Credit and the Family: The Economic Consequences of Closing the Credit Gap of U.S. Couples

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Abstract

Marital property rights strengthen secondary earners' economic power by giving them access to credit markets. I study how this crucial yet understudied feature of property laws influences household decision-making. The 2013 reversal of the Truth-in-Lending Act increased the borrowing capacity of secondary earners in equitable-distribution states but not in community-property states, where division-of-property laws superseded the policy change. Using a matched difference-in-differences design and administrative financial-transaction records measuring the credit and consumption of each spouse, I show that this reversal increased secondary earners' credit card limits by $1,506 or 60 percent of their monthly pre-reversal consumption mean. In turn, spouses shared consumption more equally, closing their pre-reversal consumption gap by half. Household spending shifted toward goods that could benefit both spouses. Delinquency rates were not measurably impacted, suggesting that household financial standing did not worsen. These results are consistent with credit causing a shift in marital bargaining power.

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1 Introduction

This paper examines how marital property laws influence the intertemporal consumption and financial decisions of married couples. The expansion of women's legal rights has played a central role in reducing gender gaps in economic outcomes over the last two centuries (Doepke and Tertilt, 2009; Goldin, 2023). Specifically, it is well-understood that marital property rights have strengthened secondary earners' economic power by shifting post-divorce asset allocation in their favor (Doepke, Tertilt and Voena, 2012; Fernández, 2014). For example, Voena (2015) documents that divorce reforms shifted consumption allocation toward secondary earners by enhancing their ability to credibly exercise outside options in marital regimes that favored their divorce settlements, and Adams-Prassl et al. (2023) finds that similar economic power dynamics are at play even in abusive relationships.

Yet, despite significant progress, economic disparities between spouses remain substantial. Over half of marriages in the U.S. have the husband as the primary or sole breadwinner.[1] Even in dual-income households, survey evidence indicates that gender norms continue to position men as the primary financial providers (Pew Research Center, 2017). What, then, is holding back secondary earners and stay-at-home spouses (henceforth referred to as "secondary earners")? I argue that a critical, yet overlooked, factor is their lack of *independent access to credit* – credit that they can fully control and use to establish their own credit history. I highlight a key feature of marital property laws that has been understudied in the literature: these laws influence secondary earners' ability to secure independent credit because they dictate which marital assets can be considered during credit issuance.

Understanding how marital property laws influence spousal credit gaps and household decisions is crucial. Credit has become a ubiquitous financial resource for American households, with credit card debt reaching a staggering $1.1 trillion as of the end of 2024Q1 (FRBNY, 2024). However, policies aimed at promoting equal and fair access to credit between the sexes have been implemented relatively recently. As Goldin (2023) notes, "many women, today, remember the moment in 1974 when they could get a credit card in their own name." The Equal Credit Opportunity Act of 1974 (ECOA) prohibited credit discrimination based on sex and marital status, but advocates argue that credit disparities remain pervasive and restrict the financial

[1] A breadwinner earns more than 60% of the joint earnings. Statistics are on opposite-sex couples aged 25-65.

freedom of secondary earners.[2] For example, a stay-at-home spouse who struggled to open a credit card after divorce described the impact of limited credit access on her economic security: *"I'm not a fan of credit cards, but trying to get a rental house was a huge nightmare because I was a stay-at-home mom and all agencies required my husband co-sign on our lease due to my limited credit history. I can't get a loan for a new car, even though the thirteen-year-old one that I own has cost us more in repairs than a monthly payment on a more decent one would. It's come up against me and my children and has made it extremely difficult for me to obtain any kind of security and peace of mind and start over"* (Moms Rising, 2012).

I use rich administrative financial accounts data from the JPMorgan Chase Institute (JPMCI), which tracks *both* consumption and credit for individual spouses within households. This dataset is particularly well-suited for examining spousal credit gaps, as standard consumption datasets like the Consumer Expenditure Survey (CEX) or the Panel Study of Income Dynamics (PSID) lack information on spouse-specific consumption or credit access (see Attanasio and Pistaferri (2016) about the limitations of survey-based consumption data). The JPMCI data includes unique identifiers for households and individual family members, along with detailed records of their active financial accounts at Chase (e.g., checking, debit, and credit cards) and all associated financial transactions. These transactions can be categorized and aggregated into granular spending categories. Crucially, the dataset provides account ownership information, distinguishing between shared financial accounts (e.g., joint credit cards) and individual accounts (e.g., sole credit cards). This distinction allows me to analyze whether independent access to credit impacts household behavior beyond shared household credit. Leveraging the accuracy and richness of this data, I introduce a novel data-driven approach to construct comprehensive measures of spouse-level consumption. These measures offer transparent, non-parametric estimates of consumption allocation between spouses.

Using this data, I examine how differences in marital property regimes shaped couples' credit access and consumption allocation following a policy change in the U.S. credit card market. The policy change I analyze is the 2013 *reversal* of the Truth-in-Lending Act (TILA). Prior to the reversal, TILA required credit card issuers to evaluate applicants' *independent* income when making lending decisions. Because secondary earners often have limited personal

[2]Until the mid-1970s, lenders often discounted a wife's income unless she provided a "baby letter" certifying that she could not have children. Additionally, married women were typically required to reapply for credit jointly with their husbands (Chapman, 1975).

income, this restriction prevented them from accessing their own, independent credit.[3] As such, this TILA provision was deemed discriminatory and reversed in 2013, allowing card issuers to consider *household* income instead, thereby improving secondary earners' ability to obtain their own credit. Although the TILA reversal was a federal law, whether secondary earners' were affected by the reversal depended on their marital property regime. In community property (CP) states, household income is considered joint property *regardless* of who earned it, enabling card issuers to always treat household income as independent income. In contrast, in equitable distribution (ED) states, income is considered separate property, meaning card issuers were required to enforce the reversal by only considering independent income in their lending decisions. Thus, marital property regimes play a crucial role in determining how household and independent incomes are treated in credit underwriting.

I use this feature in a difference-in-differences (DiD) design, comparing secondary earners in ED states (treatment group) to those in CP states (control group). The identifying assumption is that, in the absence of the reversal, the outcomes for secondary earners and households in both groups would have evolved in parallel. To strengthen this parallel-trends assumption, I perform nearest-neighbor propensity score matching to ensure that the treated and control groups have similar pretreatment characteristics associated with the dynamics of the outcome variables (Abadie, 2005). Given that lenders collect income information to determine the credit limit offered when an applicant first applies for a credit card, the change in income consideration standards should differentially increase the *quantity* of credit available to new card-opening secondary earners in the treated group compared to the control group. Importantly, the reversal is not expected to affect the probability of obtaining credit or the cost of borrowing since card issuers primarily rely on applicants' credit scores rather than income for these decisions. I verify that using secondary earners in CP states as a control group is a valid assumption by confirming that (1) JPMC's treatment of ED and CP states differed before the reversal, and that (2) secondary earners' income reporting behavior changed across these two groups of states around the time of the reversal.

I structure my empirical analysis around a stylized model of intra-household bargaining

[3]Secondary earners could access credit through joint credit card accounts as authorized users with the primary earners' co-signature. However, this arrangement came at a significant cost: credit histories were built solely in the name of the primary earner, leaving secondary earners unable to build an independent financial footprint or maintain access to credit in the event of divorce or the primary earner's death.

under limited commitment that highlights the central economic forces in spousal credit and consumption dynamics. The model provides a roadmap for my empirical work by linking outside options, spousal bargaining powers, spending preferences, and consumption shares. In the model, spouses' bargaining powers vary over time and depend on their outside options. The model incorporates the unique institutional feature of the U.S. credit card market that secondary earners can retain their independent credit cards even after they divorce. This feature strengthens secondary earners' outside options by relaxing budget constraints in divorce, thereby enhancing their bargaining power in marriage. The model generates three key predictions. First, the share of consumption allocated to secondary earners should increase after the TILA reversal. Second, secondary earners' private consumption should increase, while that of primary earners should decrease. Lastly, in the cross-section, consumption reallocation should be more (less) pronounced for couples with a higher (lower) likelihood of divorce. I examine these predictions in my empirical analysis.

My dataset contains monthly checking account, credit card, and debit card information for 66,200 opposite-sex couples. Total household consumption is proxied by summing spending across all financial accounts linked to a couple, including cash withdrawals, paper checks, and electronic transfers. I proxy for spouse-specific consumption using two methods: (1) a spending-based measure that identifies "who spent what" by tracking expenditures through account ownership (e.g., sole or joint accounts) and (2) a gender-intensity (GI) measure that attributes household spending to the wife or husband based on the gender intensity of specific spending categories.[4] I define spouse-specific consumption shares as the ratio of spouse i's spending to total household spending. The within-household consumption gap is the difference between the two spouses' spending shares. To proxy for i's *independent* credit, I sum the credit limits on their sole credit card accounts that only they can access and control, while total credit is calculated by summing the credit limits on all accounts that i can access, either as a primary account holder or as an authorized user. Credit shares and gaps are constructed analogously to consumption shares and gaps.

I begin my empirical analysis by documenting novel facts on the link between credit and consumption within households. First, there are substantial gaps in credit access: for every

[4]The spending-based consumption provides a comprehensive measure of a spouse's spending preferences, but may also reflect substitution in shopping behavior (i.e., who shops for common, public goods). The GI measure resolves this by focusing on goods with clear gender-specific consumption preferences (e.g., cosmetics).

dollar of *independent* credit accessed by primary earners, secondary earners can only access 74 cents. This gap is even larger for secondary earners who opened a new sole credit card around the policy change, or the most relevant group to study the TILA reversal; for this group, secondary earners can access only 25 cents per dollar. Second, there are large disparities in household consumption, with secondary earners consuming just 78 cents for every dollar consumed by primary earners. This consumption gap persists even when men and women earn the same nominal income, suggesting that consumption allocation is driven by relative income rather than absolute earnings levels. Finally, independent credit access positively correlates with a spouse's share of household consumption, a relationship not observed with access to joint credit card accounts. This indicates that independent borrowing capacity, rather than joint access, plays a critical role in shaping consumption allocation within households.

Motivated by this, I examine the causal effect of improving secondary earners' independent credit access on consumption allocation in the household. First, the TILA reversal had the intended effect of increasing secondary earners' independent access to credit. Secondary earners' *independent* credit card limits increased by 59 percent relative to their pre-reversal average monthly consumption (i.e., their spending power relative to typical consumption) over the two-year period after the reversal. In dollars, the increase represents $1,416, or 16 percent of secondary earners' typical credit limit. Secondary earners' *total* credit access increased by $1,506, suggesting that most of the increase is on their independent (sole) accounts rather than on their joint accounts shared with primary earners. There is no differential effect on pricing or account opening or closing rates, consistent with card issuers' practice of using income to determine the quantity of credit issued. The estimated effect on household credit limit is roughly the same as the increase I document for secondary earners ($1,523), indicating that the reversal did not crowd out primary earners' access to credit. Overall, the TILA reversal had a strong first-stage effect on secondary earners' independent access to credit.

The central finding of the paper is that the TILA reversal significantly increased secondary earners' consumption share and shifted household consumption patterns in a way that better aligned with secondary earners' preferences. Two years after the reversal, secondary earners' consumption share rose by 11 percent relative to the pre-reversal mean, reducing the household pre-reversal consumption gap by half. At the household level, the reversal led to a cumulative increase in consumption of $953 (a monthly increase of $40), with 25 percent of the increase

attributed to private consumption and 75 percent to public consumption.[5] This household-level effect masks notable reallocation between spouses. Secondary earners' consumption rose by $1,685 over two years (a monthly increase of $70), while primary earners' consumption fell by $732 (a monthly reduction of $30). Secondary earners increased both private and public consumption equally, whereas primary earners' reduction was entirely in private consumption. These findings indicate that the consumption reallocation between spouses operated through primary earners cutting back their private consumption.

I address two potential threats with the interpretation of the results.[6] The first threat is that the observed consumption patterns might reflect credit cards easing liquidity constraints, making it easier for secondary earners to shop for goods (i.e., mechanical effect). However, three pieces of evidence mitigate this concern: (1) secondary earners increase spending on debit cards – not just credit cards – after the TILA reversal; (2) higher credit access through joint accounts does not lead to reallocation, despite providing similar liquidity and shopping convenience as sole accounts; and (3) the reallocation effect is more pronounced for couples that were *less* financially constrained prior to the reversal. The second threat is that the effects might simply reflect a nominal change in who is doing the shopping (i.e., substitution between spouses). However, this concern is also mitigated by several findings: (1) the reallocation effect is robust to the gender-intensity consumption measure, which captures who consumes what more accurately; (2) both private and public consumption increase at the household-level, whereas pure substitution would not result in a household-level increase in consumption; and (3) household-level consumption patterns shift toward those of secondary earners, even though simple substitution would not alter the composition of expenditures. While these findings do not entirely rule out the possibility of mechanical effects or substitution playing a role, they suggest that these are not the primary drivers of my main results.

Third, despite the sizable effect on household spending, the reversal did not worsen households' financial standing. I examine a variety of financial solvency outcomes to assess whether narrowing the consumption gap within households came at the cost of deteriorated financial

[5]Because credit limits are stock variables and consumption is a flow variable, I estimate cumulative effects consistent with existing literature. My implied marginal propensity to consume (MPC) is larger than prior estimates based on interest-accruing card debt but aligns closely with Agarwal et al. (2018), who use total purchases as a measure of consumption.

[6]Section C provides a detailed robustness analysis, including alternative thresholds for the GI measure (50â60%), an alternative consumption measure to account for potential substitution across observed and unobserved credit cards, and placebo tests showing no changes for couples without changes in credit limits.

health. The reversal did not have a measurable impact on delinquency rates, overdraft probabilities, or the propensity to take out high-interest loans, such as payday or subprime loans. On the contrary, households were more likely to repay their credit card balances "optimally" by prioritizing the repayment of higher-interest debt while continuing to borrow using cards with lower interest rates (Ponce, Seira and Zamarripa, 2017; Gathergood et al., 2019). If higher consumption did not lead to greater financial distress, then how did households finance the additional spending? I find suggestive evidence that households initially accrued higher credit card debt ($115) and dis-saved (-$87) during the first year, but increased their labor supply in the second year. The increase in household income ($964) was commensurate with the rise in consumption, although these estimates are not statistically significant within my sample period. Overall, these results suggest that the reallocation prompted spouses to better coordinate their consumption decisions and labor supply to meet the family budget constraint.

Finally, I analyze heterogeneity in the consumption reallocation effect. The collective-household model with limited commitment (LC) predicts that factors improving secondary earners' outside options should enhance their bargaining power and shift consumption in their favor. Thus, to the extent that independent credit improved secondary earners' outside options, this channel predicts that the estimated effect should be larger for couples who may be on the verge of divorce or for whom divorce is a credible threat. Consistent with this prediction, the estimated effect is 86 percent larger for couples that are more likely to divorce (proxied by spending on dating/escort services or counseling services) and 50 percent smaller for couples that are less likely to divorce (proxied by those with children or joint assets like a mortgage). The effect is also larger for single-income households, where the pre-reversal credit gap and potentially economic power imbalance were most pronounced. Finally, the reallocation effect is stronger for couples that are *less* financially constrained, suggesting that the treatment effect is not merely due to credit cards easing budget constraints.

In the final analysis, I calibrate a standard model of household decision making (Mazzocco, Ruiz and Yamaguchi, 2014; Voena, 2015) to further clarify the extent to which outside options can explain the impacts of the TILA reversal. I incorporate credit into this model and introduce a key feature of the reversal: the secondary earner's ability to keep independent borrowing capacity even after divorce. Using realistic parameter values, I show that the model-generated consumption path accounts for up to 46 percent of the observed cumulative increase in sec-

ondary earners' consumption share. This quantitative analysis reinforces the conclusion from the reduced-form results: independent credit card access enhances secondary earners' bargaining power, enabling them to act in their own interest and increase their spending autonomy.

This paper contributes to the literature on the impacts of marital property rights on household behavior by shedding light on an important yet understudied aspect of marital property regimes: their influence on secondary earners' access to credit. Existing research has focused on marital property regimes in the context of divorce-law reforms, noting their impact on couples' asset accumulation (Stevenson, 2007; Voena, 2015) and bargaining (Hamilton, 1999; Doepke, Tertilt and Voena, 2012), divorce settlements (Weiss and Willis, 1993), and labor supply (Gray, 1998; Chiappori, Fortin and Lacroix, 2002).[7] This paper extends this literature by demonstrating that property regimes influence household behavior even in contexts beyond divorce laws, particularly by shaping secondary earners' access to credit markets. Examining this interaction is vital because my findings suggest that secondary earners can more readily access financial resources during marriage, even if the marriage does not end in divorce. An important policy implication is that property regimes that allow households to fully leverage their income in credit markets can help reduce credit and consumption disparities between spouses.

This paper also contributes to the literature on intra-household bargaining and outside options by establishing the bargaining role of credit. In a dynamic framework, spouses' decision power varies with changes in their outside options, or the utility level they could achieve outside of marriage (Mazzocco, 2007; Chiappori and Mazzocco, 2017). Several studies support this model using exogenous shocks to outside options, such as relative income (Mazzocco, Ruiz and Yamaguchi, 2014; Lise and Yamada, 2019), taxation policies (Bronson and Mazzocco, 2022), and welfare programs that provide consumption insurance (Low et al., 2023). An innovative series of recent papers advances our understanding of the specific nature of outside options by incorporating endogenous non-cooperation in the pre-divorce phase (Mattia, Voena and Bayot, 2024) or learning about a spouse's type (Adams-Prassl et al., 2024). I contribute to this literature by demonstrating that access to credit serves as a key outside option that influences intra-household bargaining power. To my knowledge, this is the first paper to highlight the role of credit in shaping intra-household consumption dynamics and to examine the impact of the TILA reversal.

[7] See Friedberg (1998); Wolfers (2006); Stevenson and Wolfers (2006) for divorce rates and domestic violence.

This is an important addition to the existing body of work, as the institutional features of credit cards deepen our understanding of how credit-induced outside options may operate within households. Unlike traditional marital assets that can be contested in divorce, independent credit limits are portable, allowing spouses to retain their credit limits even after divorce.[8] This portability directly *improves their outside options* by easing budget constraints in divorce. Furthermore, credit cards may provide a *persistent effect on bargaining power* by enabling secondary earners to build credit history and further expand their borrowing capacity over time. They also *strengthen their spending autonomy* by restricting primary earners' ability to monitor or control spending behavior. The fact that credit cards enable users to borrow up to their credit limit *each month*, provided the balance is paid in full, coupled with my finding that secondary earners do not exhaust their borrowing limits, suggests that credit card policies offering the *option*– rather than the obligation – to borrow independently (i.e., state-contingent liquidity) can serve as a powerful policy lever to reduce inequality within households.

Finally, this paper introduces an innovative measurement approach that addresses common data limitations faced by researchers using financial accounts data: the lack of detailed demographic information and spouse-specific consumption. In recent years, linked consumer financial accounts data have become a cornerstone for studying a wide range of topics in economics and finance, offering granular insights into individuals' spending, income, and consumption behavior (Baker and Kueng, 2022).[9] However, private datasets often lack key demographic variables (e.g., gender) and hinder researchers' ability to assess representativeness or identify mechanisms driving their results (Baker, 2018). This paper makes two contributions. First, researchers with access to granular spending data but lack information on gender can use the spending-intensity table in this paper to infer gender in their dataset. In general, the idea of inferring demographic information from spending patterns provides a transparent and easy-to-implement approach that can be widely adopted across various settings. Second, the gender-intensity approach enables researchers to analyze intra-household consumption allocation even without spouse-level information, advancing the family economics literature. Unlike traditional methods that rely on gender-specific clothing to infer spouse-level consumption– a

[8]This is due to regulations in the credit card market prohibiting lenders from using information on marital status to make lending decisions. Lenders may request customers to update their income adjust credit limits, but I confirmed with industry practitioners that customers rarely respond to these requests.

[9]See Olafsson and Pagel (2017), Vihriälä (2022), and Olafsson and Gathergood (2024) for examples of research in family economics leveraging user-level transaction data from private companies.

category that represents just 1% of household spending– this data-driven approach significantly improves external validity by covering a broader set of goods, capturing over 50% of spending.

As Chiappori and Meghir (2015) highlight, *"the allocation of resources within the household cannot (in general) be directly observed; It has to be recovered from the household's (aggregate) behavior... It is evident from this discussion that better data would be important, and nothing is more important than detailed consumption data."* While not without limitations, the measurement approach introduced in this paper offers a transparent and replicable framework that harnesses the power of financial accounts data to advance research on household resource allocation. It also produces consumption share estimates that closely align with those obtained through structural methods (Lise and Seitz, 2011). This alignment highlights the value of the reduced-form approach proposed in this paper as a complementary tool to structural models. By providing a reduced-form counterpart to estimates from existing work, this approach offers additional validation and reinforces the robustness of findings in the literature on intra-household resource allocation.

The next section presents the motivating framework. Section 3 discusses institutional details of the U.S. credit card market and the identification strategy. Section 4 describes the data and presents descriptive evidence on credit and consumption gaps in the household. Section 5 discusses our main results. In Section 6, I investigate heterogeneity analysis to shed light on potential mechanisms. Section 7 presents quantitative exercise, and Section 8 concludes.

2 Motivating Framework

I begin with a conceptual framework to organize my empirical analysis and formalize the key elements of the dynamic model of household bargaining under limited commitment (Mazzocco, Ruiz and Yamaguchi, 2014; Voena, 2015). In this model, spouses' relative bargaining power can change over time and depends on their outside options. I highlight the role of independent credit as a factor that improves outside options by relaxing budget constraints in divorce. This section focuses on highlighting key economic forces linking outside options, spousal bargaining powers, and consumption allocation. See Appendix D for model details.

2.1 Model Overview

The household consists of two spouses, primary and secondary earners, $i \in (P, S)$, who live until T. Spouses jointly decide how much to save, a_t^i, consume, c_t^i, whether to work, P_t^i, or to divorce, by maximizing the weighted sum of their utilities, where the weights, θ_t^i, are their bargaining powers. In each month t, the household decision process consists of two stages.

First stage. In the first stage, each spouse computes their value of being divorced, $V_t^{i,D}(\omega_{\mathbf{t}}^{\mathbf{D}})$:

$$\begin{aligned} V_t^{i,D}(\omega_{\mathbf{t}}^{\mathbf{D}}) &= \max_{c_t^i, a_{t+1}^i, P_t^i} \left\{ u(c_t^i, P_t^i) + \beta E\left[V_{t+1}^{i,D}(\omega_{\mathbf{t+1}}^{\mathbf{D}} | \omega_{\mathbf{t}}^{\mathbf{D}}) \right] \right\} \\ s.t. \qquad a_{t+1}^i - (1+r)a_t^i &= y_t^i \cdot P_t^i - c_t^i \cdot e(k) \\ a_{t+1}^i &\geq -L_t^i \end{aligned} \tag{1}$$

and the couple's value of staying married, $V_t^M(\omega_{\mathbf{t}}^{\mathbf{M}})$:

$$\begin{aligned} V_t^M(\omega_{\mathbf{t}}^{\mathbf{M}}) &= \max_{c_t^P, c_t^S, P_t^S, a_{t+1}^P, a_{t+1}^S} \left\{ \theta_{t-1}^P u(c_t^P, P_t^P) + \theta_{t-1}^S u(c_t^S, P_t^S) + \beta E[V_{t+1}^M(\omega_{\mathbf{t+1}}^{\mathbf{M}} | \omega_{\mathbf{t}}^{\mathbf{M}})] \right\} \\ s.t. \qquad A_{t+1} - (1+r)A_t &= Y_t - x_t \\ A_{t+1} &\geq -L_t \end{aligned} \tag{2}$$

where $A_t = \sum_{i=P}^S a_t^i$, $Y_t = \sum_{i=P}^S y_t^i \cdot P_t^i$, $L_t = \sum_{i=P}^S L_t^i$, and x_t denote total household savings, income, credit card borrowing limit, and expenditure in marriage, respectively. Spouses devote a fraction $e(k)$ of their own consumption on children in divorce.

Each spouse i's value of being married can then be computed as the solution to the couples problem at their existing bargaining powers, θ_{t-1}^i:

$$V_t^{i,M}(\omega_{\mathbf{t}}) = u(c_t^{i,*}(\omega_{\mathbf{t}}^{\mathbf{M}}), P_t^{i,*}(\omega_{\mathbf{t}}^{\mathbf{M}})) + \beta E[V_{t+1}^{i,M}(\omega_{\mathbf{t+1}}^{\mathbf{M}})] \tag{3}$$

such that the couple's optimal value function corresponds to:

$$V_t^{M,*}(\omega_{\mathbf{t}}^{\mathbf{M}}) = \theta_{t-1}^P V_t^{P,*}(\omega_{\mathbf{t}}^{\mathbf{M}}) + \theta_{t-1}^S V_t^{S,*}(\omega_{\mathbf{t}}^{\mathbf{M}}) \tag{4}$$

As shown in Equation 4, the bargaining power determines whose preferences are better re-

flected in the household value function.

Second stage. In the second stage, each spouse compares the value of being divorced, $V_t^{i,D}$, to that of staying married, $V_t^{i,M}$. This can lead to three cases:

1. $V_t^{i,M} > V_t^{i,D} \quad \forall i$, both spouses prefer to stay married;
2. $V_t^{i,D} > V_t^{i,M} \quad \forall i$, both spouses prefer to divorce;
3. $V_t^{i,M} > V_t^{i,D}$ and $V_t^{i',M} \leq V_t^{i',D}$, $i \neq i'$, only one spouse prefers to stay married

In the first case, the couple stays married and gets Equation 4. In the second case, spouses divorce and they each get their outside option, or the solution to Equation 1. In the third case, however, spouses disagree – i prefers to stay married, but i' prefers to divorce because her outside option is higher than that of staying married with the existing bargaining power. This case triggers bargaining, and the couple solves the following revised household problem:

$$V_t^M(\omega_{\mathbf{t}}^{\mathbf{M}}) = \max_{c_t^P, c_t^S, P_t^S, A_{t+1}, \theta_t^S} \left\{ \theta_t^P u(c_t^P, P_t^P) + \theta_t^S u(c_t^S, P_t^S) + \beta E[V_{t+1}^M(\omega_{\mathbf{t+1}}^{\mathbf{M}} | \omega_{\mathbf{t}}^{\mathbf{M}})] \right\}$$

s.t.

$$A_{t+1} - (1+r)A_t = Y_t - x_t \quad \text{and} \quad A_{t+1} \geq -L_t$$

$$u(c_t^S, P_t^S) + \beta E[V_{t+1}^{S,M}(\omega_{\mathbf{t+1}}^{\mathbf{M}} | \omega_{\mathbf{t}}^{\mathbf{M}})] = V_t^{S,D} \tag{5}$$

$$\theta_t^S = \theta_{t-1}^S + \lambda_t^S \tag{6}$$

The revised problem is similar to the couple's problem 2, but has two additional constraints. Assuming that i' (the spouse who prefers to divorce) is the secondary earner, the household problem is now subject to (1) secondary earner's participation constraints in marriage (Eq. 5) and (2) their bargaining process (Eq. 6), where $\lambda_t^S > 0$ represents the Lagrangian multiplier associated with her participation constraint. Intuitively, when a secondary earner's outside option increases to the point of negotiation, her bargaining power increases by λ_t^S to make her indifferent between being divorced and staying married.

2.2 Efficient Allocation

The following proposition summarizes the efficient consumption allocation.

Proposition 1. The main prediction of this model is that increasing a spouse's outside option leads to a shift in consumption allocation in her favor because higher outside option increases marital bargaining power. The first-order condition of the couple's efficient consumption paths illustrates this point:

$$\frac{u'\left(c_t^{P*}\right)}{u'\left(c_t^{S*}\right)} = \frac{\theta_t^S + \lambda_t^S}{\theta_t^P + \lambda_t^P} = \gamma_t \tag{7}$$

See Appendix Section E for derivation of this prediction. This condition shows that the ratio of marginal utilities of consumption has a one-to-one relationship to the relative bargaining power of the spouses, or the slope of the Pareto frontier (Kocherlakota, 1996). Thus, whenever secondary earner's Lagrangian multiplier associated with her participation constraint is positive, $\lambda_t^S > 0$, primary earner's marginal utility will be relatively higher than that of secondary earner. This implies an increase in secondary earners' consumption share.

