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Financing of SMEs A Regional Approach

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Regional Economic Development: A Multi-pronged Approach

- Access to financing is an important issue for all firms for sustained economic growth. However, there seems to be considerable debate:
 - Robert Lucas (1988, p.6) dismisses finance as an “over-stressed” determinant of economic growth. Joan Robinson (1952, p. 86) famously argued that "where enterprise leads finance follows."
 - At the other extreme, Merton Miller (1988,p.14) argues that, “[the idea] that financial markets contribute to economic growth is a proposition too obvious for serious discussion.”
- Bank financing and aggregate economic growth and SME productivity.
 - Black and Strahan (2002), Kerr and Nanda (2009), Krishnan, Nandy and Puri (2014).
- Cross-border Trade, Market Access and Firm Productivity.
- Business Clusters, Trade Credit Financing and Growth.

Outline of Issues and Scope of Policy

- Challenge of research is to identify causal effects. Usually very difficult, given data availability and other issues.
- Policy based on causal evidence benefits both the government as well as the private sector.
- Use of natural experiments to identify causal impact. Better, (and a recent trend) is to focus on Randomized Control Trials (RCTs).
 - Advantage: real time experiment on the population targeted by the policy.

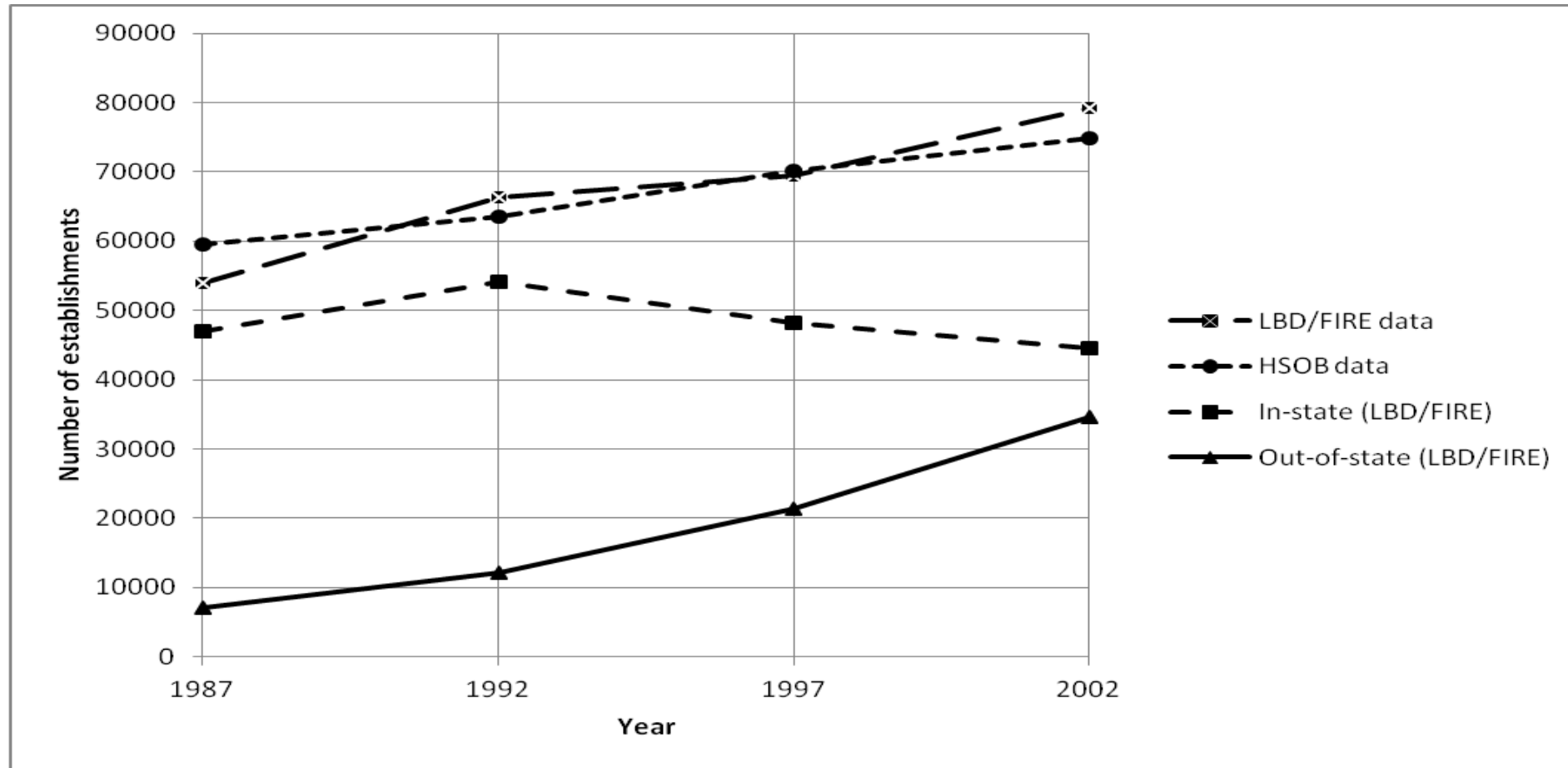
