if many banks were privately owned but major banks were still state-owned, and/or public banks had 25 to 50 percent of total banking assets; or fully repressed, if major banks were all state-owned and/or public banks had 50 to 100 percent of total banking assets.

7 Recent estimates indicate that Indian public-sector banks own 75 percent of total Indian banking assets, and that banks in which the Chinese government has a majority share account for nearly 70 percent of total Chinese banking assets. Germany and South Korea were found to have majority stakes in companies that hold 40 percent and 19 percent of the assets in the national banking system, respectively. See A. Michael Andrews, "State-Owned Banks, Stability, Privatization, and Growth: Practical Policy Decision in a World Without Empirical Proof," International Monetary Fund, 2010; and World Bank, *Bank Regulation and Supervision*, 2007 (revised June 2008).

8 Alex F. Schwartz, *Housing Policy in the United States: An Introduction*, Routledge, 2006.

9 For example, the Clean Energy Trust Fund of the Massachusetts Clean Energy Center is funded by a small charge on each kilowatt purchased by consumers in designated areas, and the Massachusetts Housing Partnership is funded by statutorily mandated contributions from companies that acquire Massachusetts banks.

10 Much of the information in this section is from Prairie Public Broadcasting, "History of Bank of North Dakota: Introduction."http://www.banknd.nd.gov/about_BND/prairie_public_history_of_BND/index.html.Accessed 01/21/2011.

11 Peter S. Fisher, "The Role of the Public Sector in Local Development Finance: Evaluating Alternative Institutional Arrangements," *Journal of Economic Issues*, March 1983.

12 BND performs correspondent bank services (such as check clearing and coin and currency provision) for financial institutions in North Dakota that the regional Federal Reserve Banks also offer. This study does not cover those services.

13 Although BND maintains some small direct lending programs, a study in the early 1990s reported that North Dakota manufacturers seeking loans found BND less cooperative than other banks and financial institutions, the federal Small Business Administration, and other government-sponsored agencies. Manufacturers rated these institutions from 1 to 5, with 1 the most cooperative and 5 the least. BND received an average rating of 3.07, while "government programs" were rated 2.73. BND received a score of 5 nearly four times more often than the next-highest institutional group. These patterns may reflect BND's intentionally narrow direct lending programs. See F. Larry Leistritz and Janet K. Wanzek, *North Dakota Manufacturers: Attributes and Needs Assessment*, Agricultural Economics Report no. 23322, Department of Agribusiness and Applied Economics, North Dakota State University, 1992.

14 In fiscal-year 2010, U.S. commercial and savings banks with assets of $2 billion to $5 billion had an overall loan-to-asset ratio of 65.4 percent. In Massachusetts, the ratio for such banks was 67.3 percent.

15 Bank of North Dakota, *Annual Report*, 2010.

16 These rankings are based on total assets. December data were used for comparability with BND annual reports. U.S. bank assets include foreign holdings, while foreign bank assets are limited to assets held in the United States. American Banker, "Banks and Thrifts with the Most Assets." http://www.americanbanker.com/rankings/bt-most-assets-1037667-1.html. Accessed 05/17/11.

17 Calculations by the New England Public Policy Center (NEPPC), based on Federal Deposit Insurance Corporation, *Summary of Deposits*, 2010, and Bank of North Dakota, *Annual Report*, 2010.

18 BND videoconference transcript from May 5, 2010, provided by James Barnhardt, BND communications and marketing director, November 19, 2010.

19 BND started providing liquidity to North Dakota financial institutions in 1972, and now offers three liquidity programs. See "Established Programs at BND Provide Liquidity," *BND Exchange* 7(1) (2009).

20 In early 2010, 97 percent of student loans, 83 percent of residential loans, 7 percent of agricultural loans, and 5 percent of commercial loan were guaranteed. NEPPC calculations, based on data from Standard and Poor's, "Global Credit Portal: Ratings Direct—Bank of North Dakota," July 2010.

21 The findings on loan losses and capitalization are based on the same sources and peer groups used to construct Table 1.