I next consider how demand for private (k) and public (j) goods changes with respect to the spouse's *relative* bargaining power, $\mu_t = \frac{\theta_t^S}{\theta_t^P}$ in a very simple case where individual preferences are Cobb-Douglas in private good, q_k^i, and public good, Q_j:

$$u^i(c^i, Q) = \sum_k \alpha_k^i log q_k^i + \sum_j \delta_j^i log Q_j \tag{8}$$

$\alpha_k^i \geq 0$ and $\delta_j^i \geq 0$ denote each spouse's coefficients on private good and public good, such that they can be normalized by $\sum_k \alpha_k^i + \sum_j \delta_j^i = 1$. Assume also that prices are normalized to 1, so that the budget constraint is as below and $x = c^P + c^S$:

$$\sum_k (q_k^P + q_k^S) + \sum_j Q_j = x \tag{9}$$

Proposition 2. The second prediction is that increasing a spouse's relative bargaining power increases her private consumption. The first-order condition shows that:

$$q_k^P = \frac{\alpha_k^P}{1 + \mu_t} x \tag{10}$$

$$q_k^S = \frac{\mu_t \alpha_k^S}{1 + \mu_t} x \tag{11}$$

$$Q_j = \frac{\delta_j^P + \mu_t \delta_j^S}{1 + \mu_t} x \tag{12}$$

See Appendix Section G for derivation. This condition shows that secondary earner's demand for private consumption, q_k^S, should increase unambiguously as μ_t increases, whereas that of primary earners should decrease. On the other hand, the effect on public consumption depends on which spouse "cares more" about public consumption in the sense that $\delta_j^S > \delta_j^P$. Taking the first-order condition with respect to μ_t illustrates this:

$$\frac{\partial Q_j}{\partial \mu_t} = \frac{\delta_j^S - \delta_j^P}{(1+\mu_t)^2} x \tag{13}$$

Public consumption should increase with μ_t iff $\delta_j^S > \delta_j^P$.

2.3 Empirical Predictions

Suppose that the TILA reversal increased secondary earners' credit limit from $\underline{L^S}$ to $\overline{L^S}$, while keeping the primary earners' credit limit constant $L_t^P = L^P$. Then household's total credit is:

$$L_t = \begin{cases} L^P + \underline{L}^S, & \text{if } t < \text{TILA reversal} \\ L^P + \overline{L}^S, & \text{otherwise} \end{cases}$$

To the extent that the TILA reversal improved secondary earner's outside options and their relative bargaining power, μ_t, the following relationships should be present in the data:

1. The share of consumption allocated to secondary earners should increase.
2. Secondary earner's demand for private consumption should increase, while that of primary earner should decrease. The effect on public consumption is an empirical question.
3. In the cross-section, reallocation should be more (less) pronounced for couples that are more (less) likely to divorce because bargaining is triggered when $V_t^{i',M} \leq V_t^{i',D}$.

I examine these empirical predictions in the data.

3 Institutional Background and Research Design

The 2013 reversal of the Truth-in-Lending Act Section 150, or the ability-to-pay provision, exogenously increased secondary earners' access to credit in the credit card market. Section

3.1 discusses the institutional background and Section 3.2 describes my empirical design.

3.1 The Truth-in-Lending Act

The 1968 Truth-in-Lending Act (TILA) is a federal statute that requires lenders to disclose terms and cost – such as the annual percentage rate (APR) – to consumers and bans lenders from using deceptive advertising practices (CFPB, 2021). The TILA governs a wide range of consumer credit products including credit cards, mortgages, auto, and installment loans.

This study examines the 2013 *reversal* of TILA Section 150, which only applies to the credit card market. In October 2011, roughly two years before the reversal, the Federal Reserve Board (the Board) made an amendment to Section 150, requiring credit card issuers to consider the consumer's "independent" ability to pay when issuing credit. Before the amendment, Section 150 did not offer any specific guidance on the source of income to consider:

> a card issuer may not open any credit card account for any consumer under an open end consumer credit plan, or increase any credit limit applicable to such account, unless the card issuer considers the ability of the consumer to make the required payments under the terms of such account (12 CFR §1026, 2012).

After the amendment, card issuers were required to either (i) consider the consumer's independent means of repaying through information collected on a credit card application; or (ii) obligate the consumer to have a cosigner who has such means and can assume joint liability for the account. The original intent of this amendment was to restrict card issuers from extending credit to consumers under the age of 21 to address a growing concern at the time that young adults were being offered credit cards on the basis that their parents had enough income, without the parents' consent. However, the amendment raised an unexpected concern that it may restrict secondary earners and stay-at-home spouses who have limited income of their own but access to their spouse's income from establishing access to credit.

Growing concerns about the 2011 amendment having discriminatory effects on secondary earners prompted a Congressional hearing to consider reversing the amendment. The nature of these concerns are reflected in the opening statement of the June 2012 Congressional hearing by Senator Shelley Capito (R-WV):

> This rule could be especially punitive for women who are in a failing marriage or an abusive relationship. As I think about what some of the fundamental steps somebody who is maybe

> in an unhappy marriage or an abusive relationship would take, one of the fundamental, I am sure, pieces of advice is to try to establish credit, try to establish a financial footprint. Similarly, stay-at-home spouses whose husband or wife dies unexpectedly or divorces them could face similar challenges if they have not maintained a credit history.... The ability to pay rule threatens to further complicate the situation by potentially limiting their access to credit. (House Hearing: 112th Congress, 2012)

The 2011 amendment was reversed in 2013, allowing card issuers to "consider income and assets to which consumers have a reasonable expectation of access" for consumers over the age of 21. The Consumer Financial Protection Bureau (CFPB) announced this change in April of 2013, and compliance with this rule was required by November, 2013 (see this link).

In summary, before 2013, credit card issuers were required to consider consumers' independent income when issuing credit, whereas they were allowed to consider household income after 2013. Note that card issuers collect income information to determine how much credit limits to extend to a consumer when she first applies for a credit card account, but they were not required to re-collect income of existing card holders. Thus, the reversal mainly expanded *credit limits* of consumers who opened a new credit card account around the 2013 policy.

3.2 Research design

My identification strategy exploits the fact that the reversal was superseded by marital property laws in some states but not in others. Specifically, while TILA is a federal statute, the impact of the reversal depends on where consumers live. In community property (CP) states, card issuers were always allowed to consider "household income" when issuing credit because any income earned during marriage is considered jointly owned, regardless of who earned it. Thus, the amendment or reversal of Section 150 had no relevance for secondary earners in CP states. On the other hand, in equitable distribution (ED) states, card issuers were required to enforce Section 150 and collect secondary earners' "independent income" before the reversal, as income earned during marriage in ED states is considered separately owned.[10] Figure A.1a shows the summary of the income consideration standards in the two types of states.

I use this feature in a difference-in-differences design. I follow outcomes over time for two groups of secondary earners. Treated secondary earners are those living in ED states because

[10]The marital property system in the U.S. originates from the English and Spanish legal doctrines that governed U.S. territories during the colonization era. Table SA.1 summarizes the differences between CP and ED states.

they were affected by the policy change. Control secondary earners are those in the CP states because marital property law superseded the TILA reversal. Figure A.1b shows the map of where CP and ED states are located in my sample. I ensure that using CP states as the treated group is a valid research design by confirming that (1) JPMC's treatment of the two types of states were indeed different prior to the reversal;[11] and that (2) secondary earners' income reporting behavior on credit card applications changed in the two types of states in a manner consistent with the reversal. Figure A.2 shows spouses' income reporting behavior on credit card applications. Appendix A discusses these results in detail.

I use the following difference-in-differences (DiD) regression specification:

$$Y^i_{h,t} = \alpha_h + \gamma_t + \beta \mathbf{1}[Treat \times Post]_{h,t} + \epsilon_{h,t} \tag{14}$$

where $Y^i_{h,t}$ is an outcome for secondary earner i in household h at month t. α_h are household fixed-effects, γ_t are time (month-year) fixed-effects, and $\mathbf{1}[Treat \times Post]_{h,t}$ is an interaction term between treatment and post ($t \geq$ November 2013) indicators. The coefficient of interest, β, captures the differential change in the outcome for the treated group relative to the control group following the reversal. I refer to β as "the monthly effect" of the TILA reversal.

In addition to monthly effects, I report cumulative effects, $\Phi_\tau = \sum_{j=0}^{\tau} \phi_j$, over 6-, 12-, 18-, and 24-month after the reversal, obtained from the following dynamic DiD specification:

$$Y^i_{h,t} = \alpha_h + \gamma_t + \sum_{j \neq -1} \phi_j (Treat_h \times 1_{j=t}) + \epsilon_{h,t} \tag{15}$$

I omit the month prior to the reversal, $j \neq -1$, so ϕ_j can be interpreted as a change relative to this pre-reversal period. Reporting cumulative effects at different points in time is a standard practice in the consumption literature studying credit cards (Agarwal et al., 2018; Gross, Notowidigdo and Wang, 2020; Aydin, 2022) to facilitate a comparison between credit limit, which is a stock variable, and consumption, a flow variable.[12] For all regressions, I cluster standard

[11] I obtained a snapshot of JPMC's internal policy circulated among the card services team confirming that JPMC complied with the Federal Reserve Board's recommendation to differentiate between CP vs. ED states. While this snapshot cannot be disclosed in the paper, it can be presented during oral presentations. See 12 CFR §226 (2011) for details on the Board's suggested treatment of applicants residing in CP states.

[12] Since outcomes are in scaled levels, the dynamic point-in-time estimates, ϕ_j, capture the cumulative change since the TILA reversal for stock variables (e.g., credit limits), but not for flow variables (e.g., consumption). Therefore, I report Φ_τ for flow variables and ϕ_j for stock variables.

errors at the state level.

The identifying assumption is parallel trends: the average outcomes for treated and controls would have followed parallel paths over time in the absence of treatment. While the parallel trends assumption does not require outcomes to look similar in levels across treated and control units, this assumption may be violated if pre-treatment characteristics that are thought to be associated with the *dynamics* of the outcome variable are unbalanced between treated and control (Abadie, 2005). To strengthen the "parallel trends" assumption, I apply the nearest neighbor propensity score matching method by matching households based on their conditional probability of being treated given the covariates. I choose pre-treatment covariates (X) based on factors that may influence the card issuer's underwriting criteria and use a logit regression to estimate the propensity score $p(X) = P(Treat = 1|X)$. Because propensity score has a balancing property, the matched sample has the same distribution of covariates, conditional on the propensity score (Rosenbaum and Rubin, 1983).[13]

4 Data and Descriptive Evidence

I use a panel dataset of monthly spending, income, and credit card borrowing of 66,200 opposite-sex couples from October 2012 to December 2015, covering a year before and two years after the TILA reversal. I do not analyze the 2011 amendment because JPMC data only goes back to October 2012.

4.1 Analysis Sample

I construct my sample in three steps– (i) identify couples in the dataset; (ii) obtain information on each spouse's checking; and (iii) credit card accounts. I apply several screening criteria to focus on couples that primarily use JPMC financial accounts to manage their finances.

I identify couples using a record of account linkages that links family members to a unique household identifier. Individuals must share personally identifiable information, such as address and last name, to be linked to the same household unit. Since I do not directly observe individuals' marital status, I apply several data filters to focus on individuals that are likely to

[13] After propensity score matching, my sample remains representative and captures over 80 percent of the pre-matched sample size (see Table 1). Specifically, sample size is 81,134 pre-matching and 66,000 post-matching.

represent married couples. Specifically, I restrict the sample to opposite-sex, two adult-member households in which members have the age gap of less than 16 years.[14] The age gap restriction is applied to filter out siblings or parent-child pairs residing in the same address. Given that more than 92 percent of individuals in my sample have joint checking accounts shared with the other member in the same household unit (see Figures A.3 and SA.4) – an alternative proxy for identifying couples (Ganong and Noel, 2019) – my sample is likely to capture married couples. This is consistent with a majority (73 percent) of married individuals in the U.S. sharing their primary checking account with their spouse (see Table A.1). I further restrict the sample to spouses in their prime working age (25 to 65 years old) at the timing of the reversal to mitigate confounding effects from retirement.

Next, I obtain each spouse's checking account information to ensure that individual member's spending can be tracked both before and after the reversal. I require *both* spouses to have at least one active checking account at JPMC *either* as a primary or secondary account holder, where active means having at least 5 transactions every month. I do not require individual spouses to have separate financial accounts, but only that they are account holders of at least one (sole or joint) checking account. This allows me to capture couples with a diverse set of financial account structure, including those that only have joint accounts as well as those with a mix of joint and separate accounts. For couples with joint checking accounts, I require spouses to have their own debit cards associated with these shared accounts to be able to track each spouse's spending on these joint accounts. I further restrict the sample to couples that make above-poverty annual labor income of at least $17,000 in 2013,[15] to focus on couples that generate sufficient income – a key requirement for credit card underwriting – and primarily use JPMC checking accounts to manage their finances.

In the final step, I restrict the sample to 137,904 households with at least one active credit card account at some point during my sample period to focus on couples that rely on the credit card market. I refer to this as the *broad sample*. I then construct two datasets for my main analysis: the *all sample* and the *regression sample*. The all sample restricts the sample to couples where secondary earners did not have a sole credit card account at the beginning of my sample period (October 2012). The idea is to focus on the group where secondary earners have the

[14] This sample can include two adult-member households with children. Since I do not directly observe if a couple has children, I proxy for this by household spending on child care and children's clothing.

[15] $17,000 is the U.S. Department of Health and Services' 2013 poverty threshold for two-member household.

highest propensity to open a new credit card account because income reporting is only relevant for new card openers (the same way unemployment insurance literature, for example, focuses on the unemployed population). Conducting propensity score matching (PSM) on this sample yields 66,200 couples with similar pre-reversal characteristics. I use this all sample for descriptive analysis. For my regression analysis, I further restrict all sample to 11,682 households where secondary earners open a new sole credit card account at some point during my sample period. The idea is to test the effectiveness of the TILA reversal among control and treated secondary earners that are equally likely to open a new credit card account around the same time (the same way UI literature focuses on unemployed individuals receiving UI benefits). If the reversal is effective, secondary earners that happened to be living in ED (treated) states should get a bigger lift in credit limits relative to those living in CP (control) states.

The sample restriction I apply focuses on marginal households that are most likely to be affected by the policy. While focusing on this sample is sensible from a policy evaluation perspective, one potential concern is that my findings cannot be generalized to a broader population due to the restrictive sample selection criteria. I address this sample selection concern by (1) benchmarking the all sample to a representative sample of U.S. couples (Table A.2), (2) showing that my results hold up to using a broader sample of 137,904 households with no restrictions on secondary earners' credit card ownership status (Sections C), and (3) confirming that households in the all vs. the regression sample have similar pre-reversal characteristics (Table A.3). Section 4.4 discusses further details on the sample representativeness. Finally, the sample of households I study represents a non-trivial fraction of overall couples with active checking and credit card accounts during my sample period. The *all sample* represents 48 percent of all couples (this share is 58 percent before propensity score matching) and the *regression sample* represents 10 percent. Thus, my samples represent a meaningful share of all couples that rely on the credit card market.

4.2 Variable Construction

Consumption I proxy for household consumption based on spending on spouses' checking accounts, credit cards, and debit cards, as shown below. I first map out all financial accounts linked to each household, h. I then categorize transactions on these accounts using the Merchant

Category Codes (MCC), transaction channel (e.g., checks, electronic transfers), and JPMCI's internal categorization variables. Table A.4 shows examples of each spending category. I aggregate these categories to a household level. Once I have household-level consumption measure, c^h, I further break this measure into its private and public sub-components. Private consumption refers to spending on exclusive goods that are consumed privately and only benefit the spouse who spends the money. Public consumption refers to spending on goods that are consumed jointly by the household. I build on existing studies to determine whether spending is private or public (Chiappori, Fortin and Lacroix, 2002; Mazzocco, 2007):

$$\begin{aligned} c^h = &\text{Dept store} + \text{Discount Store} + \text{Clothing} + \text{Entertainment} + \text{Flights} + \text{Hotels/Rental} + \\ &\text{Medical} + \text{Transport} + \text{Food Away} + \text{Dur Retail} + \text{Nondur Retail} + \text{Checks} + \text{Cash} + \\ &\text{Prof. Svcs} + \text{Personal Svcs} + \text{Auto Repair/Parts} + \text{Fuel} + \text{Utilities} + \text{Grocery} + \\ &\text{Home Improvement} + \text{Home Cleaning/Repairs} + \text{Child} + \text{Insurance} + \text{Tax} \end{aligned} \tag{16}$$

I construct two versions of spouse-level consumption, c^i – a spending-based and gender-based measure. The spending-based measure proxies for spouse-specific consumption based on "who spent what" on each spouse's financial accounts. Specifically, I attribute any spending on a spouse's individual (sole) account as spending incurred by that spouse. For joint accounts, I track who spent what on these accounts by (1) identifying which debit card is linked to whom on these shared accounts and (2) attributing spending to the respective cardholder. For any joint account transactions for which the spender cannot be identified, I assume they are shared expenses (e.g., \$100 electronic bill payment is shared \$50-\$50). This is a conservative assumption that makes consumption shares look more even. The advantage of the spending-based measure is that it captures each spouse's spending preferences on a broad set of goods, even if a given spouse does not necessarily consume the purchased goods (e.g., childcare). However, spending may be a poor proxy for one's consumption if it simply captures who shops for goods that are consumed jointly rather than capturing one's preferences.

To address this concern, prior research has used *gender-assignable* consumption measure that infers c^i using household-level expenditures on clothing since gender-specific clothing can only be consumed by one member of the household regardless of who purchased it. I build on this idea and construct a *gender-intensity* measure of consumption that uses a more data-driven

approach to capture a broader range of spending categories. Specifically, I take 2.4 million individuals who are active users and sole account holders of Chase checking and credit card accounts during my sample period. I then compute the share of spending done by men and women for 100 spending categories and use this statistic to broaden the category of goods that could be considered "gendered" beyond just clothing. Table A.5 reports gender-intensity in spending shares. Figure SA.1 shows a figure version. Thus, i's gender-intensity consumption measure sums household-level expenditure for which i's gender has more than 55% in spending share. The advantage of this gender-intensity measure is that it could more accurately capture one's consumption preferences and improve the external validity of the gender-assignable measure since clothing represents a small fraction of total household spending (1%). However, since gender-intensity excludes spending categories that are less clearly "gendered" (i.e., gender-intensity between 50 to 55), it only captures 54% of spending-based consumption measure.[16] I use both versions of spouse-level consumption to alleviate potential measurement concerns.

The within-household consumption measures include:

$$c^h = c^P + c^S; \qquad c^i_{sh} = \frac{c^i}{c^h}; \qquad c_{gap} = c^P_{sh} - c^S_{sh}$$

Household consumption, c^h, corresponds to the sum of primary and secondary earners' consumption. Spouse-specific consumption share, c^i_{sh}, is proxied by dividing spouse-specific consumption by total household consumption; and the consumption gap in the household, c_{gap}, is measured as the difference between primary and secondary earners' consumption shares.

Credit I construct two credit measures – independent credit and total credit. Spouse i's *independent* credit access is proxied by the sum of credit limits on i's sole credit card account; and *total* credit access is the sum of credit limits on any credit card account he or she has access to either as a primary account holder or as an authorized user. Household credit access is measured as the sum of total credit limit extended to each spouse. Credit limits on joint accounts are only counted once in the household-level aggregation since spouses can borrow up to their joint limit. Spouse-level credit shares and gaps are constructed in the same manner as consumption shares and gaps.

[16] I conduct robustness with less (50%) and more conservative (60%) gender-intensity thresholds. Section C includes a detailed discussion on how spending shares are calculated.

Income Monthly spouse-specific income is measured as the sum of labor income (payroll direct deposits), government transfers (e.g., UI, veteran's benefits, and tax refunds), and other income (e.g., business income or gig income) deposited to spouses' sole and joint checking accounts *for which they are the primary account holder*. One potential concern with this assumption is mis-classifying which spouse is the primary earner. Given that husbands are primary earners for the majority (84%) of opposite-sex married couples in the U.S. (Current Population Survey, 2020), mis-classification is likely to arise for couples that only have a shared checking account where the wife is the primary account holder (16.1% in my sample). While over-classifying wives as primary earners can bias consumption gaps downward because wife's consumption share tends to be smaller than that of the husband (Lise and Seitz, 2011), mis-classification is unlikely to be a concern for causal inference because treated and control households have a similar distribution of account structure types (see Figure SA.4) – i.e., mis-classification is uncorrelated with the treatment assignment. Household income is measured as the sum of each spouse's income. I define a spouse as a primary earner if he or she earned higher average monthly labor income relative to the other spouse in the pre-reversal period.[17]

4.3 Pre-Treatment Characteristics and Sample Representativeness

Treated and control households have similar pre-treatment characteristics, which strengthens the parallel trends assumption. Table 1 shows that the treated group has a higher baseline average income and is more likely to have credit cards before PSM. Columns 4 through 6 show that PSM procedure yields 66,200 households with similar pre-treatment characteristics. Similarly, Table A.3 shows that 11,682 treated and control secondary earners in the regression sample have similar pre-treatment characteristics. This table also shows that the sample of households in the all vs. the regression samples look similar, which alleviates the concern that the regression sample may capture a selected sample.

There is substantial heterogeneity in credit access and consumption both within and between couples. Table 2 uses all sample and reports monthly pre-reversal household characteristics. Panel A shows that couples on average consume and earn total income of $6,005 and

[17] I classify households as double-income if (i) it receives more than 4 payroll direct deposits in a month; or (ii) receives more than 2 payroll deposits in a month and the difference in the amount deposited in each paycheck is larger than one standard deviation of monthly labor income that households receive on average. This is based on the fact that workers typically receive income on a bi-weekly basis (U.S. Bureau of Labor Statistics, 2020).

$9,017, respectively, while the median household consumes and earns roughly 23 percent less than the average household. Couples on average have access to credit 74 percent of the time, while the median couple always has access to credit before the reversal. Panel B illustrates heterogeneity within the household. On average, primary earners earn 8 times more and consume 30 percent more than secondary earners. Secondary earners are substantially less likely to be able to borrow independently before the reversal relative to primary earners. Note that the income gap is likely to be overstated because I attribute all income streams to the primary account holder when both spouses deposit income into their joint checking accounts. However, as discussed in Section 4.2, this measurement is likely to bias my results downward because women are more likely to be erroneously classified as primary earners.

My sample of households look similar to a representative sample of U.S. households. Table A.2 compares average characteristics of all sample to a representative sample of two-member households using the Consumer Expenditure Survey (CEX) and the Bureau of Labor Statistics (BLS). Compared to the benchmark mean, individuals in my sample tends to be younger and consume and earn more. The discrepancy can be driven by differences in sample and measurement: the CEX includes retirees, while I focus on couples in their prime working age that presumably have higher consumption and income; and it also has a well-known underreporting concern (Mian and Sufi, 2016). Despite the differences in levels, the ratio of consumption to income or the ratio of public (or private) consumption to household consumption match the CEX closely. The share of double-income households also match the BLS share.[18]

4.4 Descriptive Evidence

I document three novel facts that motivate understanding the link between disparities in credit access and consumption in the household.

First, there are large gaps in credit access within the household. Figure 1a plots the average share of accessible credit by earner type. Primary earners have access to 92% and secondary earners 35% of total credit limits available at the household-level, indicating a within-household credit gap of 57%. The independent credit gap is even larger ($0.60\% = 0.80 - 0.20$) – i.e., for every dollar of independent credit accessed by primary earners, secondary earners can access

[18] See Table A.1 for statistics of account ownership structure for married couples in the U.S.

25 cents. This suggests that secondary earners are much less likely than primary earners to be able to borrow independently from credit markets. The large within-household credit gap is driven in part by the fact that the all sample is limited to households where secondary earners did not have a sole credit card account at the beginning of my sample period. However, the within-household credit gap is large even in a broader sample of households without this sample restriction (74 cents on the dollar). Figure A.4 shows total and independent credit gaps of 11% to 12% among the *broad sample* of households where secondary earners had credit card accounts at the beginning of the sample period.

Second, there are large gaps in consumption within the household. Secondary earners on average consume 44% and primary earners 56% of total household consumption, indicating a consumption gap of 12%. In other words, secondary earners consume 78 cents for every dollar consumed by primary earners. The consumption gap in the household cannot be fully explained by differences in spouses' income. If income determines consumption shares of each spouse, individuals that make similar levels of income should consume similar shares of consumption in their respective household. However, Figure 1b shows that relative – rather than nominal– financial power in the household explains how much consumption is allocated to each member within the household. Specifically, this figure shows the average consumption share of individuals in the same income bin by earner status in their respective household. With the exception of the highest income bin, individuals in every income bin has higher consumption share relative to their spouse if they are primary earners, but not if they are secondary earners.

Finally, secondary earners' *independent* credit access is positively correlated with their share of consumption in the household. Figure 1c plots secondary earners' average consumption share against their share of accessible household credit. Secondary earners' consumption share increases monotonically with their share of total accessible household credit, suggesting that having a higher relative borrowing capacity is associated with higher consumption allocation in the household. Interestingly, Figure 1d shows that the positive correlation between credit and consumption shares disappears when consumption share is plotted against the amount of credit access secondary earners have as an authorized user. This suggests that simply having higher borrowing capacity does not explain whether a spouse gets higher consumption allocation in the household. Rather, it illustrates that ability to access credit independently is associated with how consumption is shared between spouses.

5 Effect of the Reversal on Inequality in the Household

The descriptive evidence demonstrates a clear link between credit and consumption gaps. Motivated by this, I examine the causal impact of the reversal on household credit and consumption.

5.1 Effect on Household Credit and Consumption

Before exploring intra-household dynamics, I first examine the effect of the TILA reversal on household credit and consumption. Table 3 presents DiD estimates for total household credit and consumption. The outcomes are scaled by the household's monthly pre-reversal consumption mean, allowing the estimated coefficient to be interpreted as a percent change relative to the household's typical monthly spending. Column 1 reports the monthly effect of the reversal, β, obtained from Equation 14. Columns 2 through 5 present cumulative estimates from Equation 15. Column 6 shows the implied dollar effects by converting the 24-month estimate into dollars. The pre-reversal average of each outcome is reported in brackets.

The TILA reversal increased household credit access and consumption. Column 1 shows that household monthly spending power rose by 16 percent. The increase in credit access was large and persistent. Columns 2 through 5 indicate that household credit limits grew by 10 percent after one year and by 28 percent after two years relative to their pre-reversal consumption mean, or \$1,523, as shown in Column 6. This represents 30 percent of the average pre-reversal credit limit, highlighting its economic significance. The TILA reversal also boosted household consumption. Monthly household consumption increased by 0.9 percent, with a cumulative 17 percent increase, or \$953, after 24 months relative to the pre-reversal mean. The implied marginal propensity to consume (MPC) out of a credit limit increase is 0.62, comparable to findings by Agarwal et al. (2018), which reported a 24-month estimate range of 0.29 to 0.77 based on total credit card purchases.[19]

5.2 Effect on Secondary Earners' Credit and Consumption

The increase in credit access for secondary earners fully explains the overall rise in household credit. Panel A of Table 4 presents DiD estimates on the total and independent credit limits

[19]The MPC based on total purchases is higher than that based on interest-accruing credit card debt, which provides a lower bound (Gross and Souleles, 2002; Gross, Notowidigdo and Wang, 2020; Aydin, 2022).

of secondary earners. The outcomes are scaled by the secondary earners' average monthly consumption before the reversal, allowing the estimated coefficient to be interpreted as a percentage change in spending power relative to their typical monthly spending. Column 5 shows that after 24 months, the credit limit for secondary earners increased by 59 percent, equivalent to $1,506, relative to their pre-reversal consumption mean. This increase matches the observed change at the household level, which is $1,523, indicating that the expanded credit access for secondary earners accounts for the entire household-level increase and that primary earners' credit access remained unaffected.

