### Research Proposal: The Impact of Federal SNAP Reductions on the Viability of Michigan's Food Retailers: A Causal Analysis、

#### I. Executive Summary

Recent federal legislation, the "One Big Beautiful Bill Act" (OBBBA), is set to fundamentally alter the funding structure of the Supplemental Nutrition Assistance Program (SNAP), creating a projected $1.1 billion budget shortfall for the State of Michigan by Fiscal Year 2026.1 This policy change will manifest as a significant, yet geographically uneven, economic shock across Michigan's 83 counties, with the most severe impacts expected in rural areas and communities with high SNAP participation. This research proposes to estimate the causal effect of this reduction in SNAP-derived revenue on the survival of food retail establishments across Michigan.

The study will leverage best-in-class, confidential microdata from the U.S. Census Bureau's Longitudinal Business Database (LBD) to overcome the limitations of publicly available data and accurately track the entry and exit of all employer food retailers in the state.2 The LBD's comprehensive coverage allows for a true market-wide analysis, avoiding the sample bias inherent in datasets that only include SNAP-authorized stores.3

**Survival Analysis** to model the risk of store closure at the establishment level, a method well-suited for analyzing time-to-event data like business failure.4 As a secondary and highly rigorous identification strategy.

**Regression Discontinuity Design (RDD)** will be employed if the state's implementation of the federal law includes a sharp, numerical cutoff for applying specific rules, such as new work requirement waivers being tied to a specific unemployment rate.7 This research will provide Michigan policymakers with the first causal evidence of how federal SNAP cuts impact the local business landscape, identifying the retailers and communities most at risk and informing the design of targeted economic support programs.

#### II. Introduction and Policy Context

The Supplemental Nutrition Assistance Program is a cornerstone of the U.S. social safety net and a critical economic driver, particularly in the food retail sector.9 In 2014, the food retail industry contributed $15.4 billion in value-added to Michigan's economy, supporting over 270,000 jobs when accounting for multiplier effects. A significant portion of this activity is sustained by SNAP benefits, which inject billions of dollars into local economies.10

The recently enacted OBBBA represents a paradigm shift in SNAP funding. For the first time since the program's inception, states will be required to share in the cost of benefits and cover a larger portion of administrative expenses.11 For Michigan, this translates into an immediate and severe budget challenge. The Citizens Research Council of Michigan projects the OBBBA will create a $1.1 billion hole in the state's FY2026 budget.1 This pressure is exacerbated by a new cost-sharing mechanism for benefits that penalizes states with high payment error rates; Michigan's current rate of 9.53% is well above the 6% threshold, potentially exposing the state to hundreds of millions in additional costs.

This policy change creates a powerful natural experiment. The resulting reduction in SNAP revenue will not be uniform; it will function as a "treatment" of varying intensity across the state. The impact will be determined by each county's pre-existing economic conditions and SNAP dependency, as counties with higher poverty and participation rates will experience a much larger economic shock.12 This is particularly relevant in Michigan, where 26 of the 30 counties with the highest percentage of SNAP users are rural.

This study is motivated by the concern that this revenue shock will disproportionately harm small, independent, and rural retailers who often operate on thin margins (1-3%) and for whom SNAP revenue is a lifeline.13 The closure of these businesses could accelerate the formation of "food deserts"—areas with limited access to affordable, nutritious food—and weaken the economic vitality of vulnerable communities.15

**Research Questions:**

1. What is the causal effect of a reduction in county-level SNAP spending on the probability of a food retail establishment exiting the market in Michigan?
2. Are the effects heterogeneous? Specifically, are independent, small-format, and rural retailers at a higher risk of closure compared to large, multi-unit chain stores in urban and suburban areas?

**Hypotheses:**

* **H1:** A larger county-level reduction in SNAP revenue will be associated with a statistically significant increase in the hazard rate (i.e., the probability of closure) for food retail establishments.
* **H2:** This effect will be significantly larger for single-unit establishments (a proxy for independent stores) and for establishments located in rural counties.

#### III. Data Architecture and Measurement

A credible causal analysis requires a data infrastructure capable of observing the entire market and precisely measuring both the policy shock and the outcomes.

