Online Appendix for "Access to Debt and the Provision of Trade Credit"

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OA.1 Effects of the Laws in Broader Samples

In Table OA.1, we examine the effect of anti-recharacterization laws on trade credit extension in broader samples. Columns (1) and (2) present results for the Compustat universe excluding financial and utility industries. Columns (3) and (4) report results for the Segment sample, which includes all firms reporting at least one major customer. For each sample, we first examine the effect from regressions including firm and year fixed effects, and then impose industry-by-year interactive fixed effects. Across both samples, *Law* generates a negative coefficient, significant in three out of the four specifications, suggesting that firms extend less trade credit following the passage of anti-recharacterization laws. The economic magnitude is meaningful: the coefficient in Column (2) suggests that after the passage of the laws, treated firms decrease trade credit by 2.7% relative to the sample average ($= -0.005/0.186$). Note that the estimates from the SEC sample (Table 2, Panel A, Column (4)) imply higher economic magnitudes than those from the Compustat sample. One explanation is that the SEC sample allows us to track granular, within-trade-pair variation in trade credit. Our stringent fixed effect structure allows us to better remove noise generated by other determinants of trade credit policies and identify changes in trade credit attributable to the enactment of the anti-recharacterization laws. The second explanation is that trade credit reductions are concentrated in relationships with more powerful customers, and thus effects are more significant among the major customers which can be identified in the SEC sample (Table 2, Panel A). Similarly, the firm-level result in Column (5) of Table 7, using firm-years for suppliers appearing in the SEC sample, is greater in magnitude than estimates below, because it samples across firms with greater customer sales dependence.

OA.2 Sales Effects

Table OA.2 reports results related to sales by firms affected by recharacterization laws. Our results suggest that firms affected by anti-recharacterization laws increase sales significantly, by around 4–5% relative to control firms.

OA.3 Robustness: 2003 SEC Regulation

In Table OA.3, we address the possibility that a 2003 SEC regulation requiring more transparent disclosure of firms' purchase obligations might affect firms' investment policies noh2020effect. Table OA.3 repeats the results from Panel B of Table 9, regressing the customers' investment on its *Upstream Law Exposure*, but removing years after 2003. Our results remain robust.

OA.4 Robustness: Firms' Reporting Threshold

We perform two analyses to test whether our results may be influenced by the reporting threshold of 10% major customers. First, we restrict the sample to a set of "stable" supply-chain relationships that are observed both before and after the passage of the laws.

For each treated supplier, we look at a matched control supplier that shares the same customer during the event horizon. Importantly, we require that both suppliers report trade credit data to the common customer for at least N years ($N = 1, 2, 3$) *both* before and after the passage of the laws. This matched sample method ensures that we can trace the change in trade credit provision to a "surviving" customer around the laws. Panel A of Table OA.4 shows that our results remain unchanged in the restricted sample.

Second, we artificially increase the customer sales threshold to 11% and 12%. This exercise helps us gauge the extent to which the 10% threshold could have influenced our results. If it is a major driver of our results, we expect effects to strengthen as we increase the threshold. Panel B of Table OA.4 reports results from this analyses. We note that, not only are our results robust to these alternative sampling restrictions, the estimates remain very close to those in Panel B of Table 2. This suggests that the reporting threshold is unlikely to unduly drive our results.

OA.5 Securitization Robustness

Table OA.5 provides two sets of results addressing the concern that baseline results could be driven by securitization of receivables in off-balance sheet SPVs after the passage of ARLs. In Panel A, we exclude the two anti-recharacterization law events in Texas and Louisiana, which focused on the securitization of accounts receivable. We find consistent results (and coefficient magnitudes) when excluding firms in these two states, suggesting suggesting results are not mechanically driven by off-balance sheet receivables securitizations. the securitization of trade credit, effects should weaken once we exclude these two events.

In Panel B, we examine the effect of ARLs for forms based on their likelihood of actually using SPVs. We parse disclosure of subsidiaries from firm 10-K filings, following Feng

et al. (2009) to define an indicator for whether the firm has used an SPV in the past. We then regress *Trade Credit/Sales* on separate indicators of treated firms based on its SPV usage, i.e., *Supplier Law, Has SPV*, and *Supplier Law, No SPV*. Panel B of Table OA.5 presents results from this analysis, and reports similar effects for both groups of firms.