Secondary earners have full autonomy and discretion to utilize their expanded borrowing power, as most of the increase in credit access can be tapped exclusively by secondary earners. Specifically, secondary earners' independent credit increased by 56 percent, or $1,416, relative to their pre-reversal consumption mean after 24 months. The estimated increase is as large as (16 percent of) the pre-reversal mean, as the secondary earner's average credit limit before the reversal was $1,595 ($9,115 conditional on having an account). Section B shows that the reversal did not differentially impact other credit terms, such as the APR, card opening or closing rates, and usage of non-Chase credit cards (see Tables A.6 and A.7). Thus, the reversal specifically expanded the quantity of credit available to secondary earners without affecting other aspects of credit usage behavior or non-quantity terms. Overall, the TILA reversal had a strong "first-stage" on secondary earners' independent borrowing capacity.

The TILA reversal resulted in a large and sustained increase in secondary earners' consumption. According to Panel B of Table 4, their monthly consumption rose by 3 percent, or $73, relative to the pre-reversal mean. Over 24 months, this cumulative increase amounted to 66 percent, or $1,685, which is substantially higher than the household-level increase of $953. This suggests that household-level patterns can mask significant heterogeneity and reallocation within households. This result is robust to using the gender-intensity (GI) consumption measure, which shows a 60 percent rise after 24 months. This suggests that the consumption effect reflects secondary earners' spending preferences rather than just shopping behavior. As detailed in Section 4.2, the GI measure shows a smaller dollar effect because it only considers clearly gendered goods. Table A.8 (also discussed in Section C) demonstrates that these results are robust when using less ($\geq$50%) or more ($\geq$60%) conservative spending-share thresholds.[20]

[20]I chose 55% as the threshold to balance accuracy and generalizability. A less conservative threshold increases

5.3 Within-Household Consumption Inequality

The central finding of this paper is that the TILA reversal reduced the household consumption gap by increasing the share of consumption for secondary earners. The significant rise in secondary earners' consumption, coupled with a relatively muted household-level response as shown in Section 5.2, suggests that primary earners reduced their consumption to accommodate this shift.

Table 5 supports this interpretation. The share of consumption allocated to secondary earners increased by an average of 0.5 percent and by 11 percent after 24 months relative to their pre-reversal mean, regardless of the consumption measure used. In other words, the reversal increased secondary earners' consumption share by 0.05 percentage points (0.46×1.11). This is a significant increase, considering that typical monthly fluctuations in consumption shares before the reversal were 0.19 percent. The shift toward secondary earners reduced the consumption gap between spouses. Column 1 of Table 5 shows that the monthly consumption gap narrowed by 1.5 to 2.3 percent, depending on the measure. After 24 months, the gap had cumulatively decreased by 40 to 50 percent, leading to more equal consumption sharing between spouses and evening out consumption disparities.[21]

Figure 2 shows how secondary earners' credit limits, consumption share, and consumption gap between spouses evolved. It plots dynamic estimates from Equation 15 and their confidence intervals. Figure 2a indicates that before the reversal, treated secondary earners' credit limits trended parallel to the control group. A small differential increase in credit limit appeared a few months before the reversal when the CFPB announced the change. Section B confirms these results are robust to controlling for the phase-in trend (see Figure A.6). After the reversal, credit limits increased sharply for the treated group and leveled off about a year later. The gradual increase in credit limits reflects more credit card openings over time. As secondary earners' borrowing capacity expanded, Figures 2b and 2c show an increased share of consumption for secondary earners, reducing the household consumption gap. Figure A.7 shows these plots using the GI measure.

generalizability by including more categories but reduces accuracy in capturing gendered purchases. Conversely, a more conservative threshold improves accuracy but weakens generalizability. Using a 55 percent threshold, the GI measure captures approximately 54 percent of all spending compared to the spending-based measure.

[21] The average difference in consumption shares between primary and secondary earners implied by the consumption share estimate Φ_τ need not equal the estimate for the consumption gap because the estimates are obtained from using scaled outcomes with household-specific scaling factors.

The divergence between household-level and secondary earner-level consumption effects highlights the importance of analyzing household behavior through the perspectives of individual family members. The muted household-level consumption effect compared to secondary earners' illustrates how household averages mask substantial heterogeneity in consumption responses and reallocation among family members.

Household vs. Secondary Earner Credit? While the TILA reversal increased secondary earners' independent access to credit, it also expanded the total credit available to households. This raises the question of whether the reallocation effect is driven by secondary earners' improved borrowing power or by the relaxation of credit constraints at the household level. To distinguish between these effects, I conduct a placebo test on couples that experience a credit limit increase on their joint credit card accounts. The joint credit limit serves as a placebo because it enhances household-level credit access without increasing secondary earners' independent borrowing ability relative to the primary earner. If the reallocation were driven by the overall increase in household credit access, then receiving increased limits on joint accounts would also lead to consumption reallocation. However, column 4 of Table A.10 shows that secondary earners' consumption share does not change for couples that receive a limit increase on joint accounts, suggesting that the reallocation effect is specifically driven by secondary earners having full autonomy and discretion in making spending decisions.

Robustness. Section C reports presents additional evidence that my main findings are robust across various measures of consumption, regression specifications, and different samples. Some examples include: (1) using a consumption measure that includes credit card payments to other financial institutions to account for non-JPMC credit card spending, (2) excluding spending categories that may reflect public consumption (i.e., food away, travel, cash, checks), (3) using the GI measure, (4) applying alternative regression specification including state-specific trends, and (5) broadening the sample to include households where secondary earners were cardholders before the reversal. Placebo tests confirm that consumption shares dd not change for couples without changes in credit allocation. Additionally, a permutation test addresses concerns that estimates might be influenced by unequal sizes of treated and control U.S. states.[22]

[22] See Table A.8 for robustness on measurement; Table A.9 for specification; Table A.10 for alternative samples and placebo tests; and SA.5 for permutation tests.

5.4 Private and Public Consumption

How did spouses reallocate consumption? Decomposing total consumption into detailed spending categories reveals that secondary earners increased their private consumption while primary earners reduced theirs. Table 6 separates the consumption effects for secondary earners (Panel A) and the household (Panel B) into private and public components, with Table A.11 providing similar data using the GI measure. Figure 4 visually depicts the household reallocation effect.

Panel A shows that secondary earners' private consumption increased by 32 percent relative to their monthly pre-reversal consumption mean after 24 months. Conversely, private consumption at the household level remained largely unaffected, with a statistically insignificant 5 percent increase compared to the average monthly pre-reversal household consumption. In dollar terms, the increase in secondary earners' private consumption ($821) was much larger than the increase in household private consumption ($245), suggesting that primary earners reduced their private consumption by $576.

While a small part of consumption reallocation reflects shifts in who shops for public goods, reallocation primarily occurred through changes in spouses' demand for private goods. Panel A shows that secondary earners' public consumption increased by 34 percent, or $863, relative to their monthly pre-reversal consumption mean after 24 months. Panel B shows that households' demand for public consumption increased by 13 percent, or $707, relative to the pre-reversal monthly consumption mean. Since secondary earners' demand for public goods rose more than that of the household, this implies that primary earners reduced their spending on public goods by $156 ($863-707$). Assuming that this reduction reflects a nominal change in who shops for public goods, the estimates suggest that 91 percent ($\frac{\$1,528}{\$1,684} = \frac{\$1684-\$156}{\$1,684}$) of the total increase in secondary earners' consumption captures the reallocation effect rather than a simple change in who shops for public goods.

The breakdown of consumption patterns reveals that the TILA reversal caused significant shifts in the types of goods demanded by both secondary earners and households. Panel A of Figure 3 illustrates the percent change in secondary earners' spending on specific categories of goods compared to their average monthly consumption before the reversal, along with the dollar amounts and the pre-reversal averages for each category. Among public goods, secondary earners notably increased spending on groceries, home improvement items (like supplies from

home or garden stores and florists), and fuel (such as purchases from gas stations). Regarding private goods, secondary earners increased spending the most on paper checks, dining out, clothing, and nondurable retail items.[23]

Panel B demonstrates that household consumption patterns closely mirror those of secondary earners. The reduction in cash spending suggests that secondary earners changed not only their purchasing preferences but also their payment methods, substituting cash transactions with credit card payments. Figure A.8 presents similar findings using the GI measure.

5.5 Household Financial Outcomes

While the TILA reversal helped even out consumption between spouses, this narrowing of the consumption gap may have adversely affected the household's overall financial standing. This section investigates the impact of the reversal on couples' financial outcomes.

The TILA reversal did not worsen the financial standing of households. Panel A of Table 7 reports treatment effects on various measures of financial solvency. The TILA reversal did not increase overdraft probabilities, credit card delinquency rates, or the likelihood of resorting to high-interest loans like payday loans. On the contrary, households appear to make smarter financial decisions, becoming more likely to settle existing debt and repay their credit card balances more "optimally" by prioritizing the repayment of higher-interest debt while continuing to borrow using cards with lower interest rates (Ponce, Seira and Zamarripa, 2017; Gathergood et al., 2019). Overall, these findings suggest that narrowing the consumption gap within households did not come at the expense of deteriorated financial distress.

If higher consumption did not lead to greater financial distress, then how did households finance this additional consumption? I find suggestive evidence that households initially accrued higher credit card debt and dis-saved during the first year, but increased their labor supply in the second year. Panel A of Table 7 presents estimates on household income, liquid savings, and interest-accruing credit card debt. By the end of the first year, households had accrued 2.14 percent more credit card debt ($115) and depleted their liquid savings by 1.58 percent (-$87) relative to pre-reversal consumption mean. By the end of the second year, the TILA reversal had a substantial positive impact on household income ($946), although these effects are

[23]Note that while the substantial dollar effects reflect the high individual costs typically associated with check payments, the increase in paper checks represents less than 2 percent of the average baseline spending on checks.

suggestive and are not statistically significant (e.g., t-stat 1.24). This suggests that sustaining higher consumption may depend on continued income growth.

The increase in household labor supply is consistent with predictions from the collective household model, where increased bargaining power for secondary earners leads to reduced labor supply (i.e., higher leisure) for them and a corresponding increase in the labor supply of primary earners (Chiappori, Fortin and Lacroix, 2002). While my data do not allow for testing specific labor supply changes among spouses, the observed rise in household income aligns with the theoretical expectation that access to credit influences couples' labor decisions.

6 Heterogeneity Analysis

I examine how the TILA reversal generated differential reallocation effect by couple's pre-reversal marital commitment. These dimensions of heterogeneity are not exogenous and may correlate with other household characteristics. They may, however, shed light on potential mechanisms that could explain the main findings of this paper.

6.1 By Marital Commitment at Baseline

Under the canonical collective-household model with limited commitment (LC), spouses cannot precommit to future consumption sharing rules. Therefore, factors that enhance the outside option for spouses with initially lower bargaining power should shift consumption allocation in their favor to satisfy their participation constraints in marriage (Chiappori and Mazzocco, 2017). In practice, increased credit limits can improve secondary earners' outside options because they can retain the high credit limits and their credit history obtained during marriage even after divorce, as credit card issuers are prohibited from adjusting credit limits based on marital status.[24] Therefore, divorcees' credit limits are "portable" and remain intact post-divorce, provided they make the minimum monthly payments. Thus, the LC model predicts that the consumption reallocation effect should be more pronounced for couples with weaker marital commitment, as they are more sensitive to changes in the outside option.

[24] Although the ECOA prohibits lending decisions based on marital status, card issuers can reduce credit limits if secondary earner divorcees can't make minimum payments. However, Table SA.2 shows that credit limit changes are similar in states with high and low divorce rates, and Figure SA.2 indicates that women's financial situations improve after divorce while men's deteriorate. These results support the portability assumption.

My results support the notion that credit influences power dynamics between spouses. Table 8 reports the differential effects of marital commitment on secondary earners' credit limits and consumption shares using a triple interaction specification that interacts $\mathbf{1}[Treat \times Post]$ with proxies of marital commitment. Panel A shows that the TILA reversal did not differentially affect secondary earners' credit limits based on their level of marital commitment. Yet, Panel B indicates that the estimated effect on secondary earners' consumption share is larger for couples with weaker marital commitment prior to the reversal and smaller for those with stronger commitment. Column 1 shows that a standard deviation increase in spending on counseling or dating services, proxies for weak commitment, leads to an 86 percent increase in secondary earners' consumption share. Conversely, a standard deviation increase in spending on mortgage payments and children's clothing or child care, proxies for stronger commitment (Lafortune and Low, 2017), reduces reallocation by 40-50 percent.

These results are robust, even after including a range of covariates that may be correlated with marital commitment. Specifically, Columns 4-6 demonstrate that accounting for differences in baseline income, liquid assets, age gaps between couples, does not materially impact the conclusion that consumption reallocation is larger for couples with weaker levels of commitment. Placebo test using a sample of households that do not experience any change in credit limit (Table A.12) indicates that limited marital commitment does not affect secondary earners' consumption share in households.

Section C.1 reports heterogeneity analysis by financial constraints. I do not find clear evidence that the consumption reallocation effect is larger for financially constrained couples.

6.2 Economic Interpretation

The findings of the heterogeneity analysis align with the model of intra-household bargaining. But how does credit influence couples' power dynamics in practice? Consider this scenario: before the TILA reversal, secondary earners might have relied on joint credit or debit cards for purchases. However, primary earners could exert control by monitoring these transactions, effectively curtailing the secondary earners' ability to make independent spending decisions. This dynamic creates a situation where, even with ample financial resources, secondary earners may feel constrained in their consumption choices to avoid conflict. Such dynamics are a

common concern highlighted by spouses during family financial planning discussions:

"Unless purchases are made to his own liking, he is extremely tight with money. For many years into my marriage I had no say in the type of food I ate or clothes I wore. My request for a choice of three types of breakfast cereals was seen as 'an attempt to cremate his money'." (The Guardian, 2014)

"I could feel myself start to cringe at the question I knew was coming: 'So, how much did you spend today?' My husband asked while eyeing the new photo frames ... This was the first of many tense conversations in which he regarded my purchases that were deeply meaningful to me as frivolous." (Northwestern Mutual, 2018)

Independent credit can significantly alter power dynamics between spouses by granting secondary earners greater autonomy and discretion in their spending decisions. Primary earners lose the ability to dictate when and how secondary earners use credit, as real-time monitoring of transactions is not feasible without actively demanding access to credit card statements. Even if primary earners disagree with secondary earners' spending choices, they must still cover the credit card bills at the end of the month, requiring them to adjust their own expenditures to stay within the couple's budget constraints. This dynamic reflects scenarios where "it is easier to ask for forgiveness than for permission" regarding purchasing decisions made by the secondary earner.

In this context, the paper's emphasis on bargaining should not be taken literally; it serves as a shorthand for linking outside options to the division of household surplus, consistent with "collective" models of the household (Browning and Chiappori, 1998). The proposed household model encapsulates a broader interpretation of bargaining, where credit cards shift existing norms around household spending decisions. Although the model focuses on divorce threat-points, the same reasoning applies whether bargaining is triggered by the explicit threat of divorce or by difficult conversations about couples' financial priorities. The critical insight is that the division of surplus depends monotonically on some measure of relative disagreement, which shapes decision-making power and consumption allocation within the household.

Several empirical patterns corroborate the idea that independent credit helps secondary earners establish financial control. First, Table A.14 shows that roughly a quarter of the increase in secondary earners' spending was financed with debit cards they could have used even before the reversal. This finding suggests that independent credit empowers secondary earners

to make their own spending decisions rather than merely providing a new spending technology. Second, as discussed in Section5.3, improved credit access through secondary earners' independent accounts shifts consumption allocation in their favor, whereas higher access through the couple's joint accounts had no effect. Joint accounts offer similar credit access but do not allow individuals to build their own credit history or provide the same level of control and privacy. These unique features of independent credit cards align with existing research that emphasizes how information and communication shape couples' financial outcomes (Ashraf, 2009; Schaner, 2015; Conlon et al., 2022; Ashraf et al., 2022). Finally, as discussed in Sections 5.4 and 5.5, the fact that consumption reallocation operates through primary earners reducing their consumption, combined with the lack of association between higher consumption and financial distress, suggests that couples coordinate their finances.

7 Quantitative Exercise

In the final section, I calibrate the model described in Section 2 to quantify how much of the observed increase in secondary earners' consumption share can be accounted for by the LC channel. I set each period to be one month and track household consumption behavior for 36 months – 12 months before and 24 months after the reversal – to match the data. Table A.15 reports the parameters used in this exercise. Table A.16 compares the outcomes generated by the model and observed in the data and shows that the model generates reasonable estimates of consumption and borrowing behavior.

The LC channel is quantitatively important. Table 9 reports the average pre-reversal mean of secondary earners' consumption share, the post-reversal mean measured at the end of my sample period, and the change in consumption shares. These statistics are provided using both the data (Column 1) and the model (Columns 2-3). The model-generated increase in secondary earners' consumption share is 2-3 percentage points, depending on the assumptions about primary earners' initial credit limits, while the actual change in the data corresponds to 5 percentage points. This suggests that the LC channel accounts for approximately 33-46 percent of the observed increase in the data. Figure A.9 presents visual illustration of this result.[25]

[25] As alternative ways to quantify the importance of the LC channel, Section E uses a sufficient statistics approach to analyze the change in secondary earners' relative bargaining power, while Section F explores the welfare consequences of the TILA reversal.

Overall, these exercises highlight that the LC channel plays a significant role. That said, other channels of intra-household bargaining, such as strategic overconsumption (Hertzberg, 2024), noncooperation (Lundberg and Pollak, 1994; Basu, 2006; Choukhmane, Goodman and O'Dea, 2021), or information asymmetry (Ashraf, 2009) may also be at play, as the LC channel only partially explains the total increase.

8 Conclusion

The provision of the Truth-in-Lending Act (TILA) concerning independent ability to pay was reversed in 2013 to facilitate access to credit for secondary earners and stay-at-home spouses who have limited income of their own but have access to household income. However, the application of this provision depended on secondary earners' marital property regimes, as the 2013 reversal was superseded by state-level marital property laws in community property states but not in equitable distribution states. I use this feature in a difference-in-differences design to gain identification and leverage administrative financial-transaction data that measure credit and consumption of each spouse.

My central finding is that narrowing disparities in credit between spouses reduced consumption disparities in the household. Consumption shifted toward secondary earners, whose private consumption crowded out primary earners' private consumption. Secondary earners increased their demand for public consumption following the reversal, which could have indirectly benefitted primary earners. A variety of household financial-solvency outcomes were not materially impacted. My findings are consistent with the predictions of the intra-household bargaining model under limited commitment, in which secondary earners' expanded credit access improves their bargaining power and shifts consumption allocation in their favor. These findings suggest that marital property laws can improve secondary earners' economic power in marriage by giving them access to credit.

I highlight three caveats and corresponding directions in which my work can be extended. First, this paper examined relatively short-run effects of the TILA reversal. Thus, whether consumption-reallocation and financial-solvency patterns persist in the long run is an open question. Second, this paper took a step toward constructing consumption measures of individual family members, but clearly more can be done to improve the measures' accuracy, as

measurement of within-household economic outcomes is crucial for policy-making designed to alleviate poverty (Chiappori and Meghir, 2015). Finally, this paper focused on understanding how property regimes interact with credit cards market. However, marital assets influence access to a range of consumer credit (e.g., mortgages, auto loans, personal loans), and access to these markets is critical for economic participation and wealth accumulation in the U.S. (FRBNY, 2021). Future research could explore how property laws shape within-household inequality through other financial instruments beyond credit cards.

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Table 1. Covariate Balancing between Control and Treated Households (Pre-Reversal Characteristics)

	Raw			Matched		
	Control Mean (1)	Treated Mean (2)	Treat - Control (3)	Control Mean (4)	Treated Mean (5)	Treat - Control (6)
Age gap	1.58	1.52	-0.06	1.58	1.59	0.01
Wife's age	40.28	39.72	-0.56	40.27	40.30	0.03
Husband's age	41.86	41.24	-0.62	41.85	41.89	0.04
Wife is a Secondary Earner	0.61	0.61	-0.01	0.61	0.61	0.00
Debt-to-Income	0.36	0.39	0.03	0.36	0.37	0.02
Household Income ($)	9,036	9,418	382	9,007	9,028	21
Cash on hand ($)	7,020	7,561	541	6,977	7,102	126
Has a credit card	0.74	0.79	0.05	0.74	0.74	0.00
Total credit limit ($)	9,218	10,695	1,478	9,178	9,312	134
Total card balance ($)	2,573	2,832	260	2,569	2,582	13
Number of Households	33,136	47,998	14,862	33,100	33,100	0

Notes: This table reports average pre-reversal characteristics for treated and control households before and after the propensity score matching (PSM) procedure described in Section 3.2. The covariates were selected based on the characteristics card issuer might consider in their underwriting process and potentially affect the dynamics of credit card opening. Treated households are those that reside in equitable distribution (ED) states and control households are those that reside in community property (CP) states. The first three columns report average characteristics prior to matching and the last three columns report those for the matched sample. Age variables are reported in years. All other variables are monthly. Debt-to-Income reports total monthly debt payments (e.g., auto, credit card, mortgage, student, and other) to household income. Household income is the sum of labor income (payroll direct deposits), government transfers, business, and gig income. Cash on hand reports the month-end checking account balances at the household-level. Has a credit card is an indicator for at least one member in a household having a credit card account at JPMC. Total credit limit reports the sum of all credit card limits available at the household-level (joint credit card limits are counted only once). Total card balance refers to the end-of-billing-cycle credit card balance.

Table 2. Pre-TILA Reversal Descriptive Statistics (Matched Sample)

	Mean	SD	p25	p50	p75
	(1)	(2)	(3)	(4)	(5)
A. Household-level Characteristics					
Age gap	1.58	3.93	0.00	1.00	4.00
Wife's age	40.29	11.08	31.00	38.00	49.00
Husband's age	41.87	11.13	32.00	40.00	51.00
Consumption ($)	6,005	8,825	3,035	4,637	6,889
Income ($)	9,017	14,043	4,622	6,762	9,991
Cash on hand ($)	7,040	30,838	1,185	2,787	6,304
Has a credit card	0.74	0.44	0.00	1.00	1.00
B. Intra-Household Characteristics					
	Secondary Earner		Primary Earner		Mean
	Mean	SD	Mean	SD	Difference
Female	0.61	–	0.39	–	-0.22
Age	40.8	11.1	41.3	11.1	0.5
Income ($)	1,008	4,507	8,009	13,297	7,001
Cash on hand ($)	1,008	7,079	6,032	29,610	5,024
Consumption share	0.44	0.17	0.56	0.17	0.13
Consumption ($)	2,619	4,400	3,386	5,232	767
Public consumtion ($)	867	960	1,158	1,281	291
Private consumption ($)	1,752	4,139	2,228	4,842	476
Has a sole credit card	0.02	0.15	0.55	0.50	0.53
Credit limit ($)	158	1,453	6,041	9,032	5,883
Card balance ($)	36	406	1,768	3,851	1,732
Number of Households	66,200	66,200	66,200	66,200	66,200

Notes: This table reports summary statistics for the matched sample. Panel A reports household-level and Panel B reports within-household characteristics. Age variables are reported in years. All other variables are monthly. Consumption is defined as the sum of spending on financial accounts (debit, credit card, and checking, including cash withdrawals and electronic transfers). See Section 4.2 for details on how spouse-level consumption is constructed. Consumption share refers to each spouse's spending as a share of total household spending. Public consumption denotes spending on goods that are consumed jointly by the household (e.g., childcare) and private consumption denotes spending on goods that are consumed individually (e.g., clothing). See Table A.4 for detailed spending categories in each type. Income is defined as the sum of labor income (payroll direct deposits), government transfers, business, and gig income. Cash on hand refers to the end-of-month checking account balance. "Has a credit card" is an indicator for whether a household has at least one credit card account. Spouse-level credit limit reports limits on each spouse's sole credit card account (coded as 0 if a spouse does not have a sole account), and credit card balance refers to the end-of-billing balance.