Outline of Issues and Scope of Policy

- Access to finance and banking regulations.
 - “Does Financing Spur Small Business Productivity? Evidence from a Natural Experiment,” (with Karthik Krishnan and Manju Puri), *Review of Financial Studies*, 28 (6), pp. 1768 – 1809, June 2015
- Regional Trade Agreements and Increased Market Access from Free-trade.
 - “Market Access and Border Entrepreneurship”, (with James Davis, Karthik Krishnan, and Wayne Gray), *Working paper, 2018*.
- Co-agglomeration: Economic and Business Clusters and the role of trade credit.
 - “Does economic growth attract financing: evidence from million-dollar plants” (with Abdullah Al Mahmud), *Working paper, 2018*.

Banking De-regulation & Increased SME Financing

- Experiment: Interstate Banking and Branching Efficiency Act of 1994 (IBBEA) – allowed interstate bank branching within the United States.
- Firms are unable to access productive projects in the absence of cheap financing.
 - Financial constraint of firms were eased after the bank branching deregulations.
- Analyze the growth in total factor productivity (TFP) (profitability) for firms that were financially constrained from before to after the deregulation.
 - Use regression discontinuity design approach (RDD).

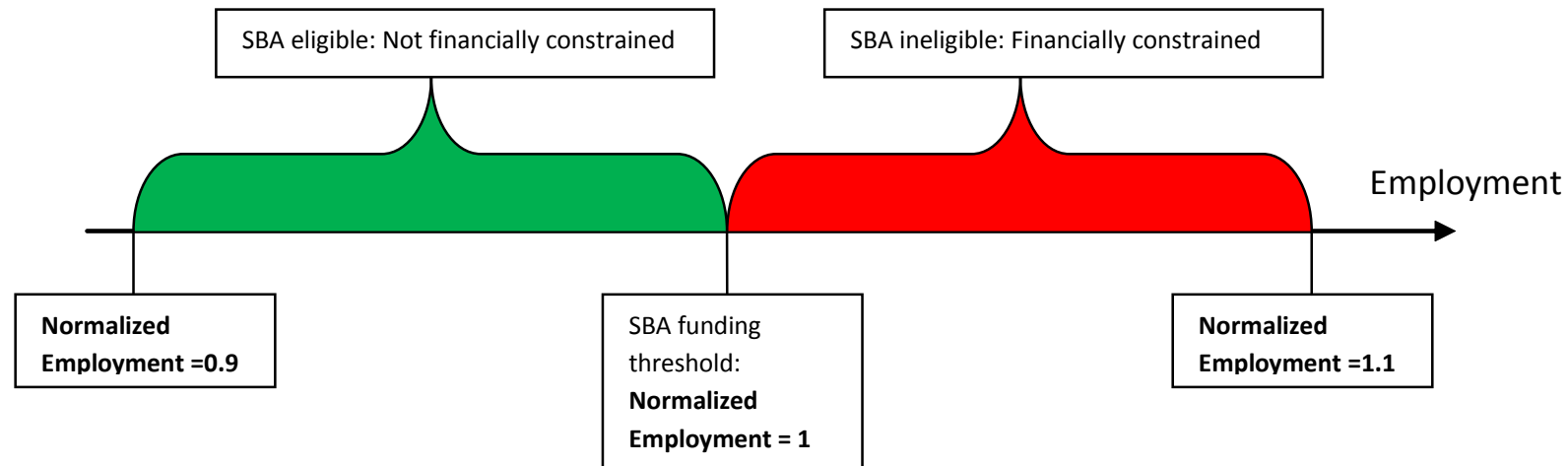
Changes in In-State and Out-of-State Bank Branches in the US



- Historical Statistics on Banking (HSOB)
- LBD and Census of FIRE ('87, '92, '97, '02).