OA.6 Alternative Experiment: Firm Real Estate Value Shocks

In Table OA.6 we exploit an alternative shock to debt capacity following [**?**], who document that positive shocks to the value of firms' real estate assets expand firms' debt capacity and increase investment. Using this experiment, we expect a reduction in trade credit following an increase to firms' real estate asset values.

We measure firms' real estate values based on the initial values of firm real estate holdings, multiplied by real estate growth (starting in 1975) or the consumer price index (for years before 1975) at the MSA level. Initial real estate values are measured by the market values of firms' real estate holdings. As the computation of initial real estate values requires accumulated depreciation (which was no longer reported in Compustat after 1993), these tests include only firms with financial data available on Compustat in 1993.

We compute this measure for both the supplier and customer firms in our sample, and regress trade credit extended between the supplier-customer pair on the real estate values of each party. In addition, we control for the real estate pricing index in both the headquarter locations of the supplier and the customer. This helps address the concern that changes in local economic conditions could drive our findings.

Table OA.6 reports the results from this test. In Column (1), we do not impose any controls aside from year and customer-supplier pair fixed effects. In Column (2), we add firm characteristics controls for both the customer and supplier. In Column (3), following Chaney et al. (2012) we replace contemporary controls with the 1993 firm characteristics (for both firms), interacted with the real estate pricing index for each respective firm's MSA. In Columns (4) and (5), we further impose customer-year fixed effects, with interacted control variables in Column (5). In these specifications with customer-year fixed effects, we use observations from all customers of a firm as we do not require the real estate information from those customers. Across all specifications, suppliers' real estate value generates a negative, significant coefficient, suggesting that greater debt capacity leads to a reduction in trade credit provision. The estimates from Column (3) indicate that a one-standard-deviation increase in the supplier's real estate appreciation reduces trade credit by 8.77% relative to the sample mean. Overall, OA.6 corroborates the main analysis by showing consistent results in a different empirical setting.

Table OA.1
Effects of ARLs on Accounts Receivable in Alternative Samples
This table reports results for broader samples. Columns 1 and 2 report results for the Compustat sample. Column 3 and 4 report results for suppliers in the Segment sample, i.e., firm-years wherein the firm reports at least one major customer. The dependent variable is *Receivables*, the accounts receivable of a firm divided by total sales. Controls include *Size, Age, Q, Leverage, Cash Flow Vol., Profitability*, and *R&D intensity*. Variable definitions are available in Appendix A. Industry fixed effects are captured by 2-digit SIC codes. t-statistics are shown in parentheses, calculated from standard errors clustered by the supplier's state of incorporation. *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively.

Sample:	Compustat		Segment	
Dep.Var.: *Firm Receivables/Firm Sales*	(1)	(2)	(3)	(4)
Law	-0.005**	-0.005**	-0.003	-0.004*
	(-1.93)	(-2.09)	(-1.32)	(-1.69)
Controls	Yes	Yes	Yes	Yes
Firm FEs	Yes		Yes	
Year FEs	Yes	Yes	Yes	Yes
Industry×Year FEs		Yes		Yes
R^2	0.453	0.454	0.529	0.528
Observations	90,620	90,597	20,775	20,583

Table OA.2
ARLs and Firm Sales

This table shows the effect of the anti-recharacterization laws on firms' total sales. *Law* is an indicator for the firm being incorporated in a state that has passed an anti-recharacterization law. The dependent variable is the natural logarithm of total revenues, measured at the firm level. The sample includes supplier-years represented in the Compustat Segment database ("Segment Sample"). Controls include *Age, Size, Q, Leverage, Cash Flow Vol., Profitability,* and *R&D Intensity.* Variable definitions are available in Appendix A. Industry is defined by 2-digit SIC codes. t-statistics are shown in parentheses, calculated from standard errors clustered by the supplier firm's state of incorporation. *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively.

Dep. Var.: *Log(Sales)*	(1)	(2)	(3)
Law	0.188***	0.054***	0.045***
	(5.76)	(3.89)	(3.17)
Controls		Yes	Yes
Supplier FE	Yes	Yes	Yes
Year FE	Yes	Yes	
Industry × Year FE			Yes
R^2	0.929	0.970	0.971
Observations	20,837	20,837	20,648

Table OA.3
The 2003 SEC Disclosure Rule and Downstream Investment

This table shows the effect of the adoption of the anti-recharacterization laws on downstream firms' investment, replicating. Panel A of Table 9, but excluding years after 2003. The sample is a customer-year panel, including observations in which a firm is reported as a major customer by at least one supplier from the Compustat Segment database. *Upstream Law Exposure* is defined as the percentage of a firm's cost of goods sold that can be traced to suppliers in ARL states. *Traceable Suppliers* is the percentage of a firm's cost of goods sold that can be traced to any supplier in the Segment database. Other controls are included but suppressed for presentation. Control variables include *Size, Age, Q, Profitability, Cash Flow Vol., R&D Intensity,* and *Leverage*. Variable definitions are available in Appendix A. All continuous variables are winsorized at the 1st and 99th percentiles. *t*-statistics are shown in parentheses, calculated from standard errors clustered at the customer firm level. *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively.