Table 3. Effect of the TILA Reversal on Household Credit and Consumption

Household Outcomes	Monthly effect (1)		Cumulative 6-month effect (2)	12-month effect (3)		18-month effect (4)		24-month effect (5)		Implied effect (6)
Total Credit	16.2	***	2.04	10.19	***	16.88	***	27.78	***	1,523
	(1.39)		(2.95)	(3.4)		(4.33)		(5.48)		[4,916]
Consumption	.87	***	-1.5	6.4		3.27		17.38	**	953
	(0.32)		(2.56)	(4.19)		(5.99)		(7.89)		[5,483]
Number of Observations	443,412		210,276	280,368		350,392		420,134		

Notes: This table presents the coefficient of a "treat $\times$ post" indicator in a difference-in-differences regression. Outcomes are scaled by the average monthly pre-reversal household consumption. Column 1 reports pooled regression estimates from Equation 14. Columns 2-5 report cumulative effects, calculated as $\Phi_\tau = \sum_{j=1}^{\tau} \phi_j$. Column 6 reports implied cumulative effects, computed as $\Phi_{24}\times$ pre-reversal average monthly household consumption. Pre-reversal average of the outcome variable is reported in brackets. Reported coefficients are multiplied by 100 for readability. All specifications include household and time (month-year) fixed effects. Standard errors are clustered at the state-level and reported in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

Table 4. Effect of the TILA Reversal on Secondary Earners' Credit and Consumption

Secondary Earner Outcomes	Monthly effect (1)		Cumulative 6-month effect (2)	12-month effect (3)		18-month effect (4)		24-month effect (5)		Implied effect (6)
	A. Secondary Earners' Credit									
Total Credit	39.83	***	6.63	30.64	***	44.91	***	59.43	***	1,506
	(2.15)		(6.16)	(6.02)		(6.12)		(6.46)		[1,595]
Independent Credit	37.53	***	6.65	28.59	***	41.85	***	55.88	***	1,416
	(1.98)		(5.68)	(5.56)		(5.66)		(5.96)		[898]
	B. Secondary Earners' Consumption									
Spending-Based	2.89	***	-1.07	14.91	***	29.53	***	66.48	***	1,685
	(0.44)		(3.45)	(5.64)		(8.04)		(10.67)		[2,534]
Gender-Intensity	3.05	***	-4.70	5.22		16.54	*	59.75	***	821
	(0.53)		(4.14)	(6.78)		(9.7)		(12.86)		[1,374]
Number of Observations	443,374		210,258	280,344		350,362		420,098		

Notes: This table presents the coefficient of a "treat $\times$ post" indicator in a difference-in-differences using the Regression Sample. Panel A reports results on secondary earners' credit access. Total credit is the sum of credit limits on sole and joint credit card accounts. Independent credit refers to credit limits on sole credit card accounts. Panel B reports results on consumption using the spending-based and the gender-intensity based measure. All outcomes are scaled by secondary earners' average monthly pre-reversal consumption. Columns are organized as in Table 3. Reported coefficients are multiplied by 100 for readability. All specifications include household and time (month-year) fixed effects. Standard errors are clustered at the state-level and reported in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

Table 5. Effect of the TILA Reversal on Secondary Earners' Consumption Shares and Within-Household Consumption Gap

Secondary Earner's Outcomes	Monthly effect (1)		Cumulative 6-month effect (2)		12-month effect (3)		18-month effect (4)		24-month effect (5)		Implied effect (6)
					A. Spending-Based Measure						
Consumption Share	0.49	***	0.67		2.99	***	6.85	***	11.4	***	0.053
	(0.07)		(0.62)		(0.99)		(1.38)		(1.79)		[0.46]
Consumption Gap	-2.32	***	-7.32	*	-18.04	***	-32.14	***	-49.16	***	-0.04
	(0.43)		(3.76)		(5.92)		(8.15)		(10.53)		[0.08]
					B. Gender-Intensity Measure						
Consumption Share	0.47	***	2.54	**	3.38	*	8.18	***	11.75	***	0.055
	(0.13)		(1.11)		(1.77)		(2.44)		(3.13)		[0.46]
Consumption Gap	-1.52	***	-9.49	**	-13.11	**	-27.11	***	-39.41	***	-0.03
	(0.44)		(3.69)		(5.87)		(8.12)		(10.4)		[0.07]
Number of Observations	443,374		210,258		280,344		350,362		420,098		

Notes: This table presents the coefficient of a "treat $\times$ post" indicator in a difference-in-differences regression described in Section 3.2 using the Regression Sample. The outcomes are secondary earners' consumption shares and within-household consumption gap, scaled by their pre-reversal monthly mean. Panel A uses the spending-based consumption measure and Panel B uses the consumption measure based on the gender-intensity in spending. Section 4.2 describes details of variable construction. Column 1 reports pooled regression estimates from Equation 14. Columns 2-5 report cumulative effects over different horizons, calculated as $\Phi_\tau = \sum_{j=1}^{\tau} \phi_j$. Column 6 reports implied cumulative effects, computed as $\Phi_{24}\times$ pre-reversal average monthly mean of the outcome variable. Since the data contains 25 months after the reversal, an extra month of data is used for Column 1 relative to Column 5. Pre-reversal average of the outcome variable is reported in brackets. Reported coefficients are multiplied by 100 for readability. All specifications include household and time (month-year) fixed effects. Standard errors are clustered at the state-level and reported in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

Table 6. Private vs. Public Consumption (Spending-Based)

			Cumulative								
	Monthly effect (1)		6-month effect (2)		12-month effect (3)		18-month effect (4)		24-month effect (5)		Implied effect (6)
	A. Secondary Earner Outcomes										
Private Consumption	1.42	***	-5.75	**	3.85		8.13		32.42	***	821
	(0.37)		(2.9)		(4.78)		(6.81)		(9.01)		[1,688]
Public Consumption	1.48	***	4.68	***	11.06	***	21.4	***	34.06	***	863
	(0.2)		(1.46)		(2.46)		(3.62)		(4.94)		[846]
	B. Household Outcomes										
Private Consumption	0.28		-4.69	**	1.1		-4.87		4.48		245
	(0.28)		(2.24)		(3.67)		(5.22)		(6.88)		[3,654]
Public Consumption	0.59	***	3.19	***	5.3	***	8.14	***	12.9	***	707
	(0.14)		(1.08)		(1.78)		(2.59)		(3.47)		[1,829]
Number of Observations	443,374		210,258		280,344		350,362		420,098		

Notes: This table presents the coefficient of a "treat $\times$ post" indicator in a difference-in-differences regression described in Section 3.2 using the Regression Sample. Outcomes are scaled by secondary earner (Panel A) or household average monthly pre-reversal consumption (Panel B). Spending-based consumption measures are used. Table A.11 replicates this table using gender-intensity consumption measures. Public consumption refers to spending on goods and services that are consumed jointly by the household, such as childcare. Private consumption refers to spending on goods and services that are consumed privately, such as clothing. Table A.4 reports categorization details. Column 1 reports pooled regression estimates from Equation 14. Columns 2-5 report cumulative effects over different horizons, calculated as $\Phi_\tau = \sum_{j=1}^{\tau} \phi_j$. Column 6 reports implied cumulative effects, computed as $\Phi_{24}\times$ pre-reversal average monthly consumption. An extra month of data is used for Column 1 relative to Column 5. Pre-reversal average of the outcome variable is reported in brackets. See Figure 4 for a figure version of this table. Reported coefficients are multiplied by 100 for readability. All specifications include household and time (month-year) fixed effects. Standard errors are clustered at the state-level and reported in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

Table 7. Effect of the TILA Reversal on Household Financial Outcomes

			Cumulative								
	Monthly effect (1)		6-month effect (2)	12-month effect (3)		18-month effect (4)		24-month effect (5)		Implied effect (6)	
	A. Financial Distress										
Overdraft	0.03		-0.20	0.37		0.57		0.72		0.00	
	(0.03)		(0.26)	(0.41)		(0.55)		(0.69)		[.345]	
Delinquency	0.06		-0.12	0.10		0.07		1.22		0.00	
	(0.05)		(0.31)	(0.55)		(0.86)		(1.22)		[.319]	
High-interest Loans	-0.06		-0.09	-0.94		-1.24		-1.36		0.00	
	(0.05)		(0.43)	(0.67)		(0.93)		(1.21)		[1.183]	
Debt Settlement	0.21	***	-0.15	0.96	***	2.64	***	4.86	***	0.01	
	(0.02)		(0.19)	(0.3)		(0.41)		(0.56)		[.488]	
Debt Prioritization	0.32	*	0.25	2.43		5.36	*	7.77	*	0.02	
	(0.18)		(1.13)	(1.93)		(2.91)		(4.18)		[80.56]	
	B. Household Budget										
Total Income	1.09	**	6.79	-0.62		14.00		17.24		946	
	(0.55)		(4.68)	(7.48)		(10.69)		(13.8)		[8,343]	
Cash on hand	1.44	**	2.51	-1.58		4.01	**	-1.34		-73.7	
	(0.58)		(1.69)	(1.72)		(1.96)		(2.07)		[5,715]	
Credit card debt	0.55	*	-1.15	2.14	**	0.91		0.25		13.6	
	(0.3)		(0.82)	(0.91)		(1.04)		(1.32)		[1,154]	
Number of Observations	443,412		210,276	280,368		350,392		420,134			

Notes: This table presents the coefficient of a "treat $\times$ post" indicator in a difference-in-differences regression described in Section 3.2 using the Regression Sample. Panel A reports estimates for a various measures of financial distress. These measures include indicators for whether a household incurs overdraft fees (overdraft); falls more than 30-day behind on making required credit card payment (delinquency); makes any payments to a payday or subprime personal loan lender (high-interest loans); settle/restructure existing debt by making payments to debt settlement companies; or optimally pay debt in a way that it pays down more expensive debt first while borrowing more using cards carrying lower-interest. Debt prioritization analysis is limited to households with at least two credit card accounts. 55% of households have multiple credit cards. Panel B reports estimates for household income, cash on hand, and interest-accruing revolving debt. Panel B outcomes are scaled by the average monthly pre-reversal household consumption. Column 1 reports pooled regression estimates from Equation 14. Columns 2-5 report cumulative effects over different horizons, calculated as $\Phi_\tau = \sum_{j=1}^{\tau} \phi_j$. Column 6 reports implied cumulative effects, computed as $\Phi_{24}\times$ pre-reversal average of outcome variables. An extra month of data is used for Column 1 relative to Column 5. Pre-reversal average of the outcome variable is reported in brackets. Reported coefficients are multiplied by 100 for readability. All specifications include household and time (month-year) fixed effects. Standard errors are clustered at the state-level and reported in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

Table 8. Heterogeneity by Marital Commitment

	No Controls						Controls					
	Trouble (1)		Mortgage (2)		Child (3)		Trouble (4)		Mortgage (5)		Child (6)	
	A. Secondary Earners' Credit Limit											
Treat x Post	39.41	***	40.36	***	39.66	***	39.28	***	40.23	***	39.52	***
	(3.25)		(3.32)		(3.84)		(3.17)		(3.24)		(3.75)	
Treat x Post x LC	1.724		-2.247		0.829		1.732		-1.895		0.850	
	(3.23)		(4.11)		(3.25)		(3.15)		(4.01)		(3.17)	
	B. Secondary Earners' Consumption Share											
Treat x Post	0.437	***	0.557	***	0.635	***	0.435	***	0.555	***	0.632	***
	(0.08)		(0.09)		(0.1)		(0.08)		(0.09)		(0.1)	
Treat x Post x LC	0.374	***	-0.268	**	-0.241	***	0.375	***	-0.256	**	-0.240	***
	(0.08)		(0.11)		(0.08)		(0.08)		(0.11)		(0.08)	
Number of Observations	443,374		443,374		443,374		443,374		443,374		443,374	

Notes: This table reports monthly estimates β and γ from the following specification,

$$Y^i_{h,t} = \alpha + \gamma_t + \beta \mathbf{1}[Treat \times Post]_{h,t} + LC_h + \mathbf{1}[Treat \times LC]_h + \mathbf{1}[Post \times LC]_{h,t} + \gamma \mathbf{1}[Treat \times Post \times LC]_{h,t} + \mathbf{X}_h + \epsilon_{h,t}$$

where β captures the average monthly effect of the TILA reversal for the treated group relative to the control group and γ captures the differential effect for couples with stronger or weaker proxies of limited marital commitment (LC). Columns 1-3 report estimates with no controls and Columns 4-6 report estimates with pre-reversal household covariates ($\mathbf{X}_h$). The baseline controls are quartile bins of labor income, consumption share, checking account balances, age gap between spouses, and their interactions with $\mathbf{1}[Treat]$. Each column uses a different proxy for LC. Columns 1 and 4 infer whether a couple is in a troubled marriage based on spending on counseling, such as couple counseling, or dating services; Columns 2 and 5 infer whether a couple has stronger marital commitment based on asset ownership – i.e., mortgage payments (Lafortune and Low, 2017); and Columns 3 and 6 based on whether a couple has a child –i.e., spending on children's clothing or child care. The LC proxies are based on pre-reversal spending and standardized, such that γ can be interpreted as the differential impact per standard deviation increase in a given LC proxy. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

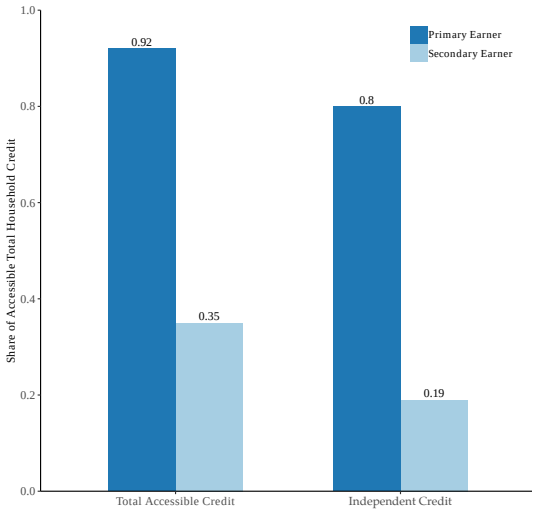
Table 9. Quantifying the Limited Commitment Channel

	Data	Model First Tercile L^P	Model Second Tercile L^P
	(1)	(2)	(3)
	Secondary Earners' Consumption Share		
Pre-TILA	0.458	0.460	0.460
Post-TILA	0.512	0.485	0.478
Change	0.05	0.03	0.02
% Explained		46%	33%

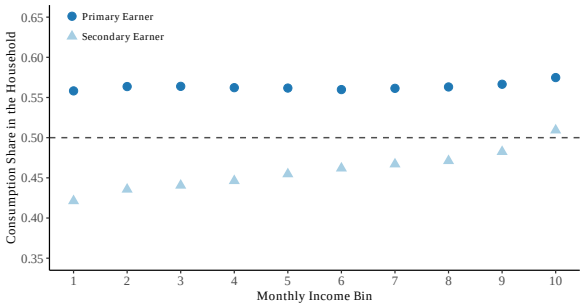
Notes: This table compares the cumulative change in secondary earners' consumption share in the data versus the model. Column 1 reports the pre-reversal mean, the post-reversal mean 24 months after the reversal, and the corresponding change in shares. Column 1 restricts the data to the treated group. Columns 2 and 3 present the same statistics generated by the model, using different parameter values for primary earners' credit limits. These parameters are calibrated to match the observed credit limit distribution in the data. The "% Explained" row shows the proportion of the observed change in consumption share that is accounted for by the model.

Figure 1. Motivating Evidence on Credit and Consumption Shares

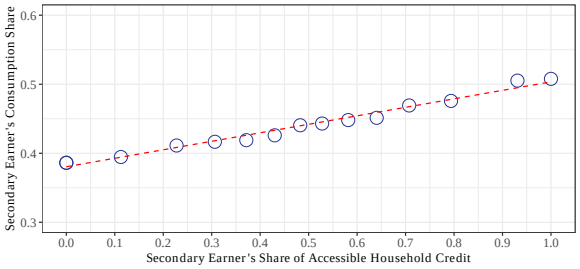
(a) Share of Accessible Credit in the Household



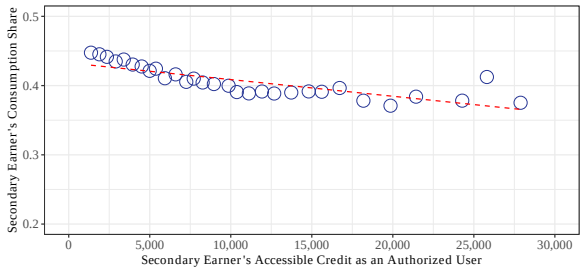
(b) Consumption Shares Across the Income Distribution



(c) Secondary Earners' Within-Household Consumption Share by Credit Share Bin

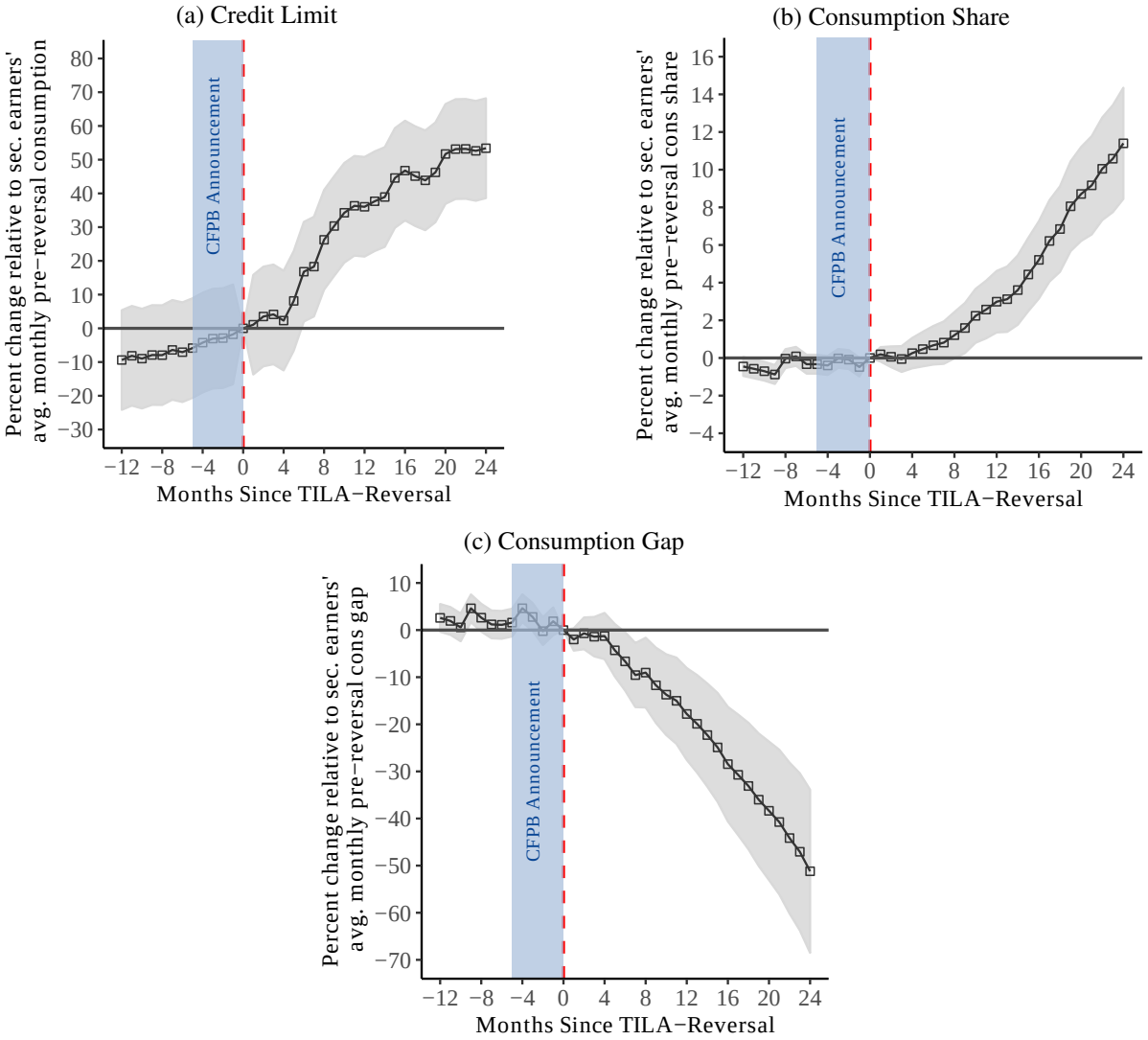


(d) Secondary Earners' Within-Household Consumption Share by Accessible Credit as an Authorized User



Notes: Figure a average monthly share of total household credit that each spouse can access during my sample period. "Total Accessible Credit" shows the average monthly credit limit that each spouse can access either as a primary account holder or as an authorized user as a share of total credit limit available at the household level. "Independent Credit" shows the average monthly credit limit on accounts held by each spouse as a share of total household credit limit. Figure 1b shows the average monthly consumption share of individuals across the income distribution by their earner status in the household. For example, the first income bin shows that individuals in the lowest income bin consume on average 56 percent of household consumption if they are primary earners, while individuals in the same income bin consume on average 42 percent of household consumption if they are secondary earners in their respective households. Figure c plots secondary earners' average monthly consumption share (y-axis) against the share accessible credit (x-axis) in the household. Figure d plots secondary earners' average monthly consumption share (y-axis) against the amount of average monthly credit limit they can access as an authorized user (x-axis). The red dashed line in each figure shows a linear fitted line.

Figure 2. Effect of the Reversal on Secondary Earners' Credit Limit and Consumption Share, and Consumption Gap in the Household

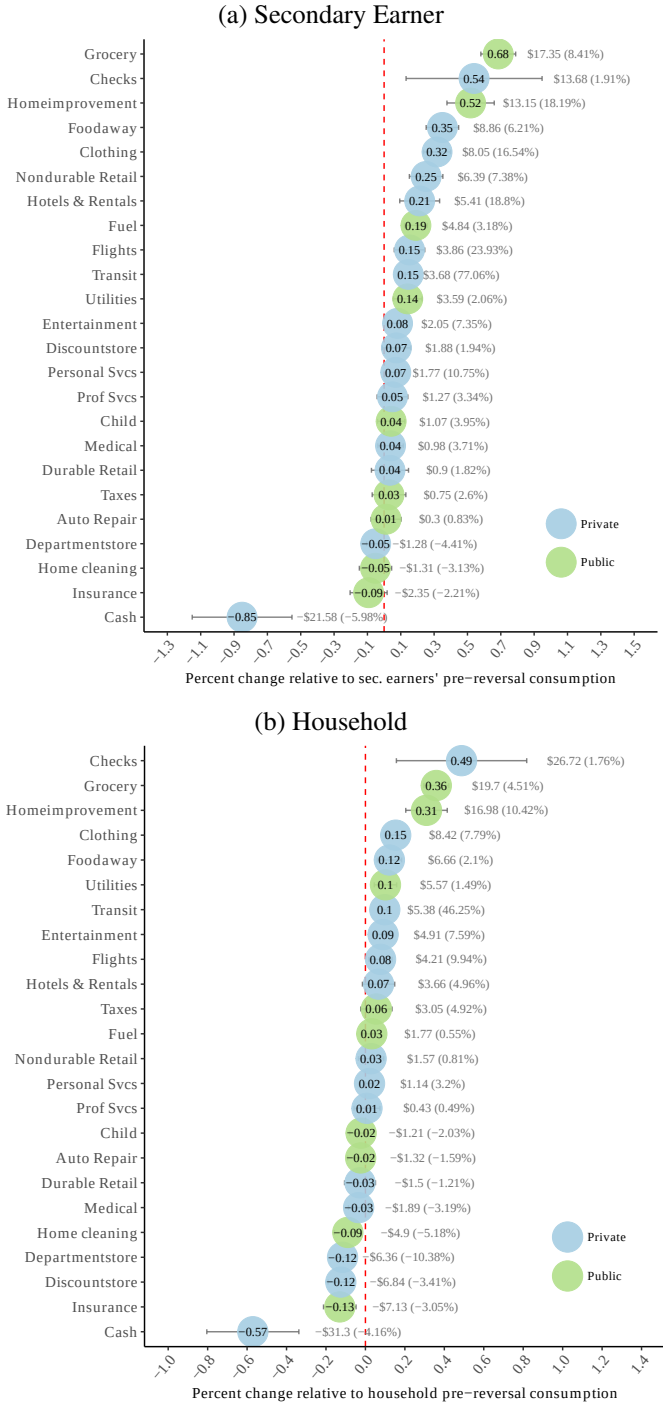


Notes: This figure plots the cumulative estimates, $\Phi_\tau = \sum_{j=0}^{\tau} \phi_j$, from the following event-study specification:

$$Y_{h,t} = \alpha_h + \gamma_t + \sum_{j \neq -1} \phi_j (Treat_h \times 1_{j=t}) + \epsilon_{h,t} \tag{17}$$

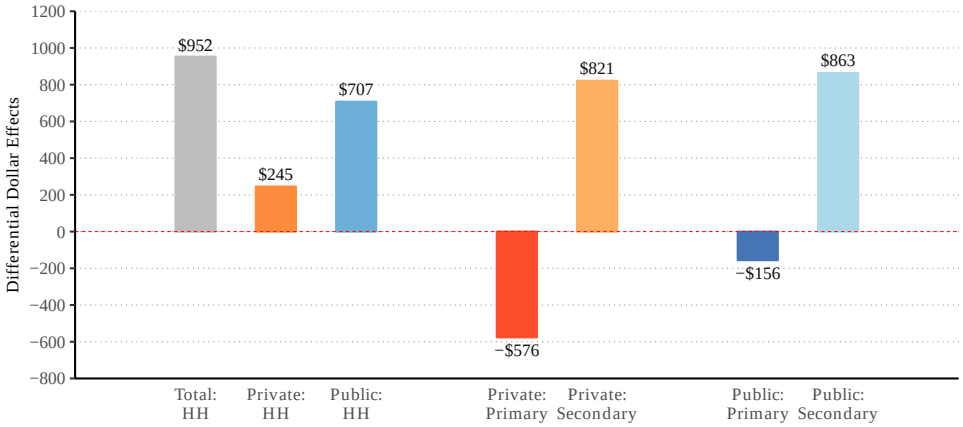
The outcome variables are secondary earners' credit limit (2a); consumption share (2b); and within-household consumption gap (2c), scaled by their average monthly pre-reversal mean. The consumption gap in the household is defined as the difference between the consumption shares of each spouse. Cumulative effects are shown for the post-TILA reveral period ($j > 0$) while point-in-time regression estimates, ϕ_j, are plotted for the pre-TILA reversal period. The month prior to the reversal ($j = -1$) is omitted, so estimates can be interpreted relative to this pre-reversal baseline period. Red dashed lines denote the month of the reversal. 90 percent confidence intervals are shown in gray. The shaded blue area denotes the phase-in period when the CFPB first announced the reversal and allowed credit card issuers to start adopting the new income collection standard. Figure A.7 replicates these figures using the gender-intensity consumption measure.

Figure 3. Decomposition of Spending-Based Consumption Effect



Notes: This figure decomposes the change in spending-based consumption into detailed categories for secondary earner and household. Each bubble shows monthly effect, scaled by average monthly pre-reversal mean of secondary earner or household consumption. Thus, percent effects sum to total monthly consumption effect reported in Tables 3 and 4. Changes in dollars are reported to the right of whiskers and the size of the dollar effect relative to its pre-reversal mean is shown in parenthesis. For example, household spending on groceries increased by $19.70, which corresponds to 4.5% of baseline household spending on groceries. Figure A.8 replicates this chart using gender-intensity measures.

Figure 4. Decomposition of Private and Public Consumption



Notes: This figure plots the implied dollar effect using the 24-month cumulative estimates reported in Table 6. The first three bars decompose total household spending into private and public consumption, and the remaining bars further decomposes private and public consumption by earner type. See Table 6 for detailed description.

Appendix For Online Publication

A The Reversal of the Truth-in-Lending Act in Practice

Two conditions must hold for the TILA reversal to provide a credible identification setting. First, the card issuer's treatment of treated and control states must be different prior to the reversal for using CP states as the control group to be valid. Second, the card issuer's compliance with the reversal must trigger a change in the income reporting behavior of treated secondary earners. Since card issuers use reported income to determine the amount of credit limit to extend to a card applicant, treated secondary earners should report higher income after the reversal to see a larger increase in credit limit relative to the control group.

I confirmed with JPMorgan Chase & Co. (JPMC) that the first condition holds. JPMC applied the independent ability-to-pay criteria to ED states only, thus validating the first condition of my identification strategy. Despite the fact that card issuers applied different income standards to treated and control states, card issuers did not change their marketing or solicitation strategy across the two types of states. Figure A.2a plots the year-over-year change in credit card solicitations in CP and ED states from all credit card issuers in the U.S. The figure shows that card issuers did not advertise in ED states more than they did in CP states, consistent with the industry's practice of using income to determine the credit limit rather than to issue credit.

Secondary earners' reported income on their credit card applications validates the second condition. Figure A.2b shows the average difference in reported monthly income between treated and control secondary earners before and after the reversal. Before the reversal (left bars), secondary earners in treated states reported $380 lower income on average relative to those in control states. This difference disappears with the TILA reversal (right bars), suggesting full compliance with the policy change. The difference in the reported income is even larger for single income households, corresponding to roughly $500, or 14 percent of median monthly household income. Figure A.2c shows that primary earners' income reporting behavior did not change.

B Secondary Earners' Credit Card Robustness Analysis

The reversal did not differentially affect credit card opening or closing rates. Table A.6 shows that treated secondary earners were equally likely to open or close sole credit card accounts as the control group (Panel A), and similar results hold for joint credit card accounts, regardless of whether the account was held by primary or secondary earners (Panel B). In principle, the reversal could have generated differential card opening rates if treated secondary earners increased demand or banks offered more credit cards in treated states in anticipation of the reversal. Yet, I do not find any evidence of differential demand for credit or bank targeting (see Figure A.2a). This is consistent with (i) secondary earners not being aware of the reversal; and (ii) card issuers using income for deciding how much credit limit to extend to card applicants rather than whether to extend credit.[26]

Treated secondary earners received similar APR and were equally likely to use non-Chase credit cards as the control group. If the reversal differentially induced riskier individuals to open credit cards or changed non-Chase credit card use behavior such that they increased spending on cards I observe while reducing spending on cards I do not observe, the consumption effects can reflect sample selection rather than credit-induced consumption reallocation. However, Panel A of Table A.7 shows that the reversal did not lead to differential APR or credit card use behavior at other banks between the treated and the control group. However, treated secondary earners had lower utilization rates, consistent with receiving higher credit limits.

The event-study results are robust to parametrically controlling for the linear pre-trend. The blue shaded area in Figure 2a denotes the "phase-in" period in which the CFPB announced the policy change and allowed card issuers early compliance with the reversal before the law went into effect. Consistent with card issuers phasing into the new income standard regime, the figure shows a differential upward trend in credit limit for the treated group a few months before the reversal. I parametrically control for the linear pretend in event time to ensure that my results are not driven by the pre-existing trend during this phase-in period (Roth, 2022).[27] Figure A.6a illustrates that a linear pre-trend is a reasonable functional form assumption, and Figure A.6b shows that my results are robust to accounting for this differential pre-trend. Finally, Figure

[26] I confirmed with credit card industry practitioners that the reversal did not result in more credit card opening in treated states because income is not the primary metric for underwriting, but is used for determining credit limit.

[27] This approach has been used widely in event study settings where pre-existing trend may confound the treatment effect. See, for example, Wolfers (2006); Dobkin et al. (2018); Gross, Notowidigdo and Wang (2020).

A.5 plots secondary earners' credit limit and consumption share in levels and confirms that changes in the treated group drive the estimated effects.

C Alternative Measurement, Sample, and Specification

Gender-Intensity (GI) Measure Table A.5 reports the breakdown of category-level spending shares by gender. These statistics are obtained out-of-sample using 2.4 million consumers who are active users of both Chase checking and credit card accounts during my sample period. The share of spending is re-weighted to take the gender sampling bias in the data, such that the spending share statistic is not driven by over-sampling of men vs. women in the data. In other words, more than 50% spending share refers to spending intensity, taking sampling distribution into account.