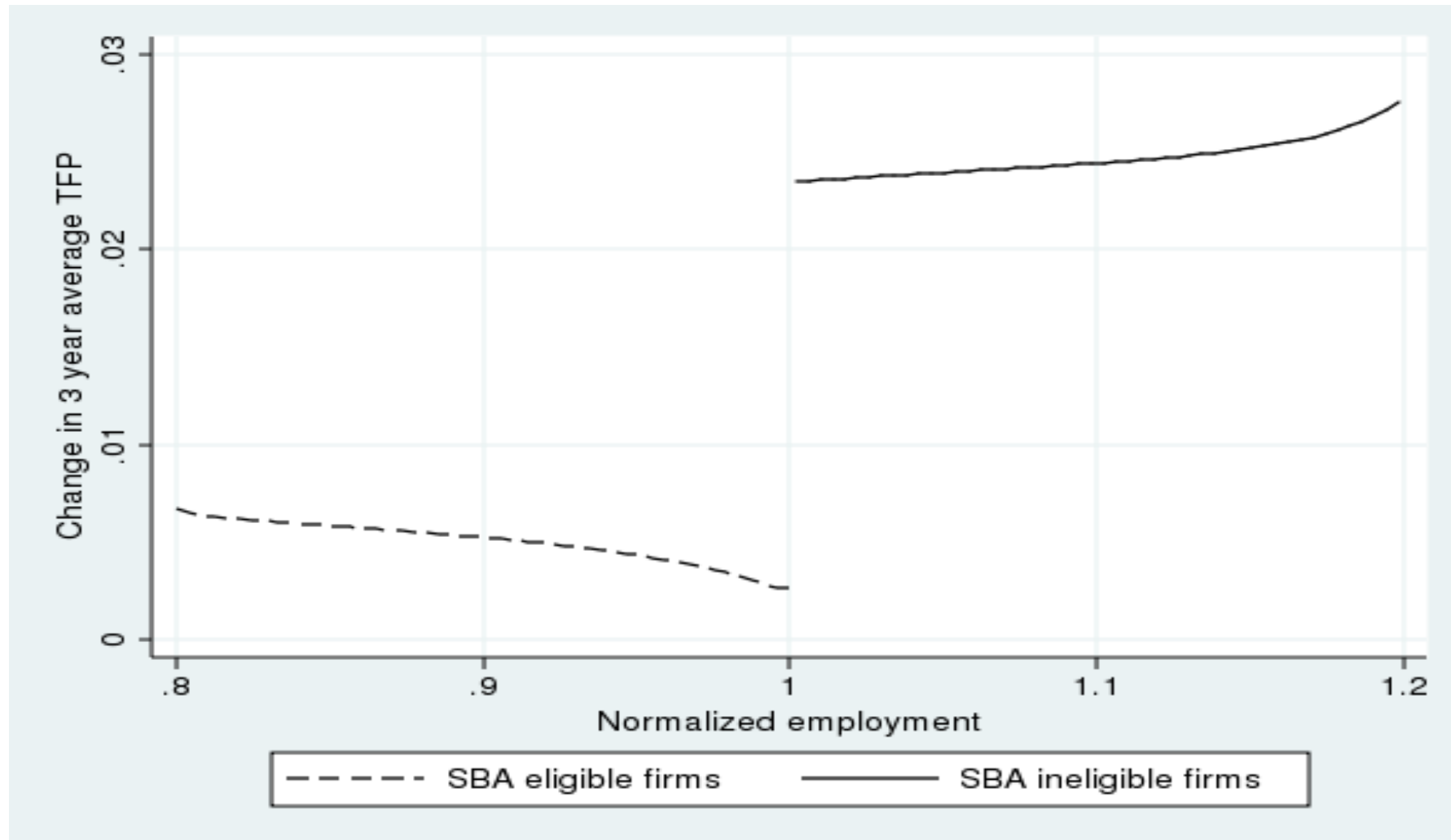
Financial Constraint and Productivity Increases

- If productivity increases following the banking deregulations are primarily driven by firms that are financially constrained, then TFP increases for firms just above the SBA threshold should be greater than TFP increases for firms just below the SBA threshold.