22 Bank of North Dakota, "About Us." http://www.banknd.nd.gov/about_BND/index.html. Accessed 01/21/2011.

23 Standard and Poor's, "Global Credit Portal: Ratings Direct—Bank of North Dakota," July 2010.

24 E-mail correspondence with Pamela Sharp, director of the North Dakota Office of Management and Budget, February 15, 2011.

25 NEPPC calculations, based on Bank of North Dakota, *Annual Reports*, 1975 to 2010.

26 Federal Reserve Bank of Minneapolis, "After the Fiscal Gold Rush," January 2004.

27 The losses relating to these bonds persisted until 1995, when BND transferred $23 million to the North Dakota Real Estate Trust. See Bank of North Dakota *Annual Reports*.

28 CBS News, "State-Owned Banks a Blueprint for Future?" February 16, 2010.

29 The following formula illustrates the net impact on state revenue of a state-owned bank: Net revenue = (net transfers from state bank to state government) + (weighted average state tax rate) X (change in state tax base) + (state bank interest rate – prevailing market interest rate) X (total state government deposits in state bank). In Massachusetts, for example, a state-owned bank would be exempt from the excise tax on financial institutions. In FY 2010, Massachusetts derived nearly $235 million, or 1.2 percent of its overall revenues, from taxes on financial institutions. See Massachusetts Department of Revenue, "Monthly Report of Collections and Refunds," June 2010.

30 BND may respond to other emergencies as well. In 1976 the only bank in Towner, North Dakota was closed while it was being examined. BND opened a temporary branch in Towner to handle local banking needs. See *Deseret News*, "Residents in Financial Bind as Town's Only Bank Closes," December 1976.

31 BND teleconference transcript from July 2010, provided by James Barnhardt, BND communications and marketing director, November 19, 2010.

32 Rick Clayburgh, president of the North Dakota Bankers Association and former state tax commissioner and state legislator, has said: "Our legislature… has kept their politics

out of the governance of the Bank of North Dakota." BND president Eric Hardmeyer has indicated that the bank has been willing to voice its concerns to the state legislature, and to stress sound business practices over other motivations. "Legislators ... are very mindful of running this bank in a very prudent and solvent manner." BND videoconference transcript from May 5, 2010, provided by James Barnhardt, BND communications and marketing director, November 19, 2010.

33 Peter S. Fisher, "The Role of the Public Sector in Local Development Finance: Evaluating Alternative Institutional Arrangements," *Journal of Economic Issues*, March 1983; David Fettig, "Banking on the Government: The Bank of North Dakota Turns 75," *The Region*, March 1994.

34 Despite its separate financial accounting, BND interacts extensively with state agencies. For example, the North Dakota Development Fund administers the state's New Venture Capital Program, which provides debt and equity for new or expanding businesses, through BND. North Dakota Department of Commerce, "Business Support."http://www.business.nd.gov/businessInformation/nd-development-fund/new-venture-capital-program/. Accessed 01/21/2011. The North Dakota Housing Finance Agency, which facilitates about one-fifth of the home mortgage loan volume in the state, has a $60 million line of credit with BND.

35 Research has shown that the lending of Italian banks owned by public authorities is sensitive to political processes, and that state-owned banks favor firms in depressed areas as well as large firms. See Paola Sapienza, "The Effects of Government Ownership on Bank Lending," *Journal of Financial Economics*, May 2004. One study documents inferior lending decisions by public banks in Germany during the recent crisis. See Harald Hau and Marcel Thum, "Subprime Crisis and Board (In-) Competence: Private vs. Public Banks in Germany," *Economic Policy*, October 2009. Another study found the lending of state-owned banks less responsive to macroeconomic shocks than the lending of private banks—meaning that state-owned banks play a credit-smoothing role. See Alejandro Micco and Ugo Panizza, "Bank Ownership and Lending Behavior," *Economics Letters*, October 2006. Other research has reaffirmed this credit-smoothing role but also found that state-owned banks may not allocate credit optimally. See Eduardo Levy Yeyati, Alejandro Micco, and Ugo Panizza, "A Reappraisal of State-Owned Banks," *Economia*, Spring 2007.