I use these statistics to construct the GI consumption measure that attributes total household spending to each spouse for which his/her gender-intensity spending share is greater than 55 percent. I choose 55 percent as the spending share threshold to improve the accuracy of categories that can be considered *gendered*. For example, both men (50.93%) and women (49.07%) have similar spending shares on public transportation, so treating total household spending on public transit as husband's consumption could be misleading. Thus, this approach assumes that one cannot infer consumption allocation from the excluded (i.e., not clearly gendered) categories. The GI measure improves the accuracy of spouse-specific consumption by only considering gendered goods, but only captures 54% (i.e., \$1,374 vs. 2,534) of consumption in dollar terms relative to the spending-based measure. The next section provides robustness using less (50%) and more (60%) conservative GI thresholds.

The spending-based measure is positively correlated with the GI measure, indicating that the spending-based measure is a reasonable proxy that captures one's spending preferences. Figure SA.3 plots each spouse's average monthly consumption share using the spending-based measure against the gender-intensity version. The two measures are positively correlated.

Alternative Consumption Measures I consider a battery of alternative consumption measures to test the sensitivity of my results. Panel A of Table A.8 reports monthly effects using alternative spending-based consumption measures and Panel B reports estimates using alterna-

tive GI measures. Column 1 of Panel A shows that my results hold up to using a consumption measure that includes credit card payments to other financial institutions. This mitigates the potential concern that secondary earners may have increased spending on financial accounts I observe while reducing spending on accounts I do not observe. Column 2 confirms that my results are robust to excluding potentially work-related expenses. This addresses the concern that consumption effects may be driven by the earner status in the household if, for example, primary earners are systematically more likely to consume than secondary earners. Columns 3 through 6 exclude private consumption categories that may be considered public consumption and show that my results are robust to excluding these categories.

Panel B of Table A.8 consider progressively more conservative definitions of the gender-intensity measure. Column 1 reconstructs consumption using a 50% GI threshold and shows that the estimated effects are similar to using the 55% threshold. Columns 2-4 exclude private consumption categories that may actually capture couples' joint consumption. Column 5 uses a more conservative 60% GI threshold. While this measure can precisely measure one's consumption, it reduces the representativeness, as this measure captures less than 25 percent of consumption in dollar terms relative to the spending-based measure. Finally, Column 6 only consider a narrow subset of gender-specific spending categories considered in prior studies, such as women's clothing or men's footwear, that provides a more precise proxy for consumption. While using more conservative measures reduce statistical power, these measures provide qualitatively similar estimates.

Specification robustness Table A.9 shows that my results are robust to using alternative specifications. Compared to Column 1, which reports my main monthly effects, Columns 2 through 4 show that my estimates are not sensitive to the choice of fixed effects. This illustrates that my empirical strategy is not subject to the "negative weighting" problem that can arise in staggered DiD settings.[28] Column 5 shows that my results are also robust to controlling state-specific time trends that take local economic trends into account. One might be concerned that consumption

[28]Recent advances in econometric theory point to potential pitfalls associated with estimates from two-way fixed effects specifications in a staggered adoption DiD design (de Chaisemartin and D'Haultfœuille, 2020; Callaway and Sant'Anna, 2020; Sun and Abraham, 2020; Athey and Imbens, 2021; Borusyak, Jaravel and Spiess, 2021; Goodman-Bacon, 2021) Since the empirical setting considered in this paper has simultaneous absorbing treatment in which treatment happens in a single date and the never-treated group, OLS estimation does not suffer from negative weights or under-identification problem (Borusyak, Jaravel and Spiess, 2021).

effects reflect households having a mismatch in the timing of income and expenditure commitments, since households may be more sensitive to credit access when they experience cash shortfalls. However, Column 6 shows that aggregating data into quarterly yields similar estimates, suggesting that the consumption effect is not driven by monthly variation in the timing of income.

Other Samples and Placebo Tests. The first three columns of Table A.10 show that my results robust to using alternative samples. Column 1 shows that my results are robust to restricting the sample to couples with joint accounts, which addresses the potential concern that my Regression Sample may include non-couple family units, such as siblings. Column 2 shows that my results also hold up to restricting the sample to couples with separate checking accounts, for which the measurement of earner status is more precise because income streams can be traced to each spouse cleanly. Column 3 shows that my results are generalizable to using a broader sample of households where secondary earners *had* credit card accounts at the beginning of my sample period. This addresses the concern that my results may not be generalizable because of sample selection. However, the estimated effects are smaller relative to using the Regression Sample, confirming that existing card holders were not affected by the reversal as much as new card openers because they rarely update income.

Placebo tests confirm that secondary earners' consumption shares did not change for couples that did not experience a reduction in the within-household credit gap. Column 4 shows that secondary earners' consumption share did not change for couples that received higher total household credit limit but whose within-household credit gap did not change (i.e., joint account limits increased but secondary earners' independent credit access did not change). This strengthens the interpretation that the consumption reallocation effect is driven by the reduction of the credit gap between spouses rather than capturing a general impact of households having more access to credit. Column 5 shows that secondary earners' consumption share did not change for households where secondary earners' credit limit did not change. Note that the placebo samples are distinct from the regression sample, as they are obtained from a broader sample of credit-card holding households where secondary earners do not necessarily open a credit card during my sample period. Column 6 similarly shows that there's no detectible DiD effect in the pre-period. Finally, Column 7 confirms that the TILA reversal did not affect pri-

mary earners' credit access on average. Table A.12 reports that marital commitment does not affect secondary earners' consumption share for households that do not experience any change in credit limit .

DiD Permutation Tests. My estimates may be influenced by the fact that ED and CP state sizes are highly unequal. Figure SA.5 plots the distribution of placebo estimates for secondary earners' credit limits and consumption share where I randomly assign treatment status across CP and ED states 1,000 times. The placebo distribution is centered around 0 and are substantially smaller than the observed treatment effect I find.

C.1 By Financial Constraints at Baseline

Credit can induce secondary earners to spend more by relaxing their financial constraints. The financial constraint channel predicts that secondary earners' consumption share should be larger for couples that were financially constrained before the reversal. To explore this possibility, Table A.13 reports subsample split analysis based on proxies of financial constraint, such as baseline liquid cash balances, credit card utilization rates, and debt-to-income ratio.

I do not find clear evidence that the consumption reallocation effect is larger for financially constrained couples. Columns 1-2 show that the estimated effect on secondary earners' consumption share is similar irrespective of whether households had high or low cash liquidity before the reversal. Columns 3-6 indicate that the consumption reallocation effect is, if anything, greater for couples who were *less* financially constrained before the reversal, such as those with low baseline credit card utilization rates and higher disposable income (i.e., low debt-to-income ratio).

D Household Decision-Making under Limited Commitment

D.1 Set-up

The household consists of two spouses, primary and secondary earners, indexed by $i \in (P, S)$, who live until T. In each month t, the spouses decide jointly how much to save, consume, and whether to work and divorce. The spouses have complete knowledge of all variables and

preferences dated t and earlier and of probability distributions over all variables in $t' > t$.

Preferences Each spouse has preferences that are separable over time and across states, with diminishing marginal utility over consumption $u(c_t)$ and disutility, ψ, from labor market participation, P_t^i. Each spouse's period utilities take the form $u_t^{i,M} = \frac{c^{i\,1-\gamma}}{1-\gamma} - \psi P_t^i + \xi_t$ in marriage and $u_t^{i,D} = \frac{c^{i\,1-\gamma}}{1-\gamma} - \psi P_t^i$ in divorce, where ξ_t is a taste shock for marriage that follows a random walk, capturing the persistence in the taste for marriage such as the spouses' affection for one another: $\xi_t = \xi_{t-1} + \epsilon_t$ and $\epsilon_t \sim_{iid} N(0, \sigma_\xi^2)$. Primary earner always works ($P_t^P = 1$) and incurs disutility ψ, while secondary earner can choose to work. The spouses have identical discount factor, β, and beliefs.

In marriage, spouses benefit from the economies of scale in consumption. Specifically, total household expenditure is given by a constant elasticity of substitution aggregator of primary and secondary earners' consumption: $x = [(c^P)^\rho + (c^S)^\rho]^{\frac{1}{\rho}} e(k)$. For $\rho \geq 1$, the couple gets more utility jointly from the same level of spending because there are gains from marriage.[29] The couple devotes a fraction, $e(k)$ denoting an equivalence scale, of total household expenditures on children. The economies of scale and the cost multiplier take into consideration the existence of goods that are public within the household.

Income The income process, y_t^i, has two components – an endogenous component (h_t^i), and an exogenous component (z_t^i) that is correlated between spouses:

$$ln(y_t^i) = ln(h_t^i) + z_t^i \tag{18}$$

The income shock follows a random walk: $z_t^i = z_{t-1}^i + \zeta_t^i$, with $\zeta_t^i \sim_{iid} N(0, \sigma_{\zeta^i}^2)$. The law of motion for each spouse's human capital takes the functional form, $ln(h_t^i) = ln(h_{t-1}^i) - \delta \cdot (1 - P_{t-1}^i) + (\lambda_0^i + \lambda_1^i \cdot t) \cdot P_{t-1}^i$, such that human capital depreciates at a rate δ if a spouse does not work in the previous period or appreciates with tenure at a rate $\lambda_0^i + \lambda_1^i \cdot t$.

[29] The CES consumption aggregator is a standard assumption. See, for example, Knowles (2013).

Budget Constraints Saving (borrowing), a_t^i, earns (pays) the market rate, $\tilde{r} > 0$. The budget constraints in marriage and divorce are:

$$\begin{aligned} A_{t+1} - (1+\tilde{r})A_t &= Y_t - x_t && \text{if married} \\ a_{t+1}^i - (1+\tilde{r})a_t^i &= y_t^i \cdot P_t^i - c_t^i \cdot e(k) && \text{if divorced} \end{aligned}$$

where $A_t = \sum_{i=P}^{S} a_t^i$, $Y_t = \sum_{i=P}^{S} y_t^i \cdot P_t^i$, and x_t denote total household savings, income, and expenditure. While married, the couple allocates A_t between one another according to their respective bargaining power (θ_t^i) in each period because divorce is possible. Therefore, in the first period after divorce, each spouse enters t with $a_t^i = \theta_{t-1}^i A_{t-1}$. After divorce, spouses live off their individual financial resources and contribute to the consumption of their children as a fraction of their own consumption, according to $e(k)$. Spouses pay higher interest rate when they borrow, but earn lower rate when they save:

$$\tilde{r} = \begin{cases} \overline{r}, & \text{if } a_t^i < 0 \\ \underline{r}, & \text{otherwise} \end{cases}$$

Borrowing Limits The key feature of this model is that spouses have individual borrowing limits, L_t^i, that are determined exogenously and depend on the TILA regime. Specifically, L_t^i is modeled to capture the fact that secondary earners' borrowing limit is higher after the reversal.

$$A_{t+1} \geq -L_t \qquad \text{if married} \tag{19}$$

$$L_t = \begin{cases} L^P + \underline{L}^S, & \text{if } t < \text{TILA reversal} \\ L^P + \overline{L}^S, & \text{otherwise} \end{cases} \tag{20}$$

The sum of the two spouses credit limits represent the couples' total borrowing capacity, L_t. The borrowing constraint imposes limits on the couples' "net worth" (i.e., assets minus liabilities) and can be interpreted as maximum credit card debt that the couple can cumulate. In case of divorce, each spouse keeps individual borrowing limit, L_t^i:

$$a_{t+1}^i \geq -L_t^i \qquad \text{if divorced} \tag{21}$$

This "portability" feature of borrowing limit is what makes individual borrowing capacity relevant for shaping marital bargaining power. In practice, because borrowing limit is an uncontested marital resource (unlike income, assets, or debt) that belongs to primary credit card account holder, borrowing capacity translates into higher outside options by relaxing budget constraint when divorced.

D.2 Decisions and Model Predictions

In each period, the household decision-making problem consists of two stages. In the first stage, each spouse computes the value of being divorced and the value of staying married based on the existing bargaining power without taking their participation constraints into account. In the second stage, each spouse compares the value of being divorced to that of staying married and decides whether to stay married, divorce, or negotiate. If couples negotiate, they compute the value of staying married conditional on the adjusted bargaining power. Thus, the optimal value function for each spouse is determined by comparing the value functions of being divorced and staying married, $V_t^i(\omega) = \max\Big\{V_t^{i,D}(\omega), V_t^{i,M}(\omega)\Big\}$.

Stage 1.a: The Value of Being Divorced To compute the value of being divorced, the problem is solved by backward induction using the terminal condition that each spouse consumes all of his/her assets ($a_{t+1}^i = 0$) given the set of state variables, $\omega_{\mathbf{T}}{}^D = \Big\{a_T^i, h_T^i, z_T^i, \Omega_T\Big\}$:

$$V_T^{i,D}(\omega_{\mathbf{T}}^{\mathbf{D}}) = \max_{c_T^i, P_T^i} u(c_T^i)$$
$$\text{s.t.}$$
$$(1+r)a_T^i = y_T^i \cdot P_T^i - c_T^i \cdot e(k)$$

In the remaining periods $t = 1, ..., T-1$,

$$V_t^{i,D}(\omega_{\mathbf{t}}^{\mathbf{D}}) = \max_{c_t^i, a_{t+1}^i, P_t^i}\Big\{u(c_t^i) + \beta E\Big[V_{t+1}^{i,D}(\omega_{\mathbf{t+1}}^{\mathbf{D}}|\omega_{\mathbf{t}}^{\mathbf{D}})\Big]\Big\}$$
$$\text{s.t. } a_{t+1}^i - (1+r)a_t^i = y_t^i \cdot P_t^i - c_t^i \cdot e(k) \tag{22}$$
$$a_{t+1}^i \geq -L_t^i$$

given state variables $\omega_{\mathbf{t}}{}^{D} = \left\{a_t^i, h_t^i, z_t^i, \Omega_t\right\}$. I assume that spouses do not remarry after divorce. Ω_t represents the vector of the TILA regime at time t.

Stage 1.b: The Value of Staying Married To compute the value of staying married, the couple first solves the household value function, V_t^M. Then the spouses compute their individual value of staying married, $V_t^{i,M}$ using the optimal choice of consumption, labor supply, and savings decisions from this household problem.

To compute the household value function, the couple chooses the control vector in the terminal period that maximizes the weighted sum of their individual utilities, where the weights are given by the Pareto weights θ_T^i (i.e., bargaining power):

$$V_T^M(\omega_{\mathbf{t}}^{\mathbf{M}}) = \max_{c_T^P, c_T^S, P_T^S} \left\{\theta_T^P u(c_T^P) + \theta_T^S u(c_T^S)\right\}$$

$$\text{s.t.}$$

$$(1+r)A_T = Y_T - x_T$$

where $\omega_{\mathbf{T}}^{\mathbf{M}} = \left\{A_T, h_T^S, z_T^P, z_T^S, \theta_T^P, \theta_T^S, \xi_T, \Omega_T\right\}$ and requiring $A_{T+1} = 0$. The state variables capture current assets, secondary earner's human capital, income shocks, bargaining power, taste for marriage shock, and the TILA regime.

In the remaining periods $t = 1, ..., T-1$, the couple solves:

$$V_t^M(\omega_{\mathbf{t}}^{\mathbf{M}}) = \max_{c_t^P, c_t^S, P_t^S, a_{t+1}^P, a_{t+1}^S} \left\{\theta_t^P u(c_t^P) + \theta_t^S u(c_t^S) + \beta E[V_{t+1}^M(\omega_{\mathbf{t+1}}^{\mathbf{M}} | \omega_{\mathbf{t}}^{\mathbf{M}})]\right\}$$

$$\text{s.t.}$$

$$A_{t+1} - (1+r)A_t = Y_t - x_t$$

$$A_{t+1} \geq -L_t$$

given state variables $\omega_{\mathbf{t}}^{\mathbf{M}} = \left\{A_t, h_t^S, z_t^P, z_t^S, \theta_t^P, \theta_t^S, \xi_t, \Omega_t\right\}$. The initial bargaining power of each spouse, θ_0^i is determined exogenously and can be considered a bargaining structure that spouses agreed on (but did not commit to) at the time of household formation. The values of the Pareto weights may reflect factors that influence the decision process–such as relative financial resource–that are known and predicted at $t = 0$ (Chiappori and Meghir, 2015) or can result from noncooperative threat points (Lundberg and Pollak, 1993).

Spouses consume and save jointly when computing the household value function V_t^M, but they allocate consumption and savings between one another according to θ_t^i because divorce is possible. They use this individual consumption and saving, $c_t^{i,*}$ and $a_t^{i,*}$, to compute $V_t^{i,M}$. Then given a sequence of optimal solutions $\forall\, \omega^M$, $\{c_t^{i,*}(\omega^{\mathbf{M}}), P_t^{i,*}(\omega^{\mathbf{M}}), a_{t+1}^{i,*}(\omega^{\mathbf{M}})\}_{t=1}^T$, the value of staying married for each spouse:

$$V_t^{i,M}(\omega_{\mathbf{t}}) = u(c_t^{i,*}(\omega_{\mathbf{t}}^{\mathbf{M}}), P_t^{i,*}(\omega_{\mathbf{t}}^{\mathbf{M}}); \xi_t^i) + \beta E[V_{t+1}^{i,M}(\omega_{\mathbf{t+1}}^{\mathbf{M}})] \tag{23}$$

The married couple's optimal value function is the weighted sum of each spouses' value functions, where the weights are the bargaining power from $t-1$:

$$V_{t+1}^{M,*}(\omega_{\mathbf{t+1}}^{\mathbf{M}}) = \theta_t^P V_{t+1}^{P,*}(\omega_{\mathbf{t+1}}^{\mathbf{M}}) + \theta_t^S V_{t+1}^{S,*}(\omega_{\mathbf{t+1}}^{\mathbf{M}}) \tag{24}$$

Stage 2: The Divorce Choice Problem In the second stage, each spouse compares the value of being divorced ($V_t^{i,D}$) to the value of staying married ($V_t^{i,M}$). Three possible cases may arise:

1. The participation constraints are satisfied for both spouses, so it is optimal to stay married:

$$V_t^{i,M} > V_t^{i,D} \qquad \forall\ i \tag{25}$$

   In this case, spouse i's value function is $V_t^{i,M}$ is from the stage 1.b problem.

2. The participation constraints are binding for both spouses, so it is optimal to divorce:

$$V_t^{i,D} > V_t^{i,M} \qquad \forall\ i \tag{26}$$

   In this case, spouse i's value function is $V_t^{i,D}$ from the stage 1.a problem.

3. One spouse prefers to stay married but the other spouses' participation constraint binds. Suppose that only secondary earner's participation constraint binds so that it is optimal

for primary earner to stay married but secondary earner prefers to divorce:

$$V_t^{P,M} > V_t^{P,D}$$
$$V_t^{S,M} \leq V_t^{S,D} \tag{27}$$

In this last case, the couple solves the stage 1.b. problem again *under the constraint that secondary earner's participation constraint is satisfied*. In the terminal period:

$$V_T^M(\omega_{\mathbf{T}}^{\mathbf{M}}) = \max_{c_T^P, c_T^S, P_T^S, \theta_T^S} \left\{ \theta_T^P u(c_T^P) + \theta_T^S u(c_T^S) \right\}$$

s.t.

$$(1+r)A_T = Y_T - x_T \quad \text{and} \quad A_{T+1} = 0$$
$$u(c_T^S) = V_T^{S,D} \tag{28}$$
$$\theta_T^S = \theta_{T-1}^S + \lambda_T^S \tag{29}$$

Equation 28 imposes secondary earner's value of staying married to be as good as the outside option. This constraint can be incorporated directly in the objective function using a standard Lagrangian multiplier method. Let λ_T^S denote the Lagrangian multiplier associated with secondary earner's participation constraint. Whenever the participation constraint binds (i.e., $\lambda_T^S > 0$), secondary earner's bargaining power increases by λ_T^S in order to make secondary earner indifferent between divorcing and staying married (Eq. 29).

In other periods:

$$V_t^M(\omega_{\mathbf{t}}^{\mathbf{M}}) = \max_{c_t^P, c_t^S, P_t^S, A_{t+1}, \theta_t^S} \left\{ \theta_t^P u(c_t^P) + \theta_t^S u(c_t^S) + \beta E[V_{t+1}^M(\omega_{\mathbf{t+1}}^{\mathbf{M}} | \omega_{\mathbf{t}}^{\mathbf{M}})] \right\}$$

s.t.

$$A_{t+1} - (1+r)A_t = Y_t - x_t \quad \text{and} \quad A_{t+1} \geq -L_t^S$$
$$u(c_t^S) + \beta E[V_{t+1}^{S,M}(\omega_{\mathbf{t+1}}^{\mathbf{M}} | \omega_{\mathbf{t}}^{\mathbf{M}})] = V_t^{S,D} \tag{30}$$
$$\theta_t^S = \theta_{t-1}^S + \lambda_t^S \tag{31}$$

Then given a sequence of optimal solutions to this constrained Pareto problem $\forall$

ω^M, $\{c_t^{i,**}(\omega^{\mathbf{M}}), P_t^{i,**}(\omega^{\mathbf{M}}), a_{t+1}^{i,**}(\omega^{\mathbf{M}}), \theta_t^{i,**}(\omega^{\mathbf{M}})\}_{t=1}^T$, each spouse's value function is:

$$V_t^{i,M}(\omega_{\mathbf{t}}) = u(c_t^{i,**}(\omega_{\mathbf{t}}^{\mathbf{M}}), P_t^{i,**}(\omega_{\mathbf{t}}^{\mathbf{M}}); \xi_t^i) + \beta E[V_{t+1}^{i,M}(\omega_{\mathbf{t+1}}^{\mathbf{M}})] \tag{32}$$

The couple repeats the two stage problem again if it enters period t as married. If spouses enter t as divorcees, they solve the first stage problem for the remaining period using assets that they divided according to θ_t^i in the previous period.

Note that threat of divorce triggers a renegotiation that modifies the consumption allocation plans of the married couple – that is, in the last case, the optimal consumption allocation is such that the new plan is as good as each spouse's outside option. In equilibrium, divorce occurs when the joint surplus–the sum of the two spouses' marriage surpluses–is negative.[30]

E The Limited Commitment Model Prediction

Consider the properties of an efficient self-enforcing consumption maths when spouses' participation constraints bind but they stay married:

$$\begin{aligned}
V_t^{P,M}(\omega_{\mathbf{t}}) &= u\Big(c_t^{P*}(\omega_{\mathbf{t}})\Big) + \beta E\Big[V_{t+1}^{P,M}(\omega_{\mathbf{t+1}}|\omega_{\mathbf{t}})\Big] \\
V_t^{S,M}(\omega_{\mathbf{t}}) &= u\Big(c_t^{S*}(\omega_{\mathbf{t}})\Big) + \beta E\Big[V_{t+1}^{S,M}(\omega_{\mathbf{t+1}}|\omega_{\mathbf{t}})\Big] \\
V_t^{P,M}(\omega_{\mathbf{t}}) &\geq V_t^{P,D}(\omega_{\mathbf{t}}) \\
V_t^{S,M}(\omega_{\mathbf{t}}) &\geq V_t^{S,D}(\omega_{\mathbf{t}})
\end{aligned}$$

This problem can be reformulated as a Lagrangian problem. The couple solves:

$$\begin{aligned}
\mathcal{L}^{*,M} =& \theta_t^P u\Big(c_t^{P*}(\omega_{\mathbf{t}})\Big) + \theta_t^S u\Big(c_t^{S*}(\omega_{\mathbf{t}})\Big) + \beta E\Big[V_{t+1}^{M}(\omega_{\mathbf{t+1}}|\omega_{\mathbf{t}})\Big] \\
&+ \lambda_t^P\Big\{u\Big(c_t^{P*}(\omega_{\mathbf{t}})\Big) + \beta E\Big[V_{t+1}^{P,M}(\omega_{\mathbf{t+1}}|\omega_{\mathbf{t}})\Big] - V_t^{P,D}(\omega_{\mathbf{t}})\Big\} \\
&+ \lambda_t^S\Big\{u\Big(c_t^{S*}(\omega_{\mathbf{t}})\Big) + \beta E\Big[V_{t+1}^{S,M}(\omega_{\mathbf{t+1}}|\omega_{\mathbf{t}})\Big] - V_t^{S,D}(\omega_{\mathbf{t}})\Big\}
\end{aligned}$$

[30] Divorce does not require negative surplus for both spouses because divorce can happen even when one of the spouses want to stay married but there is not enough resource to transfer to the other spouse that would make the other spouse indifferent between staying married and being divorced.

where $V_{t+1}^{M}(\omega_{\mathbf{t+1}}) = \theta_{t+1}^{P} V_{t+1}^{P,M}(\omega_{t+1}) + \theta_{t+1}^{S} V_{t+1}^{S,M}(\omega_{t+1})$, and λ_t^P and λ_t^S are the Lagrangian multiplier associated with each spouse's sequential participation constraint.

Combining the first order condition with respect to c_t^{P*} and c_t^{S*} leads to the key prediction of this model that the ratio of the marginal utilities of consumption has one-to-one relationship to the slope of the Pareto frontier (γ_t):

$$\frac{u'\left(c_t^{P*}\right)}{u'\left(c_t^{S*}\right)} = \frac{\theta_t^S + \lambda_t^S}{\theta_t^P + \lambda_t^P} = \gamma_t$$

In other words, the couple's consumption allocation in the household is determined by the slope of the Pareto frontier, which can be entirely characterized by the spouses' bargaining power. Figure SA.6 illustrates the economic intuition graphically. Each panel plots the primary earner's expected lifetime value of staying married (y-axis) against the secondary earner's expected lifetime utility of staying married (x-axis). The red dashed lines denote the spouse's outside option, and the first quadrant of ellipse represents the Pareto frontier. Any consumption allocation along this Pareto frontier is a feasible allocation, but the position on this Pareto frontier (red dot) is determined by the ratio of the marginal utilities of consumption.

I discuss two cases: when the participation constraint does and does not bind. First, consider the case when the secondary earner's participation constraint does not bind. This case is illustrated in panel a by the fact that the existing resource allocation in period 1, $E[V_1^{i,*}]$, sits in the non-negative orthant created by spouses' best outside options. In this case, the improvement in secondary earner's outside option expands the Pareto frontier and shifts the location of efficient resource allocation outward. However, since secondary earner's participation constraint does not bind, the couple continues the initial resource allocation plan. This is shown in panel b– the slope of the Pareto frontier is unchanged in period 2. Note that the value of the spouses' best outside options intersect in the interior of the Pareto frontier, implying that there is still gains from marriage even after the change in secondary earner's outside option.

Now, consider the case when the secondary earner's participation constraint binds such that the value of her outside option expands to the point where the initial resource allocation plan no longer sits in the non-negative orthant created by spouses' best outside options. The binding constraint triggers bargaining between spouses and increases the secondary earner's decision power by λ^S. This is shown in panel c. The improvement in the secondary earner's

decision power makes the slope of the Pareto frontier steeper by tilting resource allocation toward her and thus reducing her marginal utility, $u'(c_2^{S,\omega})$. Figure d shows that this moves the location of resource allocation plan along the Pareto frontier to the new point, $E[V_2^{i,**}]$, where the secondary earner is indifferent from staying married with the new allocation plan or divorcing to take her outside option.

Comparing the ratio of marginal utilities in the case when secondary earner's outside option does not bind, $\frac{u'(c_2^{p,\omega})}{u'(c_2^{s,\omega})} = \frac{\theta^S}{\theta_P} = \widehat{\gamma}_t$, to the case when it does bind, $\frac{u'(c_2^{p,\omega})}{u'(c_2^{s,\omega})} = \frac{\theta^S+\lambda^S}{\theta_P} = \widetilde{\gamma}_t$, reveals how bargaining power determine the consumption allocation in the household. If $\lambda^S > 0$, then $\widetilde{\gamma}_t > \widehat{\gamma}_t$. This is only possible when consumption allocated to secondary earners increases. This analysis draws from Chiappori and Mazzocco (2017).