- After deregulation, TFP increase for firms in red area should be higher than TFP increase for firms in green area.
 - Advantages: Unobservable firm characteristics (e.g. credit demand) should not affect this analysis.

RD: Change in Productivity from before to after banking deregulation



Banking De-regulation & Increased SME Financing

- Conclusion:
- Greater access to bank financing leads to:
 - Higher firm level productivity and profitability for SMEs, suggesting that increased access allows firms to work on more productive projects that may otherwise be outside their investment capability.
 - Greater increases in firm productivity for smaller, and more financially constrained SMEs.

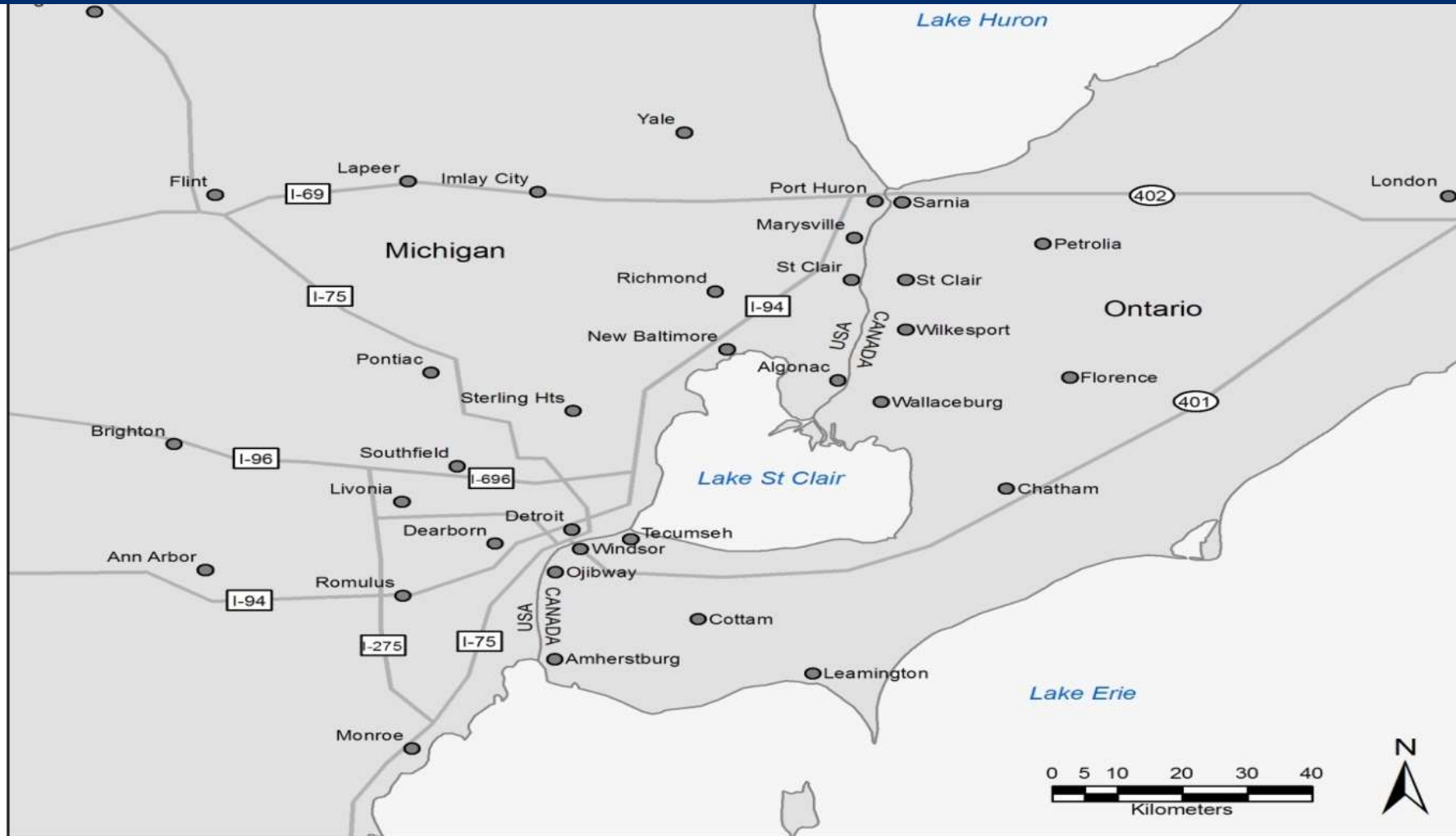
Regional Free-trade Agreements & Increased Market Access