36 E-mail correspondence with Tobias C. Madden, regional economist at the Federal Reserve Bank of Minnesota, January 4, 2011.

37 In 2010, Wells Fargo accounted for 73 percent of total bank deposits in South Dakota. The second-largest bank, Great Western Bank, held only 2.4 percent of deposits. These data exclude banks with fewer than five branches that held more than 1 percent of state bank deposits. The most notable example is CitiBank South Dakota, a credit card processor and the largest bank by deposit holdings. NEPPC calculations, based on Federal Deposit Insurance Corporation, *Summary of Deposits*, 2010.

38 E-mail correspondence with James Barnhardt, BND communications and marketing director, January 25, 2011.

39 Federal Reserve Bank of Minneapolis, "Interview with Eric Hardmeyer", October 2010.

40 Jihye Jeon, Judit Montoriol-Garriga, Robert K. Triest, and J. Christina Wang, "Evidence of a Credit Crunch? Results from the 2010 Survey of First District Community Banks," Federal Reserve Bank of Boston, September 2010.

41 A more recent study of Massachusetts cited declines in small business demand for loans during this period. See "Funding Economic Recovery: Trends in Small Business Lending in Massachusetts," by Polecon Research for the Massachusetts Bankers Association, April 2011.

42 Eric Hardmeyer, "President's Message," *BND Exchange* 7(1) (2009), p. 2.

43 John A. Tuccillo, Frederick E. Flick, and Michelle R. Ranville, "The Impact of Advances on Federal Home Loan Bank Portfolio Lending: A Statistical Analysis," JTA LLC, February 2005.

44 Federal Reserve Bank of New York, *The Federal Home Loan Bank System: The Lender of Next-to-Last Resort?* November 2008.

45 This program defines small business lending as commercial and industrial loans, owner-occupied nonfarm, nonresidential real estate loans, loans to finance agricultural production and other loans to farmers, and loans secured by farmland that are less than $10 million in value and are provided to companies with less than $50 million in annual revenues.

46 Programs eligible for these funds include Capital Access Programs (CAPs) similar to Massachusetts' CAP program, discussed in this study. All New England states except Massachusetts are expected to receive about $13 million through the SSBCI. Massachusetts is expected to receive $22 million. See U.S Department of the Treasury, "Small Business Programs." http://www.treasury.gov/resource-center/sb-programs/Pages/default.aspx. Accessed 05/17/2011.

47 For example, Vermont uses the Vermont Economic Development Authority, the Vermont Municipal Bond Bank, and the Vermont Housing Finance Agency to fill some of the roles that BND plays in North Dakota.

48 Chapter 240 of the acts of 2010 rolled the Health and Educational Facilities Authority (HEFA) into MassDevelopment. HEFA has a similar financing model but focuses on institutions such as universities and hospitals. Based on annual financing facilitated, the second- and third-largest authorities, respectively, are MassHousing (the state housing finance authority) and the Massachusetts Educational Financing Authority (MEFA). MassHousing and MEFA issue revenue bonds to finance their activities. MassHousing lends directly to borrowers, while MEFA purchases loans originated by participating educational institutions.

49 While CAP has facilitated a fairly moderate amount of overall lending, the data imply that for every dollar appropriated by the state, the program funds $18 in small business loans. It is unclear what proportion of these loans would not have been funded in the absence of CAP. Conversation with David Harrington, CAP director of business development, February 24, 2011.

50 One piece of supporting evidence is an analysis by the Center for State Innovation indicating that North Dakota's small and medium-sized banks are characterized by higher loan-to-asset ratios and lower rates of non-accruing assets than their regional counterparts in Montana, South Dakota, and Wyoming. See Center for State Innovation, "Oregon State Bank Analysis, Revised," December 2010. One important caveat is that the center's analysis does not consider whether the relatively high lending rates of North Dakota banks are an artifact of the time period examined (the late 2000s).

51 Federal Reserve Bank System, "FRB Seasonal Credit for Bankers' Banks," January 2003.

52 This group also included Hawaii. See H. Simih Yildirim and Sunil K. Mohanty, "Geographic Deregulation and Competition in the U.S. Banking Industry," *Financial Markets, Institutions, and Instruments*, April 2010.