Changes in the Bargaining Power I use a sufficient statistics approach to document the size of the change in secondary earners' relative bargaining power in the household as a result of the 2013 reversal. While the spouses' relative bargaining power is not observed in the data, Equation 7 shows that – under certain assumptions about the spouses' preferences – the relative bargaining power (the right-hand-side) can be characterized by observable elements of household behavior: spouse-specific consumption. I obtain average monthly consumption of primary and secondary earners in the treated group before and after the reversal to quantify the size of the change in secondary earners' relative bargaining power.

Figure A.10 illustrates that the reversal led to an economically meaningful increase in secondary earners' relative bargaining power in the household. Assuming that both spouses have the CRRA utility with a relative risk aversion of $\gamma = 1.5$, Figure A.10a shows that the slope of the Pareto frontier before the reversal was -0.78. After the reversal, Figure A.10b shows that this slope became steeper – i.e., the relative bargaining power tilted toward the secondary earner. The change in the relative bargaining power is 23 percentage points (ppt): 1.01 - 0.78. This change in bargaining power after the reversal is 5 times as large as the typical change in the bargaining power among card openers before the reversal. In addition, the average monthly change in the slope is close to 0 among a broader sample of households that includes secondary earners that did not open a credit card account. This illustrates that the relative bargaining power changes little over-time, but an increase in secondary earners' borrowing capacity generates an economically meaningful shift in their marital bargaining power.

F Welfare

How large are the welfare gains from the reversal? I calculate the Consumption Equivalent Variation (CEV), or the percent of expected lifetime consumption that a spouse inhabiting economy without the reversal would pay *ex ante* in order to inhabit economy with the reversal. In this model, since I track household consumption behavior for only 36 months around the reversal, the CEV captures the percent of expected consumption over this 3 year period. I consider two economies, $k = \{1, 2\}$, where $k = 1$ refers to the regime without the reversal and $k = 2$ refers to the regime with the reversal. I define ex-ante welfare in economy k derived from steady state consumption and work decisions $\{c_t^{i,k}(\omega), P_t^{i,k}(\omega)\}_{t=1}^T$ over states $\omega_t = \{a_t^{i,k}, h_t^{i,k}, z_t^{i,k}, \theta_t^{i,k}, \xi_t^k, \Omega_t^k\}$ distributed with $\lambda_t^i(\omega)$ as:

$$S^{i,k} = U(c^{i,k}; \xi^k) - V(P^{i,k}; \xi^k) \tag{33}$$

where ex ante utility over allocations and disutility from working for each of the two spouses,

$$U(c^{i,k}; \xi^k) \equiv \int E_0\Big[\sum_{t=1}^{T} \beta^{t-1} u(c_t^{i,k}; \xi_t^k)\Big] d\lambda^k \tag{34}$$

$$V(P^{i,k}; \xi^k) \equiv \int E_0\Big[\sum_{t=1}^{T} \beta^{t-1} (\psi P_t^{i,k}; \xi_t^k)\Big] d\lambda^k \tag{35}$$

Then the CEV, denoted by Δ_{CEV}, is:

$$S^i\Big((1 + \Delta_{CEV}^i)c^{i,1}, P^{i,1}\Big) = S(c^{i,2}, P^{i,2}) \tag{36}$$

which can be expressed as

$$(1 + \Delta_{CEV}^i)^{1-\gamma} U(c^{i,1}) - V(P^{i,1}) = U(c^{i,2}) - V(P^{i,2}) \tag{37}$$

or rewritten,

$$1 + \Delta_{CEV}^i = \Big[\frac{U(c^{i,2})}{U(c^{i,1})} + \Big(\frac{V(P^{i,1})}{V(P^{i,2})} - 1\Big) \cdot \frac{V(P^{i,2})}{U(c^{i,1})}\Big]^{\frac{1}{1-\gamma}} \tag{38}$$

Δ^i_{CEV} captures spouse i's percent of expected 3-year period consumption that i would be willing to pay ex ante to inhibit an economy with the reversal instead of an economy without the reversal. I similarly calculate the household CEV by defining household ex ante social welfare criterion as the sum of the two spouses ex ante utility over allocations:

$$S^k = U(c^k; \xi^k) - V(P^k; \xi^k) \tag{39}$$

$$U(c^k; \xi^k) \equiv \int E_0\Big[\sum_{t=1}^{T} \beta^{t-1} u(c_t^{i,P}; \xi_t^k)\Big] d\lambda^k + \int E_0\Big[\sum_{t=1}^{T} \beta^{t-1} u(c_t^{S,k}; \xi_t^{S,k})\Big] d\lambda^k \tag{40}$$

$$V(P^k; \xi^k) \equiv \int E_0\Big[\sum_{t=1}^{T} \beta^{t-1} (\psi P_t^{P,k}; \xi_t^k)\Big] d\lambda^k + \int E_0\Big[\sum_{t=1}^{T} \beta^{t-1} (\psi P_t^{S,k}; \xi_t^{S,k})\Big] d\lambda^k \tag{41}$$

Table A.17 shows that the TILA reversal is Pareto improving for secondary earners as they are willing to pay a positive share of their expected consumption to inhabit the economy with the reversal. However, primary earners' CEV is negative, consistent with the reversal primarily benefitting secondary earners. The well-being of the couple as a whole also increases in that the couple is willing to pay 1.5 percent of their expected consumption to inhabit the economy with the reversal. Overall, this analysis indicates that increasing secondary earners' borrowing capacity improves the couple's well-being but has an unequal impact on individual family members' well-being.

G Public vs. Private Goods

To examine how secondary earners' improved bargaining power affects their demand for private vs. public consumption, consider a simple Cobb-Douglas in private good, q_k^i, and public good, Q_j. The for each spouse $i \in (P, S)$:

$$u^i(x^i, Q) = \sum_k \alpha_k^i log q_k^i + \sum_j \delta_j^i log Q_j$$

$$\text{s.t.} \sum_k (q_k^a + q_k^b) + \sum_j Q_j = x$$

The LHS of the budget constraint represents the consumption of the two spouses: $c^P + c^S = \sum_k (q_k^P + q_k^S) + \sum_j Q_j$, and the RHS is $x = Y - a$. The household problem:

$$\mathcal{L} = \Big(\sum_k \alpha_k^P log q_k^P + \sum_j \delta_j^P log Q_j \Big) + \mu_t \Big(\sum_k \alpha_k^S log q_k^S + \sum_j \delta_j^S log Q_j \Big) + \lambda \Big(x - \sum_j Q_j - \sum_k (q_k^P + q_k^S) \Big)$$

FOCs:

$$\lambda q_k^P = \alpha_k^P; \qquad \lambda q_k^S = \mu_t \alpha_k^S; \qquad \lambda Q_j = \delta_j^P + \mu_t \delta_j^S$$

Sum all of these terms:

$$\lambda \Big(\sum_k (q_k^P + q_k^S) + \sum_j Q_j \Big) = (\sum_k \alpha_k^P + \sum_j \delta_j^P) + \mu (\sum_k \alpha_k^S + \sum_j \delta_j^S)$$
$$\lambda x = 1 + \mu$$

And $\lambda = \frac{1+\mu_t}{x}$. Thus, household demands:

$$q_k^P = \frac{\alpha_k^P}{1+\mu_t} x$$
$$q_k^S = \frac{\mu \alpha_k^S}{1+\mu_t} x$$
$$Q_j = \frac{\delta_j^P + \mu_t \delta_j^S}{1+\mu_t} x$$

And the following conditions hold:

$$\frac{\partial q_k^P}{\partial \mu_t} = -\frac{\alpha_k^P}{(1+\mu_t)^2} x$$
$$\frac{\partial q_k^S}{\partial \mu_t} = \frac{\alpha_k^S}{(1+\mu_t)^2} x$$
$$\frac{\partial Q_j}{\partial \mu_t} = \frac{\delta_j^S - \delta_j^P}{(1+\mu_t)^2} x$$

To better understand the interpretation of $\delta_j^S > \delta_j^P$, it's useful to consider the marginal willingness to pay (mwp) for public goods j, or the maximum amount i would be willing to pay to acquire an additional unit of consumption good j, if the amount is to be withdrawn from i's

consumption of private good. These are given for any public good j by:

$$MWP_j^i = \delta_j^i \frac{\sum_k q_k^i}{Q_j}$$

where $\sum_k q_k^i$ represents the amount of private consumptions consumed, taking public consumption as given. This expression shows that the condition $\delta_j^S > \delta_j^P$ can be interpreted as secondary earners' MWP being more income sensitive than that of primary earners.

$$\frac{\partial MWP_j^S}{\partial \sum_k q_k^P} > \frac{\partial MWP_j^P}{\partial \sum_k q_k^S}$$

This analysis draws from Browning, Chiappori and Weiss (2014).

Table A.1. Summary Statistics of Account Ownership Structure and Payment Choice for Married Individuals

	Mean (1)	Median (2)
Number of:		
Checking Accounts	1.51	1
Debit Cards	1.46	1
Credit Cards	4.03	3
Has Credit Cards	0.84	1
Use Cash	0.93	1
Primarily Obtain Cash from ATM	0.55	1
Checking Accounts Shared with a Spouse:		
Primary Account	0.73	1
Secondary Account	0.28	0
Own Primary Residence	0.82	1

Notes: This table reports account ownership structure and payment choice statistics for married individuals using the 2020 Survey of Consumer Payment Choice (SCPC). "Use Cash" reports the share of respondents that used cash as a payment method in the last 12 months. "Checking Accounts Shared with a Spouse" reports the share of respondents who share their primary or secondary checking account with their spouse. "Own Primary Residence" asks whether the survey respondent or the respondent's spouse is a home owner.

Table A.2. Sample Representativeness

	Benchmark Mean (1)	Sample Mean (2)
Head of Household Age (years)	55	44.31
Share of Double Income Households	0.53	0.54
Total Income ($)	83,413	118,729
Annual Consumption ($)	62,015	88,068
Public ($)	18,765	29,153
Private ($)	43,250	58,915
Expenditure to Income Share	0.74	0.74
Public to Expenditure Share	0.30	0.33
Private to Expenditure Share	0.70	0.67

Notes: This table compares the representativeness of my analysis sample described in Section 4.1 to external benchmarks from the Consumer Expenditure Survey (CEX) Table 3424 (i.e., consumer units of two people) for 2014 and Bureau of Labor Statistics (BLS). Column 1 reports annual average household characteristics in external benchmarks. The CEX excludes households that earn less than $20,000 to make the benchmark sample more comparable to my sample, which limits analysis to households to earn at least $17,000 (2013 U.S. poverty threshold for two-member household). Statistics are re-weighted by population share in each income bin. Column 2 reports annual average household characteristics for 2014-2015 in my sample. "Head of Household Age" shows the "age of reference person" in Column 1 and the oldest member in the household in Column 2. Total income includes labor, capital, business, retirement, other income, and government transfers, including child support. Public expenditures reported Column 1 include spending on maintenance, repairs, other expenses; utilities, fuels; household operations; misc household equipment; laundry/cleaning supplies; other household products; household textiles; floor coverings; food at home; other vehicle expenses; and children. Private expenditures reported in Column 1 include all other spending. See Table A.4 for detailed spending categories my sample.

Table A.3. Secondary Earner Characteristics: All and Regression Samples

	All Sample			Regression Sample		
	Control Mean (1)	Treated Mean (2)	Mean Difference (3)	Control Mean (4)	Treated Mean (5)	Mean Difference (6)
Female	0.61	0.61	0.00	0.59	0.58	-0.01
Age	40.8	40.9	0.1	38.2	38.4	0.1
Income ($)	1,012	1,004	-8	1,259	1,340	81
Cash on hand ($)	995	1,021	27	1,091	1,118	27
Relative consumption share	0.44	0.43	0.00	0.46	0.46	-0.01
Consumption ($)	2,657	2,581	-76	2,573	2,496	-77
Public good ($)	908	826	-82	891	801	-91
Private good ($)	1,749	1,755	6	1,682	1,695	14
Has a sole credit card	0.02	0.02	0.00	0.13	0.13	0.01
Credit limit ($)	152	164	12	867	923	56
Card balance ($)	34	37	3	195	210	15
Number of Households	33,100	33,100	0	5,809	5,873	64

Notes: This table compares secondary earner characteristics in the treated and the control group for All and Regression samples. The All sample refers to the matched sample of 66,200 households. The Regression sample restricts the matched sample to households where secondary earner opens a credit card account at some point during my sample period. See Table 2 for variable descriptions.

Table A.4. Detailed Spending Categories

Category	Type	Examples
Department Store	Private	Department stores
Discount Store	Private	Discount stores
Clothing	Private	Clothing stores
Entertainment	Private	Theater, travel agency, tourist attraction, cruise lines, golf course, recreational camps
Flights	Private	Various airline companies
Hotels/Rentals	Private	Hotels, inns, resorts
Medical	Private	Ambulance services, dentists, doctors and physicians, chiropractors, optometrists, nursing and personal care facilities.
Transportation	Private	Cabs, bus lines, passenger railways, airports, parking lots, transportation svcs
Food Away	Private	Bakery, catering, bar, cafes, eating places and restaurants, fast food restaurants
Durable Retail/Misc	Private	Equipment, appliances, electronics, furniture, donation, organization, membership
Nondurable Retail/Misc	Private	Stationary, office supplies, duty free store, book store
Checks	Private	Paper checks
Cash	Private	ATM withdrawals
Professional Services	Private	Consulting, legal, tax preparations, advertising
Personal Services	Private	Hair salon, spa, nail salon, funeral services, tailors, mending
Auto Repairs/Parts	Public	Car washes, paint shops, automobile and truck dealers, vehicle supplies and new parts, car sales, services, repairs
Fuel	Public	Service stations, automated fuel dispensers
Utilities	Public	Utility service, electric, gas, sanitary and water, cable, telecommunication services
Groceries	Public	Grocery stores and supermarkets
Home improvement	Public	Florists, hardware supplies, home supply warehouse stores, building materials, glass stores, wall paper stores, garden supply stores
Home cleaning/repairs	Public	Cleaning, maintenance, repairs, heating, roofing
Child	Public	Child care, children's and infant's wear stores, toy
Insurance	Public	home insurance, car insurance, etc
Tax	Public	Tax payments

Notes: This table reports examples of detailed spending types included in each spending category. The categorization of "private" or "public" consumption follows existing studies (Chiappori, Fortin and Lacroix, 2002; Mazzocco, 2007).

Table A.5. Spending Shares by Gender

Spending Categories (1)	Female Share (2)	Male Share (3)	Spending Categories (4)	Female Share (5)	Male Share (6)
alimony_court	27.47	72.53	nondur_sewing	80.36	19.64
auto_tollparking	42.79	57.21	nondur_sports	13.06	86.94
autopartsmfr	27.52	72.48	nondur_supplement	36.90	63.10
cash	38.64	61.36	nondur_tobacco	32.84	67.16
child_tot	59.17	40.83	paper_checks	46.13	53.87
clothing	66.86	33.14	perslsvcs_beauty	77.08	22.92
clothing_men	26.16	73.84	perslsvcs_dating	40.54	59.46
clothing_oth	60.12	39.88	perslsvcs_massage	45.22	54.78
clothing_shoe	61.34	38.66	perslsvcs_tailor	36.09	63.91
clothing_sports	41.57	58.43	pet_tot	62.60	37.40
clothing_women	78.16	21.84	pharmacy	59.54	40.46
counseling	48.93	51.07	profperslsvcs_accounting	45.68	54.32
departmentstore	65.47	34.53	profperslsvcs_auto	41.32	58.68
discountstore	59.06	40.94	profperslsvcs_biz	33.45	66.55
donation	54.17	45.83	profperslsvcs_cleaning	52.21	47.79
dur_computer	30.83	69.17	profperslsvcs_contractor	45.03	54.97
dur_dealers	38.59	61.41	profperslsvcs_dental	65.29	34.71
dur_electronicsappls	37.34	62.66	profperslsvcs_drycleaning	43.81	56.19
dur_furniture	50.21	49.79	profperslsvcs_fin	40.25	59.75
dur_healthcare_device	43.24	56.76	profperslsvcs_lawn	46.12	53.88
dur_jewelry	40.72	59.28	profperslsvcs_legal	45.08	54.92
dur_misc_tot	35.46	64.54	profperslsvcs_logistics	46.38	53.62
edu_tot	50.74	49.26	profperslsvcs_main	51.29	48.71
entertainment_attraction	44.75	55.25	profperslsvcs_medical	57.37	42.63
entertainment_gambling	17.21	82.79	profperslsvcs_nursing	58.81	41.19
entertainment_game	28.31	71.69	profperslsvcs_oth	44.25	55.75
entertainment_main_tot	41.75	58.25	profperslsvcs_photo	54.22	45.78
entertainment_sport	45.84	54.16	profperslsvcs_postal	49.14	50.86
fees_tot	49.28	50.72	profperslsvcs_printing	44.54	55.46
foodaway_bakeries	58.62	41.38	profperslsvcs_realestate	61.22	38.78
foodaway_bars	27.10	72.90	profperslsvcs_security	49.06	50.94
foodaway_catering	48.80	51.20	profperslsvcs_tech	35.63	64.37
foodaway_fastfood	43.46	56.54	rental_car	37.75	62.25
foodaway_main_tot	38.86	61.14	rental_furniture	38.13	61.87
fuel	41.78	58.22	rental_housing	44.87	55.13
govt_tot	41.74	58.26	rental_oth_tot	39.92	60.08
grocery_alcohol	36.55	63.45	repair_auto	39.87	60.13
grocery_tot	56.16	43.84	repair_electronics	40.29	59.71
homeimprovement	37.65	62.35	repair_furniture	52.10	47.90
homeimprovement_lawn	49.46	50.54	repair_oth_tot	36.36	63.64
homeimprovement_oth_tot	58.50	41.50	repair_shoe	60.38	39.62
hospitals	53.79	46.21	subscription	50.43	49.57
insurance_tot	47.76	52.24	tax	39.07	60.93
membershiporg	49.19	50.81	telecomm	46.54	53.46
nondur_cosmetics	82.39	17.61	transit	46.55	53.45
nondur_craft	67.17	32.83	transit_public	49.07	50.93
nondur_office	52.03	47.97	travel_flights	44.63	55.37
nondur_oth_tot	52.08	47.92	travel_lodging	40.18	59.82
nondur_photo	38.37	61.63	travel_oth	48.70	51.30
nondur_retail	49.16	50.84	utilities	50.89	49.11

Notes: This table reports the breakdown of category-level spending shares by gender. These statistics are obtained out-of-sample using 2.4 million consumers who are active users of both Chase checking and credit card accounts during my sample period. These statistics are used to construct the gender-intensity consumption measure. See SA.1 for a figure version of this table.

Table A.6. Extensive Margin: Credit Card Opening and Closing

		Cumulative (percentage points)				
	Monthly effect (1)	6-month effect (2)	12-month effect (3)	18-month effect (4)	24-month effect (5)	Implied effect (6)
	A. Secondary Earner's Sole Credit Card Accounts					
Credit Card Opening	-0.13	-0.60	-1.25	-1.25	-2.51	0.00
	(0.1)	(0.93)	(1.48)	(2.01)	(2.5)	[2.14]
Credit Card Closing	0.01	0.03	-0.02	0.09	0.32	0.00
	(0.01)	(0.09)	(0.18)	(0.3)	(0.37)	[.005]
	B. Joint Credit Card Opening					
Accounts held by Secondary Earners	-0.01	-0.03	-0.22	-0.19	-0.16	0.00
	(0.01)	(0.11)	(0.2)	(0.26)	(0.34)	[.03]
Accounts held by Primary Earners	0.01	-0.02	-0.13	0.10	0.11	0.00
	(0.02)	(0.17)	(0.27)	(0.37)	(0.49)	[.076]
Number of Observations	443,412	210,276	280,368	350,392	420,134	

Notes: This table presents the coefficient of a "treat $\times$ post" indicator in a difference-in-differences regression described in Section 3.2 using the Regression Sample. Panel A reports estimates for secondary earners' sole credit card account opening and closing; and in Panel B reports estimates for joint credit card opening for accounts held by secondary earners or primary earners. Column 1 reports pooled regression estimates from Equation 14. Columns 2-5 report cumulative effects over different horizons, calculated as $\Phi_\tau = \sum_{j=1}^{\tau} \phi_j$. Column 6 reports implied cumulative effects, computed as $\Phi_{24}\times$ pre-reversal mean of the outcome. An extra month of data is used for Column 1 relative to Column 5. Pre-reversal average of the outcome variable is reported in brackets. Reported coefficients are multiplied by 100 for readability. All specifications include household and time (month-year) fixed effects. Standard errors are clustered at the state-level and reported in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

Table A.7. Secondary Earners' Other Credit Card Outcomes

		Cumulative (percentage points)				
	Monthly effect (1)	6-month effect (2)	12-month effect (3)	18-month effect (4)	24-month effect (5)	Implied effect (6)
	A. Secondary Earner Credit Card Outcomes					
Annual Percentage Rate	-2.03	-1.28	3.59	2.76	-1.33	0.03
	(6.31)	(14.86)	(13.39)	(12.26)	(12.89)	[4.69]
Credit Card Utilization	-0.56 ***	-0.64	-0.33	-0.29	-1.31 **	0.01
	(0.13)	(0.39)	(0.43)	(0.47)	(0.56)	[6.11]
Non-Chase Credit Card Payments	0.10	1.43	1.26	2.50	1.1	0.00
	(0.16)	(1.32)	(2.13)	(3.05)	(3.99)	[389]
	B. Household Credit Card Outcomes					
Annual Percentage Rate	6.00	13.68	1.02	4.16	2.26	0.14
	(4.3)	(11.17)	(10.36)	(10.59)	(11.85)	[12.06]
Credit Card Utilization	0.44 **	-0.54	0.82 *	0.53	-.09	0.00
	(0.18)	(0.49)	(0.42)	(0.4)	(0.42)	[36.8]
Non-Chase Credit Card Payments	-0.13	2.08 **	1.24	-0.41	-4.49	0.01
	(0.13)	(1.05)	(1.69)	(2.42)	(3.17)	[817]
Number of Observations	443,412	210,276	280,368	350,392	420,134	

Notes: This table presents the coefficient of a "treat $\times$ post" indicator in a difference-in-differences regression described in Section 3.2 using the Regression Sample. Panel A reports estimates for secondary earner credit card outcomes; and in Panel B reports estimates for household credit card outcomes. The outcomes in each panel include annual percentage rates (APR), credit card utilization rate, or end-of-billing card balance divided by credit limit, and card payments to other banks relative to pre-reversal average monthly consumption. Column 1 reports pooled regression estimates from Equation 14. Columns 2-5 report cumulative effects over different horizons, calculated as $\Phi_\tau = \sum_{j=1}^{\tau} \phi_j$. Column 6 reports implied cumulative effects, computed as $\Phi_{24}\times$ pre-reversal mean of the outcome. An extra month of data is used for Column 1 relative to Column 5. Pre-reversal average of the outcome variable is reported in brackets. Reported coefficients are multiplied by 100 for readability. All specifications include household and time (month-year) fixed effects. Standard errors are clustered at the state-level and reported in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

Table A.8. Measurement Robustness

Secondary Earner Outcomes	Include Oth Cards (1)		Net of Travel (2)		Net of Food Away (3)		Net of Cash (4)		Net of Checks (5)		Net of (2) - (5) (6)	
	A. Spending-Based Measure											
Consumption	2.08	***	2.69	***	2.81	***	4.69	***	4.71	***	8.03	***
	(0.38)		(0.42)		(0.43)		(0.46)		(0.56)		(0.61)	
Consumption Share	0.43	***	0.44	***	0.48	***	0.57	***	0.59	***	0.56	***
	(0.07)		(0.07)		(0.08)		(0.08)		(0.09)		(0.08)	
Number of Observations	443,191		443,068		443,061		442,605		442,127		440,832	
	Pre-Reversal Mean											
Consumption ($)	2,923		2,487		2,391		2,173		1,818		1,268	
Consumption Share (%)	46.20		46.15		46.15		45.84		45.59		45.39	
	More than 50% (1)		Net of Travel (2)		Net of Food Away (3)		Net of Cash (4)		More than 60% (5)		Gender Assignable (6)	
	B. Gender-Intensity Measure											
Consumption	2.34	***	2.42	***	2.89	***	4.33	***	2.25	*	1.15	***
	(0.65)		(0.47)		(0.49)		(0.5)		(1.36)		(0.21)	
Consumption Share	0.43	*	0.59	***	0.66	***	0.62	***	0.40	*	0.21	*
	(0.25)		(0.16)		(0.18)		(0.16)		(0.22)		(0.13)	
Number of Observations	442,000		428,696		428,360		421,555		418,168		443,412	
	Pre-Reversal Mean											
Consumption ($)	2,463		1,338		1,243		1,081		630		24	
Consumption Share (%)	46.03		46.57		47.13		48.48		42.71		47.40	
Representativeness (%)	97.21		52.79		49.03		42.68		24.88		0.93	

Notes: This table examines the sensitivity of baseline estimates to using alternative spending-based and gender-intensity consumption measures. Panel A reports monthly DiD effects using various spending-based measure and Panel B using gender-intensity measures. The outcomes are scaled by secondary earners' average monthly pre-reversal mean of each outcome. Alternative spending-based consumption measures include versions that (i) include payments to other credit companies to take substitution across banks into account (col 1); exclude spending on potentially reimbursable work-related expenses, such as spending on flights, hotels/lodging, and transportation (col 2); exclude other categories that can be used for public consumption (cols 3 - 6). Panel B progressively reports more conservative gender-intensity consumption measures across columns. These measure include versions that reconstructs consumption only using spending categories (i) in which gender-intensity in spending is greater than 50 percent (col 1); (ii) net of travel, food away, and cash (cols 2-4);(iii) gender-intensity greater than 60 percent (col 5); and (iv) are considered to be either gender-assignable or more intensely consumed by one gender in the existing literature (e.g., Duflo and Udry (2004)), such men's clothing, alcohol, gambling, and tobacco for men; and women's clothing, hair or nail salons, spas, or jewelry for women (col 6). The "representativeness" row reports total dollar spending captured by gender-intensity measure relative to spending-based consumption measure. All specifications include household and time (month-year) fixed effects. Standard errors are clustered at the state-level and reported in parentheses. Reported coefficients are multiplied by 100 for readability. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

Table A.9. Specification Robustness

Secondary Earner Outcomes	Baseline (1)		No Controls (2)		Only HH f.e. (3)		Only Time f.e. (4)		State Trends (5)		Quarterly Spec (6)	
Credit Limit	39.83	***	39.73	***	39.71	***	39.68	***	36.47	***	33.99	***
	(2.14)		(2.58)		(2.2)		(2.53)		(2.3)		(3.3)	
Consumption Share	0.49	***	0.49	***	0.49	***	0.49	***	0.45	***	0.41	***
	(0.08)		(0.08)		(0.08)		(0.08)		(0.08)		(0.1)	
Number of Observations	443,072		443,072		443,072		443,072		443,072		163,299	
Household f.e.	X				X				X		X	
Time f.e.	X						X		X		X	
State-specific trends									X			
Quarterly Specification											X	
Cluster SE state	X		X		X		X		X		X	

Notes: This table examines the sensitivity of baseline estimates to using alternative specifications. The monthly DiD effects are reported, and outcomes are scaled by secondary earners' average monthly pre-reversal mean of each outcome. Column 1 reports my baseline monthly estimates also reported in Tables 3 and 4. Column 2 excludes household and time fixed effects. Column 3 only includes household fixed effects, and Column 4 only includes time fixed effects. Column 5 includes state-specific linear time trends in addition to the baseline specification used in Column 1. Column 6 reports estimates obtained from aggregating data to quarterly. The quarterly estimates are converted back to monthly to facilitate comparison to other columns.*** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