- How does regional trade policy affect SME growth?
- SMEs depend critically on local economic activity, and growth in local economic activities generates new ideas, expands market potential, and induces knowledge spillovers that lead to the creation of new startups.
- Experiment: Analyze the impact of trade liberalization (free-trade agreement of 1988 (FTA)) between U.S. and Canada to document impact on local economies close to the border (relative to the rest of the country).

Regional Free-trade agreements & Increased Market Access

- Local border economies benefit from increased market access in certain industries due to a lowering or removal of tariffs.
- Sudden increase in the size of the local market along the border, affects demand conditions.
- This is because local economies close to the border will gain nearby trading partners and increased local demand (particularly for non-tradable or custom designed goods) from the other side after the FTA.

Regional Free-trade agreements & Increased Market Access



Map of U.S.-Canadian Border (near Detroit, Michigan and Windsor, Ontario)

Regional Free-trade agreements & Increased Market Access

- Increased market access spurs SME birth and growth closer to the border region, particularly as provision of custom-made goods is local, facilitated by regular contacts between buyers and sellers.
- Further, such activity will be greater in border regions that are proximate to larger population centers on the other side as the extent of increase in market access (demand) will be greater in such regions.
- Regional trade flows will also help larger firms producing standardized goods, but such effects will be dispersed throughout and not limited to the border regions.