53 NEPPC calculations, based on 2009 gross domestic product data from Bureau of Economic Analysis.

54 Massachusetts Budget and Policy Center, "Saving for that Rainy Day: The Stabilization Fund," March 2010.

55 The Permanent Oil Tax Trust Fund receives all taxes on oil extraction and production collected and deposited in the general fund in excess of $71 million. The state treasurer transfers interest earnings from the trust fund to the general fund at the end of each fiscal year. The principal may be spent only after approval by two-thirds of each house in the Legislative Assembly. A $1 million transfer from BND to the state is forecast in the current biennium. The state's

specialized funds will transfer a total of some $476 million to state government. The estimated transfer from the Permanent Oil Tax Trust Fund is $435 million, or about 91 percent of the expected transfers from specialized funds. This far exceeds any historical transfers from BND. Transfers have at least doubled every biennium since 2001–03—the result of the explosive growth of North Dakota's energy sector. See North Dakota, Legislative Appropriations, 2009–2011 Biennium.

[56] North Dakota's recently established Legacy Fund will receive 30 percent of all state taxes on oil and gas production and extraction beginning July 1, 2011. The State Investment Board will invest the principal. The fund will retain interest and investment earnings until June 30, 2017, after which they will be transferred to the general fund once each biennium. For biennia 2011–13 through 2015–17, interest earnings will be added to the fund principal. Roughly $615 million will be deposited in the Legacy Fund in the 2011–2013 biennium, according to estimates. See North Dakota, Executive Budget, 2011–2013 Biennium.

[57] Chapter 54-27.2 of North Dakota's Century Code indicates that, as of July 1, 2009, the limit on the balance of the rainy day fund rose from 5 percent to 10 percent of the current biennial general fund budget.

[58] Massachusetts derived 6 percent of its revenue from its capital gains tax in FY 2007. This revenue source has proven especially volatile over the years. See MassINC, "Capital Gains: Avoiding Harm to the State Budget," 2008. To curb the fiscal impact of this volatility, Chapter 131 of the Acts of 2010, Section 19, calls for placing 95 percent of capital gains revenue in excess of $1 billion in the state's rainy day fund, and placing the remaining 5 percent in the State Retiree Benefits Trust Fund.

[59] U.S. gross domestic product was about 13 times higher in 2009 than in 1929, in constant dollars. Earlier data are unavailable.

[60] There is some question as to whether existing statutes would permit the state to issue this amount of debt in a single year. Because a state-owned bank would essentially be an agent of the state, its debt might count against the state's statutorily set debt limit. BND has a debt limit of 70 percent of total assets, and that limit does not count against the state's debt limit. E-mail correspondence with James Barnhardt, BND communications and marketing director, December 2, 2010. Current Massachusetts law limits debt service to no more than 10 percent of overall appropriations, and direct debt to no more than 105 percent of the prior year's limit. In FY 2010 this limit was about $17.2 billion, and total outstanding direct debt subject to this limit was about $14.7 billion. Debt service that year was $1.58 billion. A similar service-to-debt ratio implies that issuing $3.6 billion in debt would require an additional $386 million in annual debt service payments. See Commonwealth of Massachusetts, "Statutory Debt Limits." http://www.mass.gov/bb/cap/fy2009/exec/hdebtafford_3.htm. Accessed 02/18/2011.

[61] Only $2 million of the $522 million is deposited in Massachusetts-based banks. E-mail correspondence with Henry Clay, director of investments, Massachusetts Department of the State Treasurer, March 11, 2011.

[62] An analysis by the Vermont Legislative Joint Fiscal Office noted that Vermont's trust funds are handled by fund managers whose fiduciary responsibilities could pose an obstacle to redepositing those funds in a state-owned bank. Whether that would be true of state funds deposited in the Massachusetts Municipal Depository Trust is unclear. See Vermont Legislative Joint Fiscal Office, "Preliminary Review of Issues in Adopting a Bank of North Dakota (BND) Model in VT," January 2010.

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