Table A.10. Sample Robustness

	Other Samples						Placebo							
Secondary Earner Outcomes	Joint Any (1)		No Joint Checking (2)		Any HH w/ Card (3)		Change in Joint Acct (4)		No Change in Limit (5)		Pre-period Only (6)	Primary Earner (7)		
	A. Difference-in-Differences													
Credit Limit	40.96	***	32.55	***	10.42	***	32.99	***	–		6.43	0.46		
	(2.3)		(5.61)		(0.51)		(1.8)		–		(4.47)	(0.73)		
Consumption Share	0.53	***	0.28	*	0.17	***	0.09		0.01		0.19	-0.37	***	
	(0.08)		(0.16)		(0.03)		(0.06)		(0.05)		(0.13)	(0.06)		
Number of Observations	397,970		51,977		2,499,508		406,848		830,662		151,853	443,412		
	B. Pre-Reversal Mean													
Credit Limit ($)	1,704		973		6,895		7,106		5,220		1,595	3,256		
Consumption Share	0.46		0.44		0.44		0.48		0.42		0.46	0.54		

Notes: This table examines the sensitivity of baseline estimates to using alternative samples (Cols 1-3) and reports placebo analysis (Cols 4-7). Panel A reports monthly DiD effects, and Panel B reports pre-reversal mean of each outcome. The outcomes are scaled by secondary earners' average monthly pre-reversal mean of each outcome. Column 1 restricts the sample to households in which spouses share at least one financial account (checking or credit); Column 2 to households in which spouses do not share a checking account; and Column 3 uses a broader sample of households with credit cards. The placebo analysis shows that there is no effect on secondary earners' consumption share for households that receive a limit increase on joint credit cards but not individual accounts (col 4) and for households that do not experience any change in credit limits (col 5). Column 6 only uses the pre-treatment periods and sets treatment date to be March 2013. Column 7 analyzes the impact on primary earners' credit access and consumption share.*** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

Table A.11. Private vs. Public Consumption: Gender-Intensity Measure

Gender-Intensity Measures	Monthly effect (1)		Cumulative 6-month effect (2)		Cumulative 12-month effect (3)		Cumulative 18-month effect (4)		Cumulative 24-month effect (5)		Implied effect (6)
					A. Secondary Earners' Consumption						
Consumption	3.05	***	-4.7		5.22		16.54	*	59.75	***	821
	(0.53)		(4.14)		(6.78)		(9.7)		(12.86)		[1,374]
Private	1.72	***	-9.52	***	-5.81		.28		30.45	***	418
	(0.47)		(3.59)		(5.91)		(8.49)		(11.28)		[820]
Public	1.33	***	4.82	***	11.03	***	16.25	***	29.31	***	403
	(0.17)		(1.38)		(2.21)		(3.11)		(4.04)		[554]
					B. Household Consumption						
Consumption	1.16	***	-4.20		6.002		2.45		21.57	**	644
	(0.41)		(3.27)		(5.3)		(7.54)		(9.94)		[2,986]
Private	0.32		-5.83	**	1.42		-4.45		4.45		133
	(0.38)		(2.97)		(4.83)		(6.89)		(9.08)		[1,849]
Public	0.84	***	1.63	*	4.58	***	6.9	***	17.13	***	511
	(0.1)		(0.83)		(1.33)		(1.86)		(2.42)		[1,136]
Number of Observations	435,071		217,778		286,550		355,219		423,609		

Notes: This table presents the coefficient of a "treat $\times$ post" indicator in a difference-in-differences regression described in Section 3.2 using the Regression Sample. This table replicates Table 6 using gender-intensity consumption measures. Outcomes are scaled by secondary earner (Panel A) or household average monthly pre-reversal consumption (Panel B). See Table 6 for table details. Figure 4 for a figure version of this table. Reported coefficients are multiplied by 100 for readability. All specifications include household and time (month-year) fixed effects. Standard errors are clustered at the state-level and reported in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

Table A.12. Limited Commitment Placebo

	No Controls			Controls		
	Trouble (1)	Mortgage (2)	Child (3)	Trouble (4)	Mortgage (5)	Child (6)
	Secondary Earners' Consumption Share					
Treat	0.02	0.02	0.05	0.02	0.02	0.05
	(0.05)	(0.06)	(0.06)	(0.05)	(0.05)	(0.06)
Treat x LC	-0.10	-0.04	-0.06	-0.10	-0.05	-0.06
	(0.07)	(0.05)	(0.05)	(0.07)	(0.05)	(0.05)
Number of Observations	830,388	830,388	830,388	830,388	830,388	830,388
Consumption Share	0.42	0.42	0.42	0.42	0.42	0.42

Notes: This table replicates Panel B of Table 8 using the placebo sample of households that do not experience any change in credit limits. The placebo sample is constructed from a broader sample of households that have a credit card account during my sample period but did not experience a credit limit change. This differs from the regression sample, which restricts analysis to households where secondary earner opens a new sole credit card during my sample period. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

Table A.13. Heterogeneity by Financial Constraints

	Liquidity				Utilization Rate				DTI Level			
	High		Low		High		Low		High		Low	
Credit Limit	43.95	***	31.12	***	49.04	***	37.52	***	40.11	***	29.78	***
	(3.3)		(2.73)		(4.36)		(2.44)		(3.58)		(2.26)	
Consumption Share	0.51	***	0.43	***	-0.18		0.64	***	0.35	***	0.61	***
	(0.11)		(0.1)		(0.18)		(0.08)		(0.11)		(0.1)	
Number of Observations	221,679		221,695		82,375		360,999		219,850		219,914	

Notes: This table reports monthly estimates from Equation 14 for subsample splits based on proxies of pre-reversal household financial constraints. Outcomes are scaled as described in Tables 4 and 5. Households are split based on whether they have above (high) or below (low) median checking account balances ($2,625); have above (high) or below (low) median credit card utilization rates (0.279); and have above (high) or below (low) median debt-to-income levels (0.285). For utilization subsample cuts, the below median sample includes households with no credit cards in the pre-reversal period. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

Table A.14. Decomposition of Consumption Effect by Spending Method

Secondary Earner Outcomes	Total (1)		Checking (2)	Debit Card (3)		Credit Card (4)	
	A. Difference-in-Differences						
Consumption	2.89	***	0.21	0.67	***	2.01	***
	(0.43)		(0.31)	(0.2)		(0.26)	
Number of Observations	443,374		443,374	443,374		443,374	
	B. Pre-Reversal Mean and Implied Effects						
Consumption	2,534		1,159	1,201		176	
Implied Dollar Effects	73.3		5.3	17.0		50.9	

Notes: This table decomposes secondary earners' consumption effect by spending method. Panel A reports monthly DiD effects and Panel B reports pre-reversal mean of each outcome. Column 1 reports my baseline monthly estimates also reported in Table 4. Columns 2-4 report decomposes the consumption effect by checking account, debit cards, and credit cards. The outcomes are scaled by secondary earners' average monthly pre-reversal consumption, so estimates in cols 2-4 sum to the total effect in col 1. All specifications include household and time (month-year) fixed effects. Standard errors are clustered at the state-level and reported in parentheses. Panel C reports pre-reversal average revolving balance utilization rates. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

Table A.15. Parameters of the Model

Parameter	Value	Reference
Relative risk aversion (γ)	1.5	Attanasio et al (2008)
Discount factor (β)	0.989	Ganong and Noel (2019)
Rate of return on assets ($\underline{r}$)	0.0017	Bayot and Voena (2014)
Cost of borrowing ($\overline{r}$)	0.0073	Data
Economies of scale in couple(ρ)	1.4	Voena (2015)
Economies of scale for children ($e(k)$)	1.4	Voena (2015)
Disutility from labor market participation (ψ)	0.012	match BLS LFP rate
Standard deviation of preference shocks (σ_ξ)	0.05	match CDC divorce rate
Gains from experience (λ_0, λ_1)	$0.0025, -0.00003$	Attanasio et al (2008)
Depreciation rate (δ)	0.08	Voena (2015)
Standard deviation of PE's permanent shock (σ_{ζ^P})	0.05	match income path
Standard deviation of SE's permanent shock (σ_{ζ^S})	0.05	match income path
Wage covariance of PE and SE ($\sigma_{\zeta^P\zeta^S}$)	0.014	match income path
Primary earners' credit limit (L^P_{p33}, L^P_{p66})	$0, 2, 000$	Data
Secondary earners' credit limit ($\underline{L}^S; \overline{L}^S$)	$[895; 5, 336]$	Data

Notes: This table reports parameters used in the dynamic model presented in Section 7. Parameters have been converted to monthly where applicable.

Table A.16. Comparison between Model and Data

	Model (1)	Data (treated) (2)	External Benchmark (3)
Labor Income	6,529	6,142	
Consumption	6,383	5,905	
Net Assets	5,866	4,345	
Share of Revolvers	0.183	0.189	
Share Double Income	0.50	0.561	0.53
Probability of Divorce	0.40	—	0.44

Notes: This table compares average monthly household-level outcomes generated in the model vs. data. Column 2 reports statistics using the treated group only. Net assets in Column 1 refer to a_t when a_t is positive (net assets) and negative (borrowing), whereas they refer to checking account balances in Column 2. Share of revolvers indicate the share of households that borrow in Column 1 and the share of households with positive revolving debt in Column 2. The share of double income and the probability of divorce in Column 3 are from the BLS and CDC, respectively. The model estimates are presented assuming primary earner has median credit limit.

Table A.17. Welfare Gain

	Primary Earner (1)	Secondary Earner (2)	Household (3)
Consumption Equivalent	-1.85	4.16	1.53

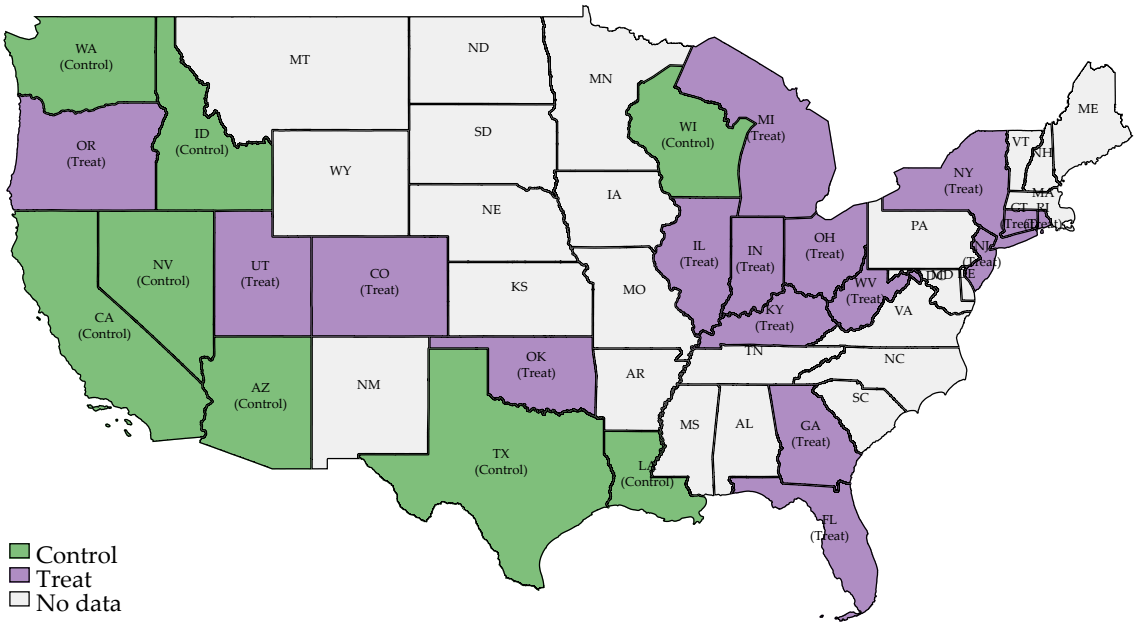
Notes: This table reports the welfare gains from the 2013 TILA reversal. Section F details how I compute the consumption equivalent variation.

Figure A.1. Community Property vs. Equitable Distribution States

(a) Income Collection Standards

Income consideration	**Before** TILA reversal	**After** TILA reversal
Treated Equitable distribution	Independent	Household
Control Community property	Household	Household

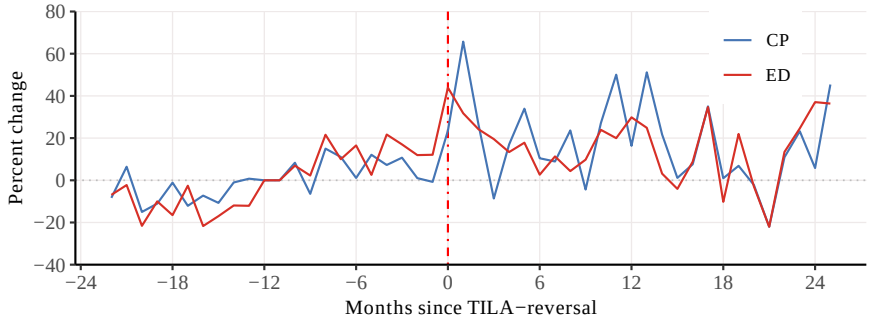
(b) Treated vs. Control States



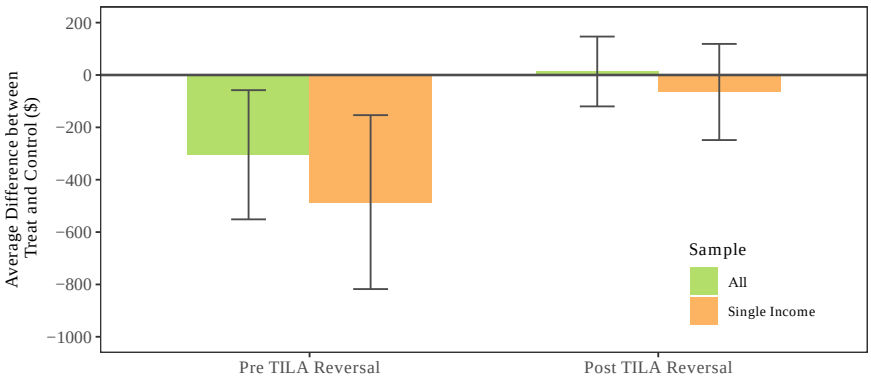
Notes: Figure a summarizes the income consideration standards across the two types of states. Figure b shows the map of the treated and control states in my data, color-coded by the doctrine that govern the disposition of marital property in divorce. Equitable distribution states (treated) are shown in purple and community property states (control) are shown in green. States in gray are not well represented in my data. Out of the nine community property states in the U.S. – Arizona, California, Idaho, Louisiana, Nevada, New Mexico, Texas, Washington, and Wisconsin – my sample captures all states but New Mexico.

Figure A.2. The Truth-in-Lending Act in Practice

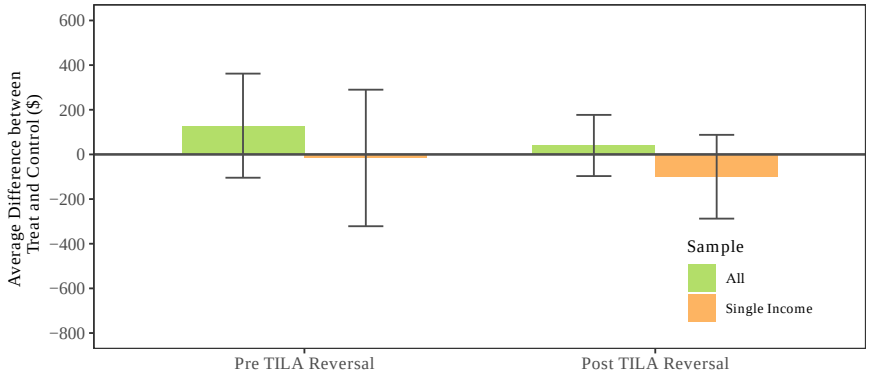
(a) Year-over-Year Percent Change in Credit Card Solicitations
by CP vs. ED States (2012-2015)



(b) Average Difference in Secondary Earners' Reported Monthly Income
on Credit Card Applications Between Treated and Control



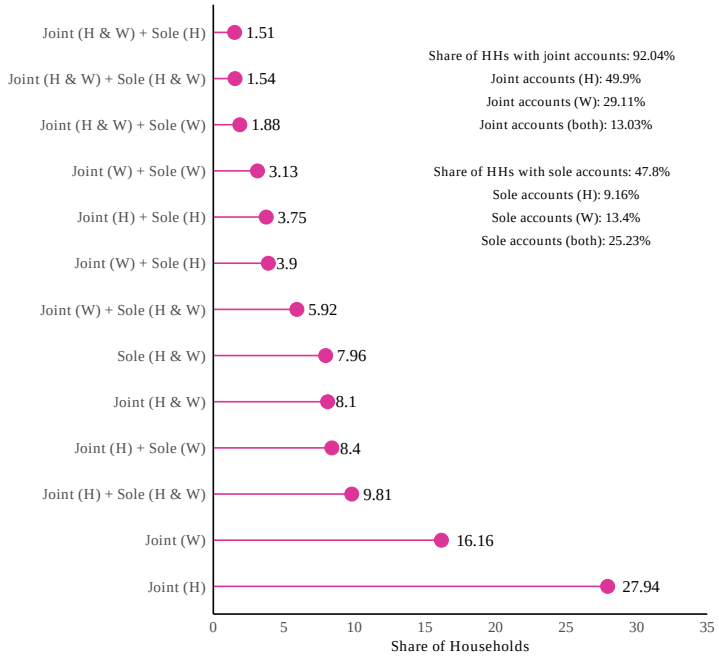
(c) Average Difference in Primary Earners' Reported Monthly Income
on Credit Card Applications Between Treated and Control



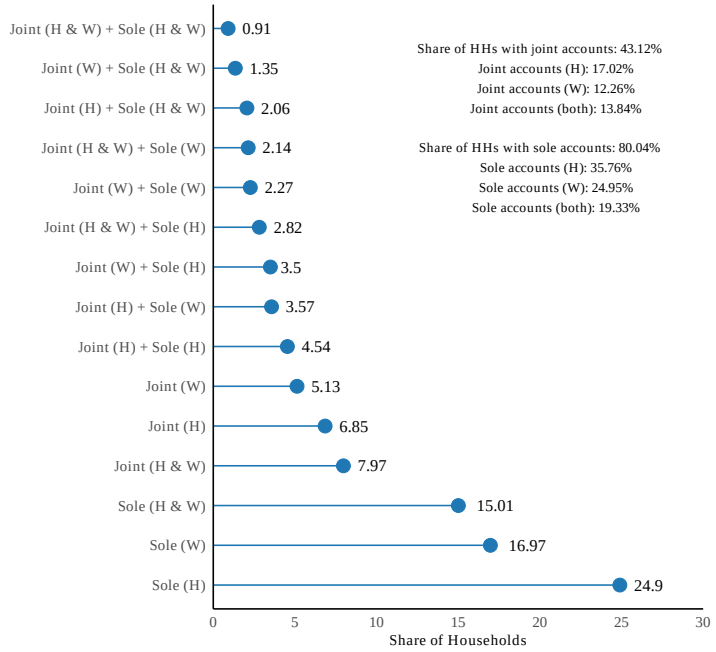
Notes: Figure a plots year-over-year percent change in all credit card solicitations in the U.S. to individuals in ED (treated) and CP (control) states. The credit card solicitation data is from the Mintel Comperemedia Database. Figure b plots the average difference in the monthly income reported on secondary earners' credit card applications between the treated and the control group. The difference is obtained by regressing reported monthly income on the treatment dummy. Figure c plots the same statistic as Figure b for primary earner. The whiskers denote 90 percent confidence intervals.

Figure A.3. Household Account Structure Types

(a) Checking Account



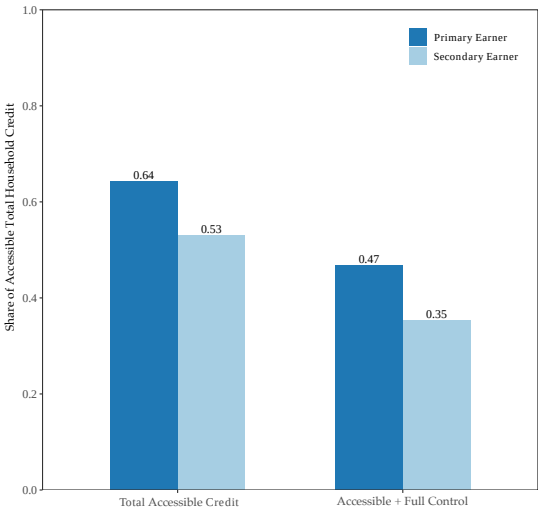
(b) Credit Card



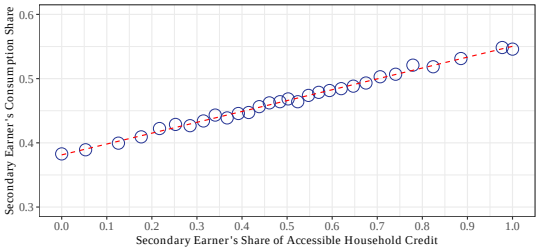
Notes: This figure reports the share of households that hold each type of checking (Fig A.3a) and credit card account structure (Fig A.3b) in my sample. The account structure types are mutually exclusive and the shares sum to 100. "Joint" and "Sole" denote the type of account, and "H", "W", or "H & W" in parenthesis denote whether the primary account holder of each account is the husband, the wife, or both because they have multiple accounts with each spouse as the primary account holder. For example, the bottom stat of Fig A.3a shows that roughly 28% of households in my sample only have a joint checking account where the husband is the primary account holder, and the bottom stat of Fig A.3b shows that roughly 25% of households in my sample only have a sole credit card account where the husband is the primary account holder.

Figure A.4. Broader Sample: Within-Household Credit and Consumption Gaps

(a) Share of accessible in the Household



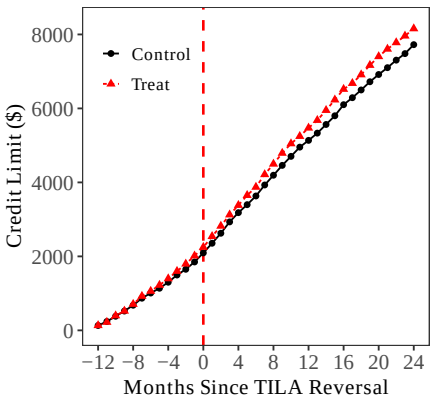
(b) Secondary Earners' Within-Household Consumption Share by Credit Share Bin



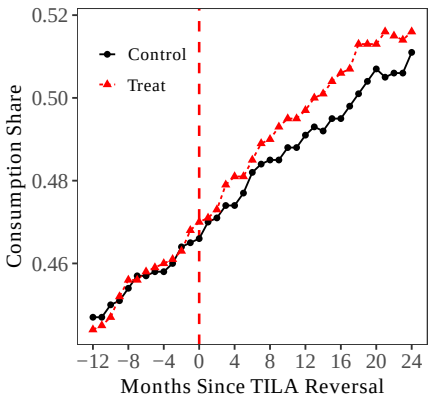
Notes: These figures replicate Figures 1a and 1c using a broader sample of 138,276 households that include households where secondary earners had credit card accounts at the beginning of my sample period.

Figure A.5. Secondary Earners' Credit and Consumption Share in Levels

(a) Credit Limit

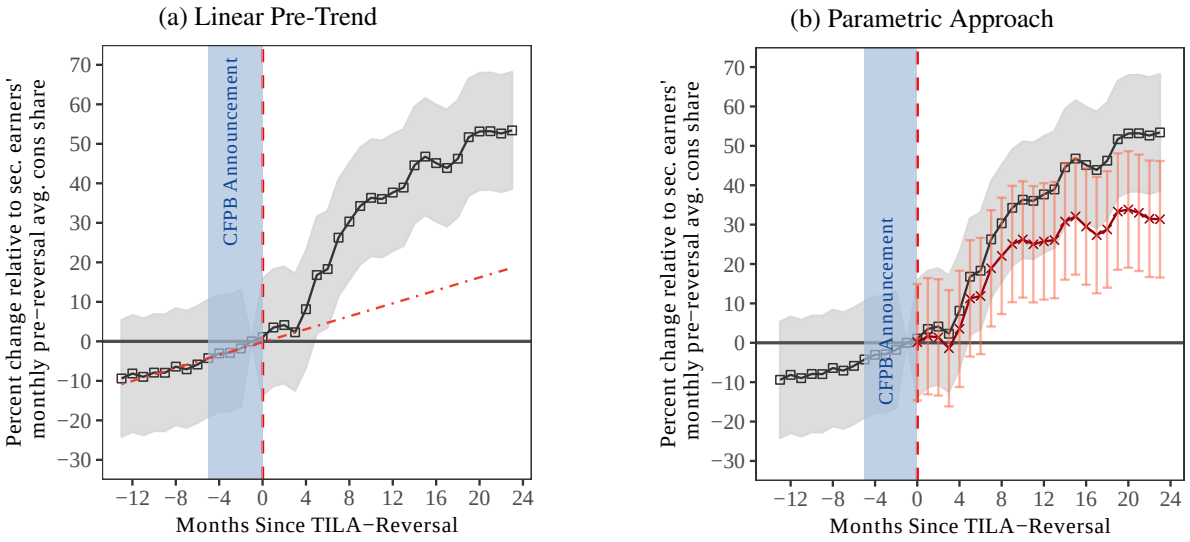


(b) Consumption Share



Notes: This figure plots raw means. Figure2 a and b plot secondary earners' credit limit and consumption means. This figure illustrate that the estimated effects are driven by changes in the treated group. Since both treated and control group secondary earners opened new sole credit cards during my sample period, sole credit limit and consumption share increases for both groups. The two groups had similar trends prior to the reversal, but the treated group's outcomes diverge after the reversal.

Figure A.6. Effect of the Reversal on Secondary Earners' Credit Limit: Parametric

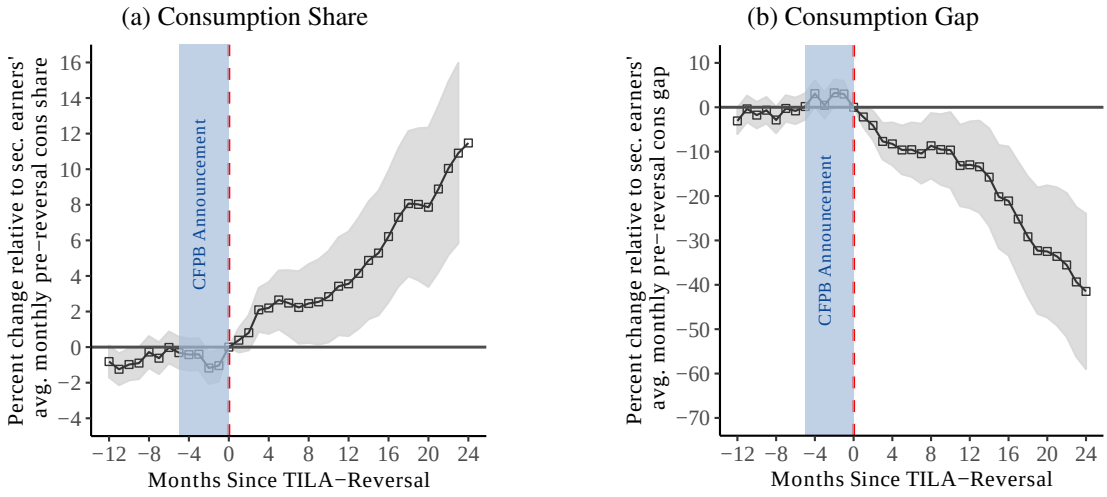


Notes: Figure a provides a visual assessment of the functional form assumption (linear) of pretend in event time. This pretend is driven by the CFPB allowing credit card issuers to start adopting the new income collection standard during the phase-in period (shaded in blue). Figure b superimposes the estimated parametric coefficients on the nonparametric coefficients shown in Figure 2. The parametric estimates are obtained by estimating:

$$Y_{h,t} = \alpha_h + \gamma_t + \sum_{j>-1} \phi_s(Treat_h \times 1_{j=t}) + \lambda \cdot t \cdot Treat_h + \epsilon_{h,t} \tag{42}$$

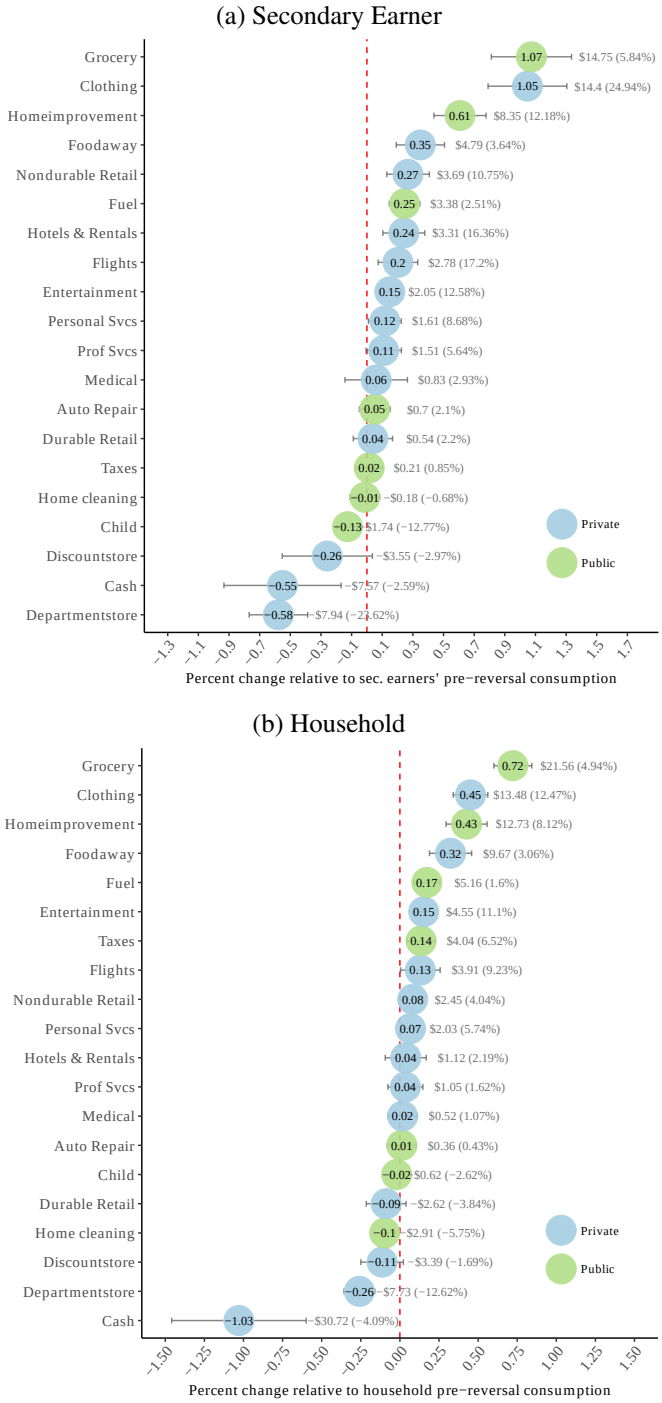
which only keeps month by treatment fixed effects for post periods while estimating a linear pretend in event time interacted with treatment off the variation in the pre period.