Regional Free-trade agreements & Increased Market Access

Fig 1: Normalized New Small Business Formations

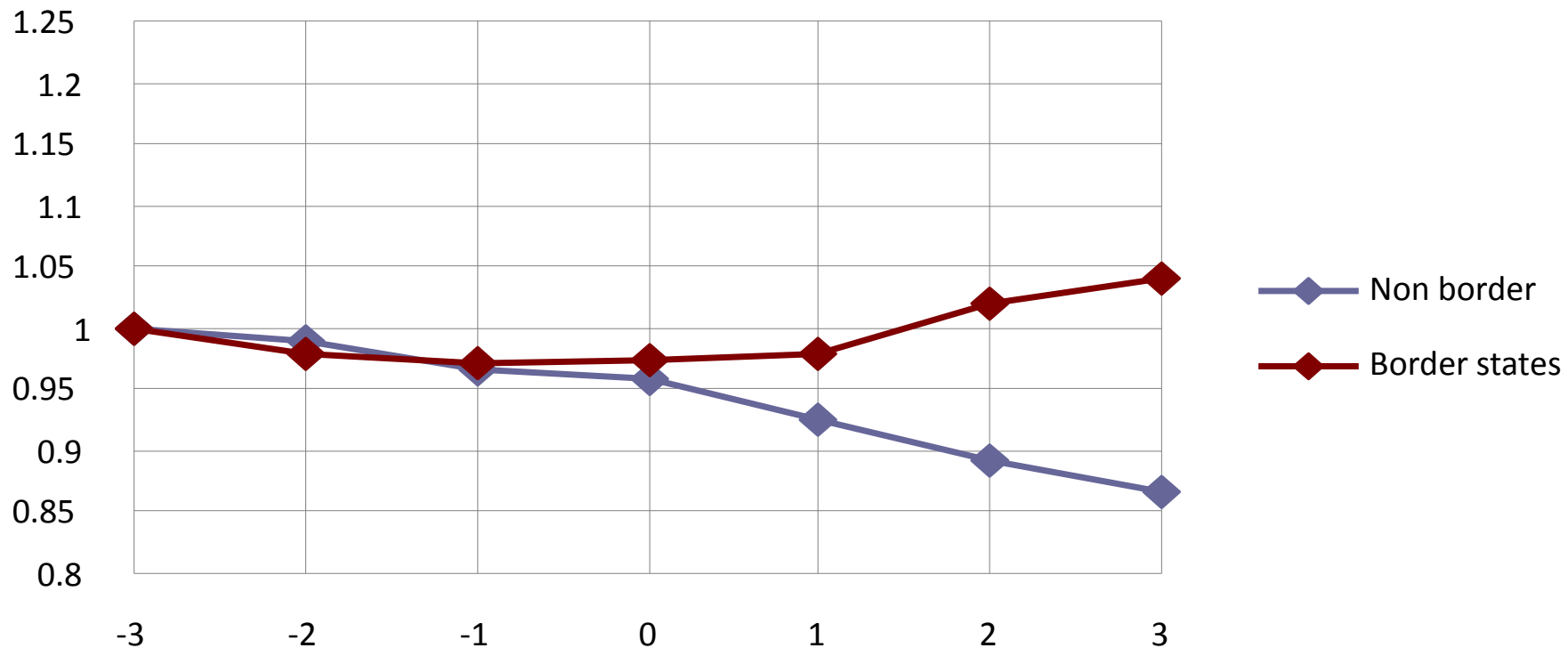


Figure1: New firm formation in the U.S. aggregated at the state level, normalized by the existing number of firms three years prior to the FTA. Source: U.S. Census, Business Dynamics Statistics.