* Primary Outcome Data: U.S. Census Longitudinal Business Database (LBD)  
  To measure retailer entry and exit, this study will use the confidential LBD, accessible through a Federal Statistical Research Data Center (FSRDC), such as the Michigan RDC located at the University of Michigan.2 The LBD is a virtual census of all U.S. employer establishments, tracking them annually from 1976 to the near-present.3 Its key advantages are:
  + **Universe Coverage:** It includes all employer retailers, not just those accepting SNAP, eliminating the coverage bias of public datasets and allowing for a true measure of market dynamics.3
  + **Longitudinal Structure:** It links establishments over time with permanent IDs, enabling the precise identification of entry and exit events. Crucially, its firm-level identifiers allow researchers to distinguish a true business "death" from a mere acquisition or rebranding, a common source of measurement error in retail studies.19
  + **Rich Variables:** It contains establishment location, employment, payroll (a reliable proxy for sales), and firm identifiers that link individual stores to parent companies, which is crucial for distinguishing independent stores from chains.2
* Treatment Variable: County-Level SNAP Revenue Shock  
  The intensity of the policy "treatment" will be constructed for each of Michigan's 83 counties. This will be an interaction term combining pre-policy (2022-2024) county-level SNAP participation data from the USDA and the Michigan Department of Health and Human Services with the specific benefit reduction formulas and cost-sharing mandates of the OBBBA. This creates a continuous measure of the expected revenue loss per capita in each county, providing the necessary variation for identification.
* Control Variables: Time-Varying Local Economic Conditions  
  To isolate the effect of the SNAP policy from other economic trends, the analysis will incorporate a robust set of time-varying county-level control variables.29 These variables are necessary to account for confounding factors, such as a general economic recession that could cause store closures independent of SNAP policy.35 These will be sourced from publicly available datasets:
  + **Bureau of Labor Statistics (BLS):** Monthly unemployment rates.38
  + **Bureau of Economic Analysis (BEA):** Annual per capita income.39
  + **USDA Economic Research Service (ERS):** Population estimates and Rural-Urban Continuum Codes, which are essential for testing for heterogeneous effects.41
  + **Argonne National Laboratory:** The monthly County Economic Performance Index (CEPI) can be used as a composite measure of local economic activity.42

#### IV. Causal Inference Strategy and Econometric Models

The core challenge is to isolate the causal impact of the SNAP policy from other factors that influence retail markets.43 A simple comparison of high- and low-impact counties would be misleading. Therefore, this study will employ advanced quasi-experimental methods.

* Primary Method: Survival Analysis  
  The primary analytical tool will be a Cox proportional hazards model, a form of survival analysis well-suited to modeling time-to-event data.4
  + **Unit of Analysis:** The individual food retail establishment in Michigan.
  + **Event of Interest:** Store closure, defined as the final year an establishment appears in the LBD.
  + **Model Specification:** The model will estimate the hazard rate (the instantaneous risk of closure) as a function of the county-level SNAP revenue shock, controlling for establishment-level characteristics (e.g., size, age, chain status) and the time-varying county-level economic indicators listed above. This approach correctly handles "censored" data (stores that remain open at the end of the study period) and allows for a dynamic analysis of how the policy shock affects the survival probability of different types of retailers over time.4
* Secondary Method: Regression Discontinuity Design (RDD)  
  RDD is a powerful quasi-experimental method that can yield an unbiased causal estimate if treatment is assigned based on a sharp numerical cutoff. The feasibility of this approach is contingent on the specific rules Michigan adopts to implement the OBBBA. For example, the OBBBA changes the criteria for waiving ABAWD work requirements, restricting them to areas with unemployment rates over 10%.7 If Michigan implements this rule, an RDD would be the ideal strategy.
  + **Running Variable:** The continuous variable determining the rule (e.g., county unemployment rate).
  + **Cutoff:** The precise threshold value (e.g., 10.0% unemployment).
  + **Analysis:** The study would compare retailer exit rates in counties just above the cutoff (treated) to those just below (control). The assumption is that these counties are otherwise similar, making the policy assignment "as good as random" at the threshold.45 A sharp jump in store closures at the cutoff would provide a highly credible estimate of the policy's local average treatment effect.

#### V. Expected Contributions and Policy Relevance

This research will make significant contributions to both academic literature and public policy in Michigan. By using a rigorous causal framework and comprehensive microdata, it will provide the first robust estimates of how federal cuts to a major social safety net program impact the survival of local businesses.

The findings will be directly relevant to Michigan state and local officials. By identifying the specific types of retailers (e.g., independent, rural) and the geographic areas most vulnerable to the federal policy shock, the research can inform the strategic deployment of state-level economic support programs. This includes initiatives managed by the Michigan Economic Development Corporation (MEDC), such as the "Match on Main" grant program or the Redevelopment Ready Communities® (RRC) toolkit, and the Michigan Department of Agriculture & Rural Development (MDARD), such as the Rural Development Fund Grants, to mitigate the negative consequences and preserve food access in at-risk communities.

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