Figure A.7. Effect of the Reversal on Secondary Earners' Consumption Share and Consumption Gap: Gender-Intensity Measure



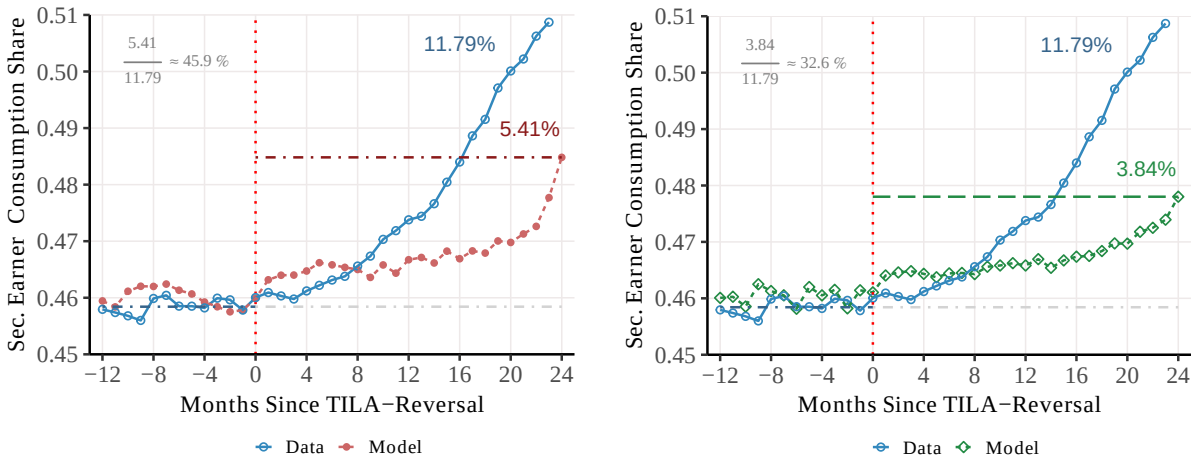
Notes: This figure replicates figure 2 using the gender-intensity consumption measure.

Figure A.8. Decomposition of Gender-Intensity Consumption Effect



Notes: This figure decomposes the change in gender-intensity consumption into detailed categories for secondary earner and household. Each bubble shows monthly effect, scaled by average monthly pre-reversal mean of secondary earner or household consumption. Thus, percent effects sum to total monthly consumption effect reported in Tables A.11. Changes in dollars are reported to the right of whiskers and the size of the dollar effect relative to its pre-reversal mean is shown in parenthesis. Figure 3 replicates this chart using spending-based measures.

Figure A.9. Quantitative Importance of the Limited-Commitment Channel

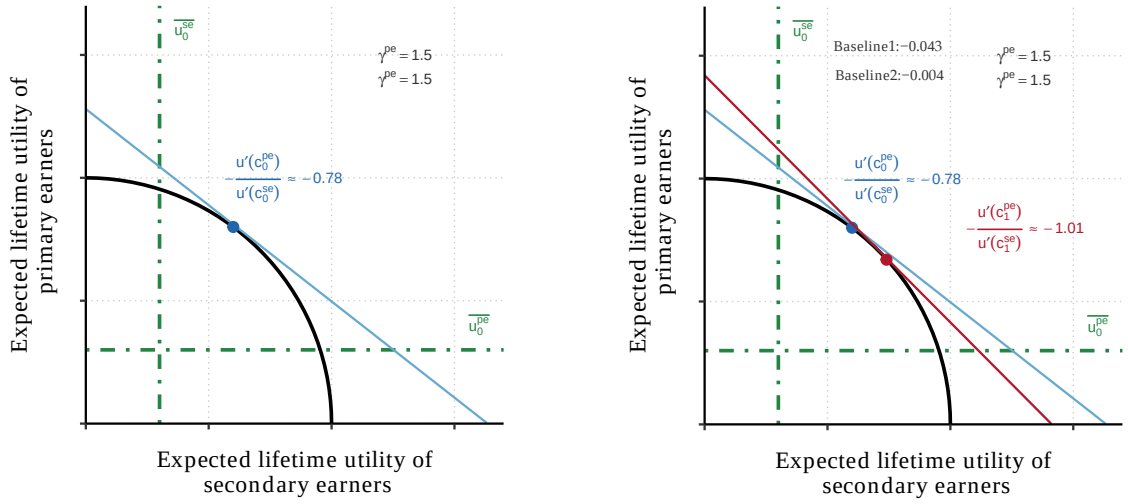


(a) Evaluated at the first tercile of L^P.

(b) Evaluated at the second tercile of L^P.

Notes: This figure compares secondary earners' consumption share path observed in the data (blue) and in the model (red or green). The blue line is obtained by applying the dynamic DD estimates shown in Figure 2 to the model-generated pre-reversal consumption share mean. The red and green lines show secondary earners' consumption share generated in the model described in Section 7. The size of the change in secondary earners' consumption share is annotated. The model generated paths in Figures A.9a and A.9b are obtained by assuming that $L^P = 0$ and $L^P = 2,000$, respectively, or the first and the second terciles of primary earners' credit limit in the data. The dot-dash lines around the x-intercept shows the pre- and post-reversal mean of each line. The annotation at the top left corner shows that the model explains roughly 33∼37% of the observed increase in secondary earners' consumption shares in the data.

Figure A.10. Changes in Secondary Earners' Bargaining Power: A Sufficient Statistics Approach



(a) Initial Allocation

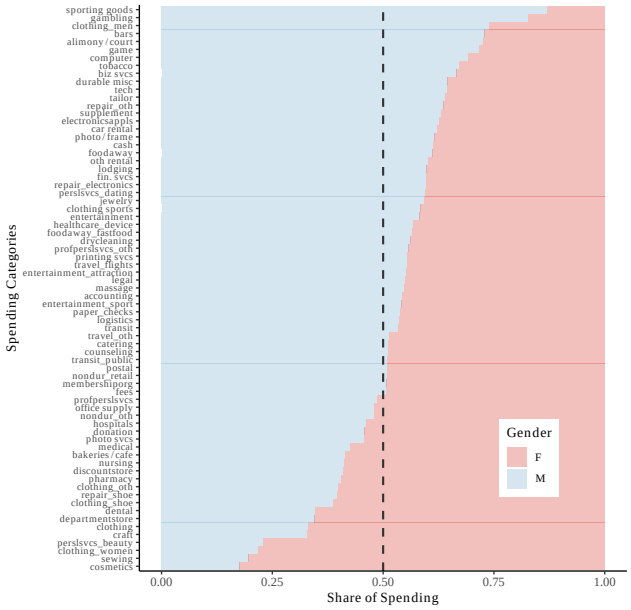
(b) Post-Reversal Allocation

Notes: This figure illustrates the change in spouses' marital bargaining power using a sufficient statistics approach. Equation 7 shows the model's key prediction that the ratio of spouses' marginal utilities of consumption has a one-to-one mapping to the ratio of spouses' bargaining power (i.e., the slope of the Pareto frontier). Using this equation and reduced form statistics on secondary and primary earners' average monthly consumption for the treated group, I quantify the change in secondary earners' relative bargaining power. A risk-aversion parameter of 1.5 is assumed for both spouses. Panel a shows the location of couples' consumption sharing plan before the reversal (blue dot) and Panel b shows how this consumption sharing plan changed after the reversal (red dot). In each figure, the y-axis plots the primary earner's expected utility and the x-axis plot the secondary earner's expected utility. Vertical (horizontal) dot-dash line shows secondary (primary) earners' outside options, or their expected lifetime utility in case of divorce. Curved black lines show the Pareto frontier and the tangency points on the curve indicate the location of efficient intra-household allocation of resources. Comparing the two panels show that secondary earners' relative bargaining power increased by 23 percentage points after the reversal, from 0.78 to 1.01. I benchmark this increase to two baseline numbers annotated in Panel b. "Baseline 1" shows the average monthly change in secondary earners' relative bargaining power in the pre-reversal period among the card holder sample where secondary earners eventually open a credit card account. "Baseline 2" shows the same statistics among the all sample. "Baseline 2" shows that the typical monthly variation in secondary earners' bargaining power is only 0.4 percentage points, but can be as large as 4.3 percentage points among card openers. This change can be as high as 23 percentage points after the reversal. This figure builds on Chiappori and Mazzocco (2017).

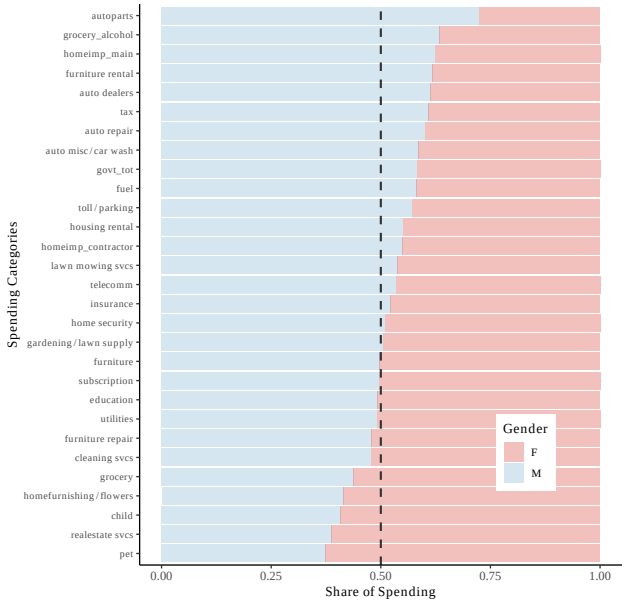
Supplementary Materials Not for Publication

Figure SA.1. Gender-Intensity in Spending by Spending Categories

(a) Private Consumption

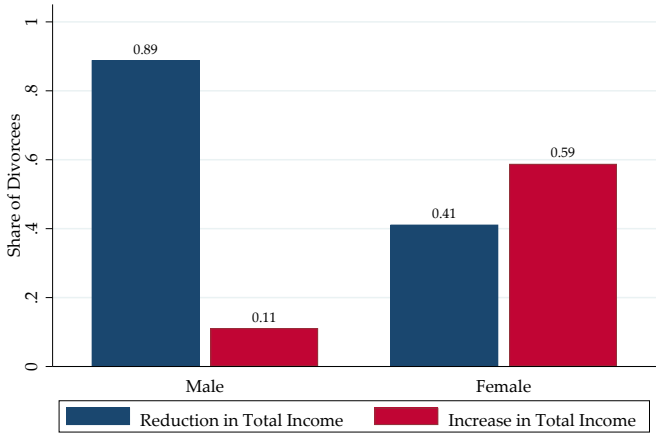


(b) Public Consumption



Notes: This figure shows the gender-intensity in aggregate dollar spending share for each spending category. The black dashed line shows the 50 percent mark. For example, the bottom category of Figure SA.1a shows that more than 82% of aggregate spending on cosmetics is incurred by female customers. The gender intensity of spending category is calculated using a sample of 2.4 million consumers who are active users of both Chase checking and credit card accounts during my sample period. The share of spending is re-weighted to take the gender distribution into account, such that the spending share statistic is not driven by over-sampling of men vs. women in the data. See A.5 for detailed spending shares.

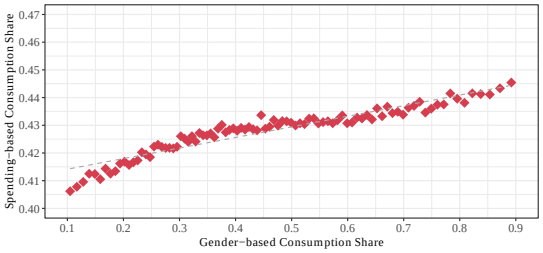
Figure SA.2. Changes in Financial Situations After Divorce by Gender



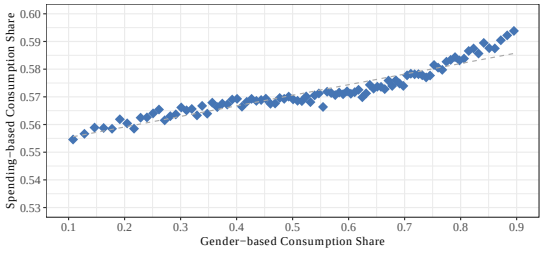
Notes: This figure shows the share of divorced individuals that experience a reduction (blue) or an increase (red) in total income relative to when they were married by gender using the 2012 Health and Retirement Survey (HRS). For example, 89% of male divorcees experienced a reduction in total income after divorce. Post-divorce total income includes labor income, social security benefits, veteran's benefits, pension, life insurance, and other lump-sum settlements. Post-divorce income excludes alimony because it is not reported in the HRS.

Figure SA.3. Spending-Based vs. Gender-Intensity Consumption Measure Validation

(a) Secondary Earner

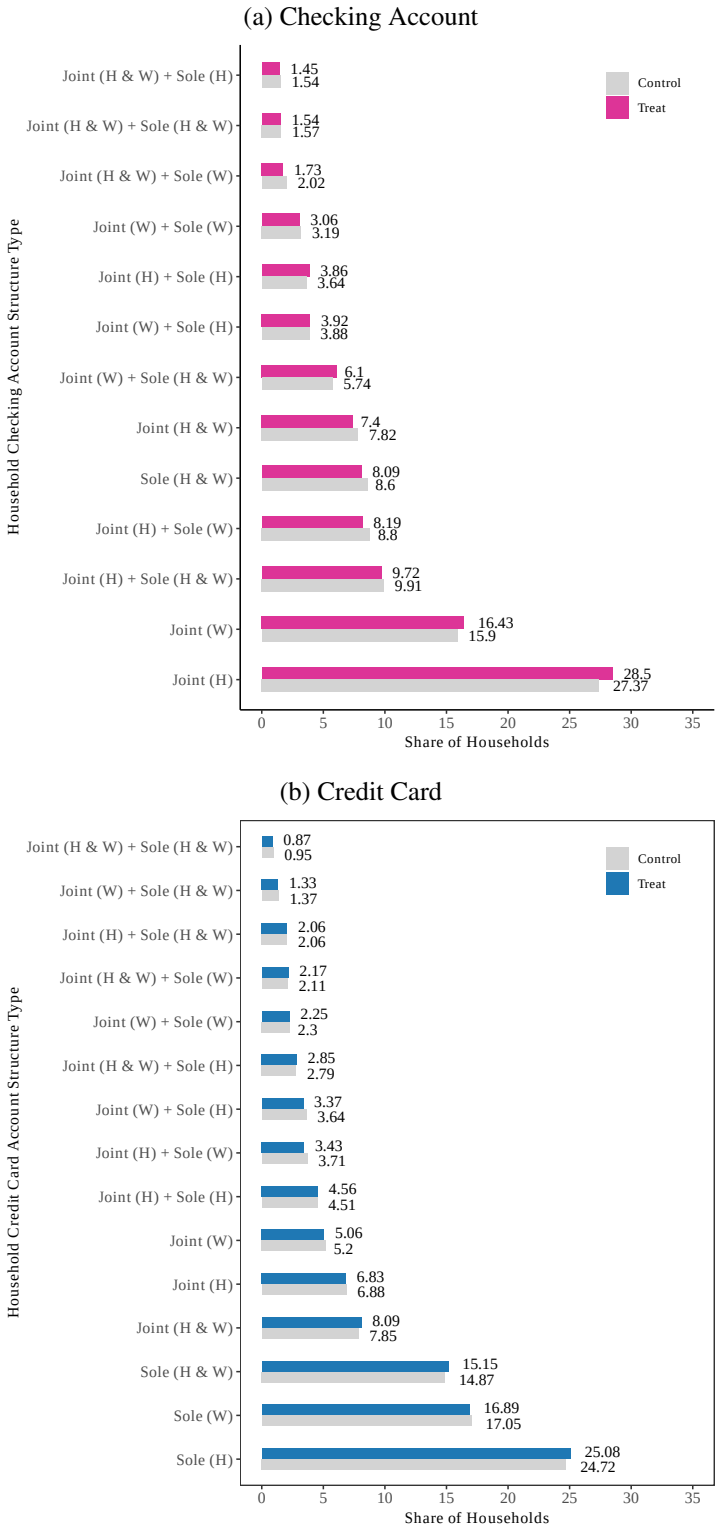


(b) Primary Earner



Notes: This figure shows a bin scatter plot of spending-based consumption measure and gender-intensity consumption measure to examine the validity of the assumption that "spenders are consumers." Figure SA.3a plots secondary earners' average monthly consumption share using the spending-based measure against the average monthly consumption share using the gender-intensity consumption measure. If the spending-based consumption measure is a poor proxy for consumption because spenders don't necessarily consume what they buy, the slope of this figure would be 0. The positive slope illustrates that "spenders are consumers" is a reasonable proxy for consumption. Figure SA.3b shows the same plot for primary earners.

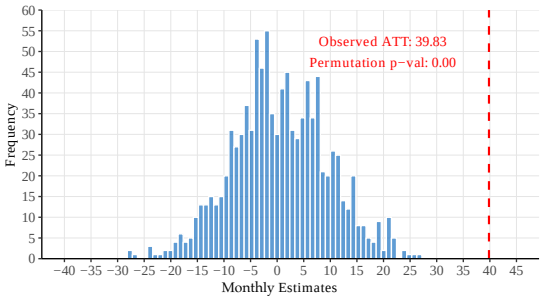
Figure SA.4. Household Account Structure Types by Treatment Status



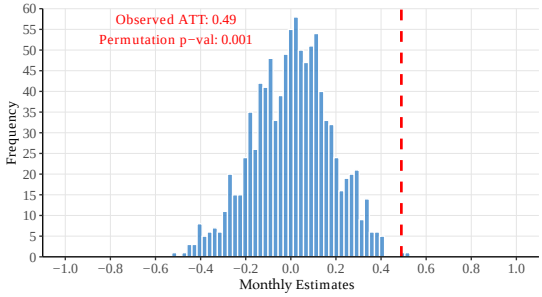
Notes: This figure shows the share of households that hold each type of checking and credit card account structure by treatment in my sample. See Figure A.3 for detailed description.

Figure SA.5. Distribution of the Estimated ATT: Permutation Test with $N = 1000$

(a) Secondary Earners' Credit Limit

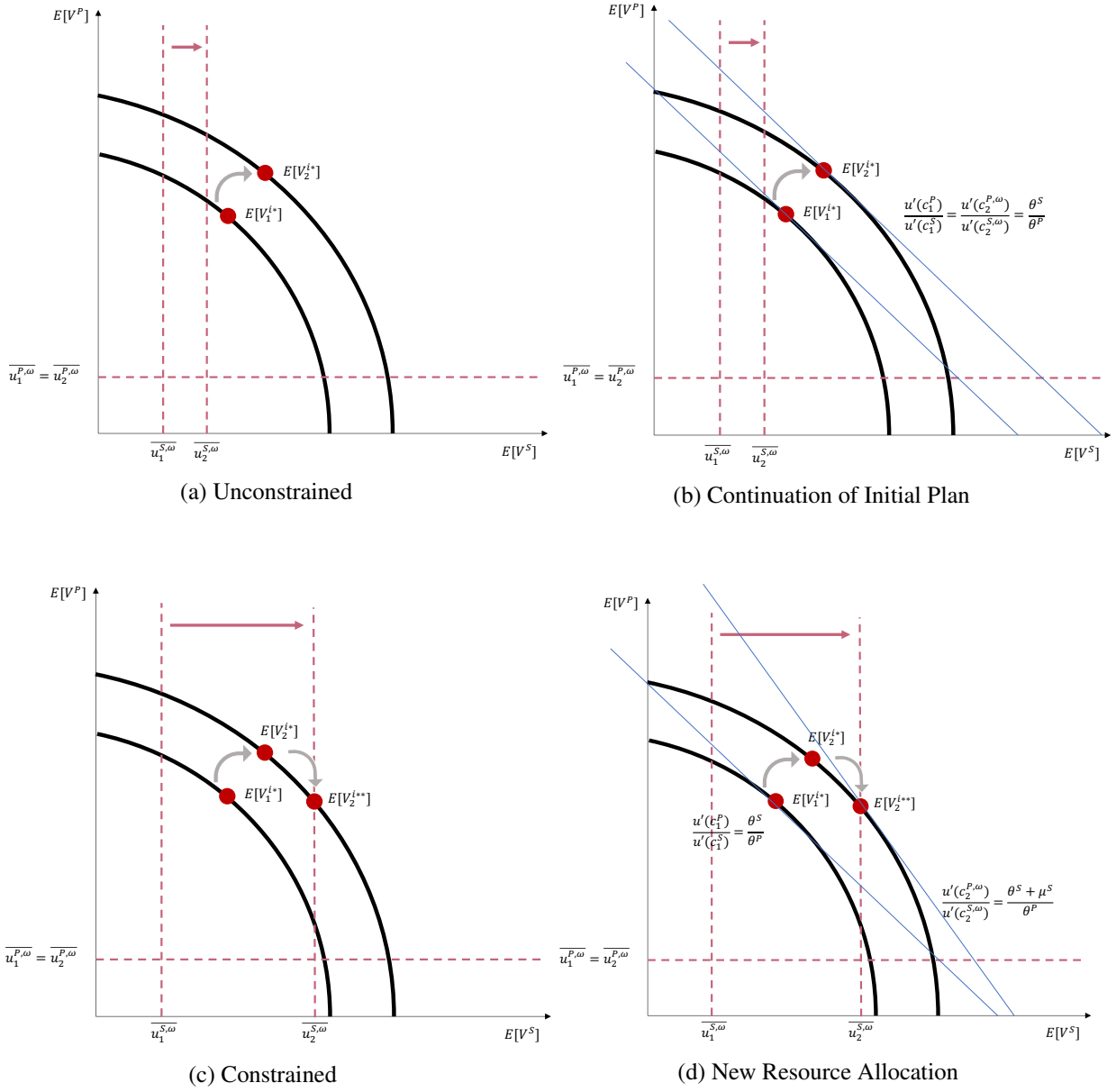


(b) Secondary Earners' Consumption Share



Notes: Figure a plots the distribution of monthly effect on secondary earners' credit limit by randomly assigning treatment to different households. Figure b plots the similar permutation test on secondary earners' credit shares. The red dashed lines mark the observed ATT in this study. The permutation p-value is obtained by determining the proportion of ATTs that are more extreme than observed ATTs.

Figure SA.6. Changes in the secondary earner's outside option and allocation of resources



(a) Unconstrained

(b) Continuation of Initial Plan

(c) Constrained

(d) New Resource Allocation

Notes: This figure illustrates potential household responses to changes in the secondary earner's outside option. The y-axis plot the primary earner's expected utility and the x-axis plot the secondary earner's expected utility. Curved black lines show the Pareto frontier and the red points at the tangency of the Pareto frontier indicate the location of efficient intrahousehold allocation of resources. Red dashed lines indicate spouses' respective outside options and blue lines trace the slope of the Pareto frontier. This figure considers cases when only the secondary earner's outside option changes. Top figures a and b illustrate the case when the secondary earner's participation constraint does not bind. Bottom figures c and d illustrate the case when the improvement in secondary earner's outside option makes the participation constraint bind. This figure builds on Chiappori and Mazzocco (2017).

Table SA.1. The Origin and the Civil Law Foundation of the U.S. Marital Property System

	Community Property (1)	Equitable Distribution (2)
	A. Background	
System	Spanish Civil Law	English Common Law
Foundation	Visigothic/Roman 653 AD	Anglo-Saxon/Norman 871 AD
	B. Characteristics	
Partnership	Spouses as equal partners	Spouses as one person in law
Legal status for women	Married woman as a separate judicial entity	Legal oneness of husband and wife
Marital property	Ownership-based	Initially title-based; now equitably distributed
Putative spouse doctrine	Recognized	Not recognized
Relationship between husband and wife	Civil contract between a man and a woman	Principle of covenant

Notes: Panel A reports the legal origin of the U.S. marital property system. Panel B reports key characteristics that differ between community property and equitable distribution system. Partnership refers to how the relationship between spouses is viewed under each system. Legal status for women refers to whether each system recognizes a married woman as a separate judicial entity, apart from her husband. Community property did not recognize the common law principle that the legal existence of the wife was merged into that of her husband (i.e., coverture, or the concept that dictated a woman's subordinate legal status during marriage because a woman's legal existence as an individual was suspended under "marital unity"). Marital property refers to how properties are treated under each legal system. Putative spouse doctrine refers to recognition of "putative" spouse, or a person who believes in good faith that he or she has a valid marriage, even though they do not. This concept is also known as "deemed marriages" and recognized under the Social Security program in the U.S. Relationship between husband and wife refers to whether respective law systems relied on the principle of covenant (i.e., more permanent marriage) to characterize the marital relationship. This note draws heavily from Newcombe (2011).

Table SA.2. Secondary Earners' Credit Limit Changes by High vs. Low Divorce States

Secondary Earners' Sole Credit Card Account	High Divorce States (1)	Low Divorce States (2)	Mean Difference (2)
Credit Limit ($)	10,291	11,263	-972
Limit Change ($)	8.18	14.59	-6.41
Limit Increase (%)	1.36	1.50	-0.14
Limit Reduction (%)	0.81	0.89	-0.08

Notes: This table reports the average monthly credit limits, limit change, and limit increase and reduction rates for existing card holding secondary earners. States with high versus low divorce rates are those with above the top tercile (4.31) or below the bottom tercile (3.12) of the annual state-level divorce rates per capital between 1990 and 2012. Divorce rates are obtained from the CDC/NCHS, National Vital Statistics System. The bottom (top) tercile represents 45.5 (55.4) percent of divorce per marriage rates in each state.