Regional Free-trade agreements & Increased Market Access

**Fig 2: Percentage change in business formations
(Three years after FTA relative to three years prior to FTA)**

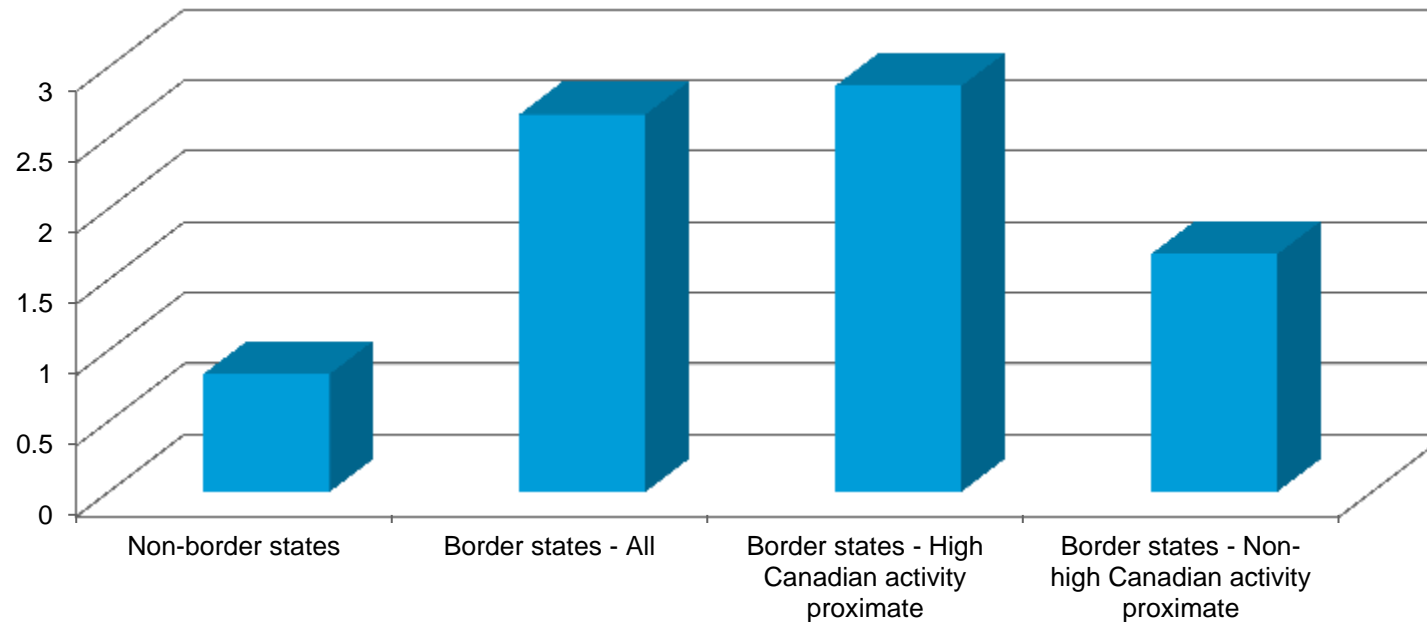


Figure2: Percentage change in new business formations in the U.S. border states vs. non border states from three years prior to the FTA to three years after. Source: U.S. Census, Business Dynamics Statistics and Stats Canada

Regional Free-trade agreements & Increased Market Access

- Conclusion: Our empirical tests, which compare industries not affected by tariff changes to industries with significant tariff decreases, show that the impacts of tariff reductions on firm performance are somewhat nuanced.
- No employment gains for SMEs.
- While gains accruing to larger firms may lead to relatively higher employment levels, the overall magnitude of these are unlikely to be large enough to have a noticeable impact on overall economy wide employment levels.

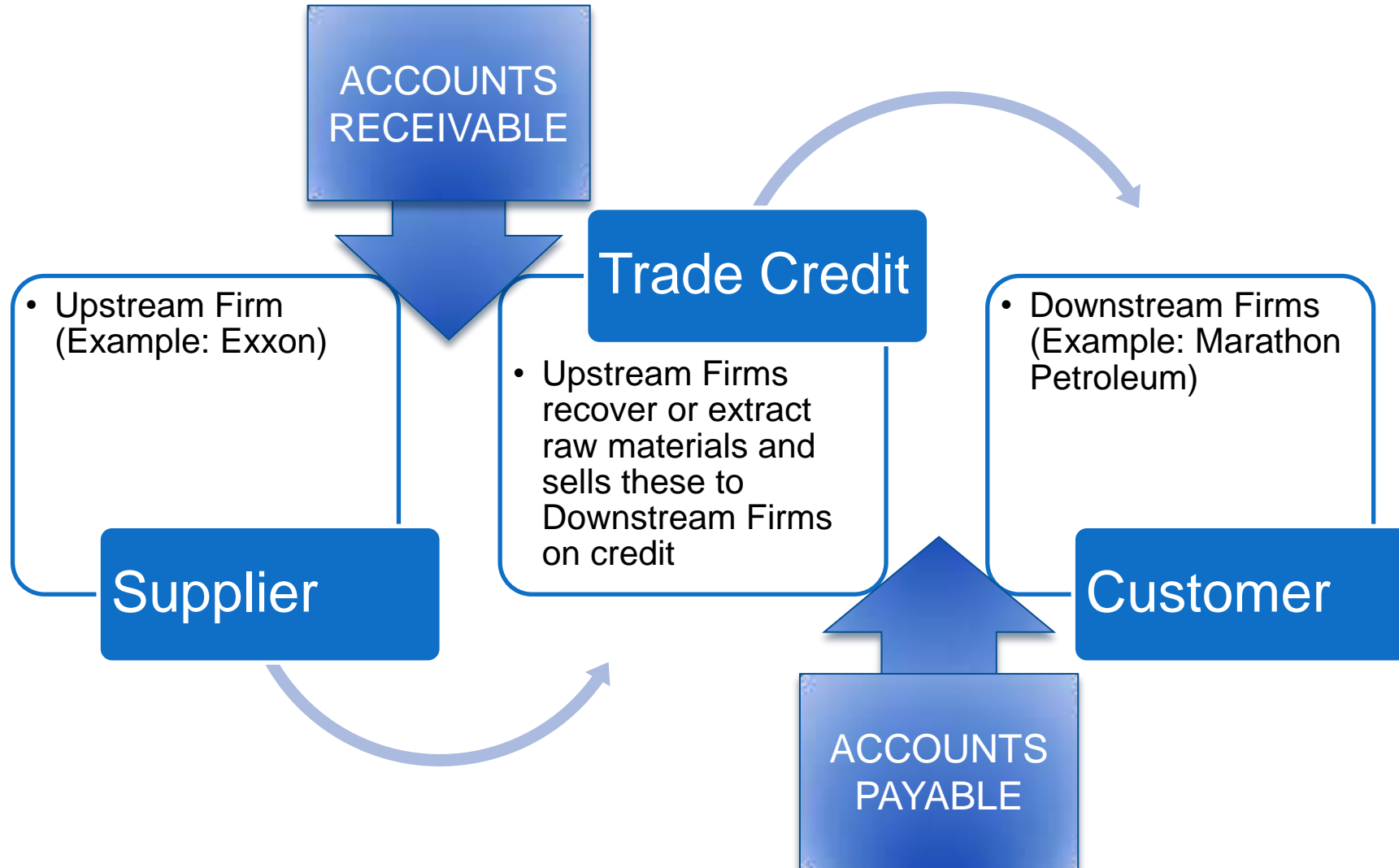
Regional Free-trade agreements & Increased Market Access

- Tariff decreases lead to significantly improved productivity for firms in the affected industries relative to firms in other industries. Such improved productivity, are particularly strong for SMEs and are spatially concentrated in areas closer to the border.
- There is consistent improvements in worker wages across firms, particularly in border areas. This suggests the possibility that increased profitability for firms near the border is, at least in part, passed along to their workers.
- Our results overall support the notion that the removal of regional trade barriers (as the U.S.-Canada Free Trade Agreement of 1988) leads to overall gains in industries that lowered tariffs, and in particular led to local economic benefits in areas proximate to the border.

Co-agglomeration, Trade Credit and SME performance

- Trade credit is one of the most significant source of short term external financing for such small firms whose access to credit from financial institutions are limited. SMEs tend to widely use trade credit as a substitute for bank lending.

Co-agglomeration, Trade Credit and SME performance



Co-agglomeration, Trade Credit and SME performance

- Experiment: analyze the impact on trade credit when there are new suppliers and customers in the value chain of existing firms within a local economy.
- We analyze cases when a firm considers the location of a large (million dollar) new manufacturing plant of the firm.
- Multiple locations are typically under consideration by the firm, and all have the potential for generating new economic activity, if chosen.
- We then analyze the impact on trade credit for SMEs in the “winning” local economy where the Million Dollar Plant is finally located.

Co-agglomeration, Trade Credit and SME performance



Co-agglomeration, Trade Credit and SME performance

- Greenstone et al. (2008) show that the opening of these large new manufacturing plants lead to greater Total Factor Productivity (TFP) in the winning counties due to agglomeration spillovers.
- We show that there is 3.3 % increase in the new SME creation in the winning counties (relative to losing ones) after the opening of the MDP (relative to the period before the opening).
- There is a 3.7% growth in employment in same winning counties after the opening of the MDP.

Co-agglomeration, Trade Credit and SME performance

- We found that small SMEs (firms in the size quartile 1) are receiving 3.5% more trade credit, large firms (firms in the size quartile 4) are receiving 6.3% more trade credit.
- Medium SMEs (firms in the size quartile 2 and 3) are providing 7.6% more credit in winning counties after MDP opening.
- Firms in the winning counties become more profitable - have 1.3% more ROA (2.3% more ROE) after the opening of the MDP.

Overall Takeaways & Policy Implications

- Increased access to bank financing improves local SME productivity.
- Regional Free Trade policies benefits business clusters closer to the border due to increased market access.
- Co-agglomeration or development of business clusters facilitates SME growth and performance.
- Increased trade credit becomes available within business clusters.
- Knowledge and skilled labor spillovers lead to enhanced firm performance.

Overall Takeaways & Policy Implications

- Regional trade policy should promote development of business clusters closer to border areas and not only at urban centers.
- Would facilitate creation of co-agglomerated local economies that over time will develop into cross-border knowledge economies.
- Will improve labor mobility and skill based specialization within clusters.
- Increased access of bank financing in border areas should accompany the development of regional trade policies.