Customer Investment, through 2003

Dep. Var.: *Customer Investment*	(1)	(2)	(3)	(4)	(5)
Sample: Traceable Purchase/COGS	All	≥5%	≥10%	≥15%	≥20%
Upstream Law Exposure	-0.122***	-0.123***	-0.144**	-0.175**	-0.178**
	(-3.32)	(-2.62)	(-2.51)	(-2.46)	(-2.01)
Traceable Suppliers	0.034**	0.027	0.011	0.036	-0.001
	(2.15)	(1.47)	(0.40)	(1.64)	(-0.06)
Controls	Yes	Yes	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes	Yes	Yes
Firm FEs	Yes	Yes	Yes	Yes	Yes
R^2	0.602	0.624	0.644	0.641	0.649
Observations	6,637	1,718	1,025	641	469

Table OA.4
Robustness: Survivorship Bias and Reporting Threshold
This table shows the robustness of our results for several sample restrictions. In Panel A, we require the customer-supplier relationships in our sample to appear both before and after the law passage for at least 1 year (Columns (1) and (2)), 2 years (Columns (3) and (4)), and 3 years (columns (5) and (6)), respectively. In Panel B, we report robustness of our results to the SEC reporting threshold for what qualifies as a major customer, artificialy raising the reporting threshold to 11% (12%) of sales in Columns (1) and (2) (Columns (3) and (4)). The dependent variable is *Trade Credit/Sales*, defined as the trade credit extended between a supplier to a customer, scaled by the total transaction value between the two firms in the same year. *Law* is an indicator for the firm being incorporated in a state that has passed the anti-recharacterization law. All columns use the SEC sample. Controls include *Sales Dependence* and *Relationship Length*, and *Age, Size, Q, Leverage, Cash Flow Vol., Profitability,* and *R&D Intensity* for the supplier. Customer controls are subsumed by customer-year fixed effects. Variable definitions are available in Appendix A. Industry fixed effects are captured by 2-digit SIC codes. t-statistics are shown in parentheses, calculated from standard errors clustered by the supplier's state of incorporation. *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively.

Panel A: Minimum Pre- and Post-Observations

Sample:	≥1 pre- and post-		≥2 pre- and post-		≥3 pre- and post	
Dep. Var.: *Trade Credit/Sales*	(1)	(2)	(3)	(4)	(5)	(6)
Supplier Law	-0.042**	-0.046**	-0.054**	-0.060**	-0.098***	-0.108***
	(-2.35)	(-2.56)	(-2.25)	(-2.51)	(-3.51)	(-4.00)
Supplier Characteristics	Yes	Yes	Yes	Yes	Yes	Yes
Pair Characteristics	Yes	Yes	Yes	Yes	Yes	Yes
Supplier FEs	Yes		Yes		Yes	
Customer×Year FEs	Yes	Yes	Yes	Yes	Yes	Yes
Pair FE		Yes		Yes		Yes
R^2	0.551	0.542	0.350	0.365	0.380	0.412
Observations	1,087	1,087	633	633	384	384

Panel B: Raising the Reporting Threshold

Dep. Var.: *Trade Credit*	Above 11%		Above 12%	
	(1)	(2)	(3)	(4)
Supplier Law	-0.026**	-0.040***	-0.020*	-0.039***
	(-2.52)	(-4.19)	(-1.85)	(-4.22)
Supplier Characteristics	Yes	Yes	Yes	Yes
Pair Characteristics	Yes	Yes	Yes	Yes
Supplier FEs	Yes		Yes	
Customer×Year FEs	Yes	Yes	Yes	Yes
Pair FE		Yes		Yes
R^2	0.553	0.557	0.560	0.562
Observations	2,532	2,367	2,323	2,159

Table OA.5
Robustness: Addressing Effects of Securitization
This table examines whether the baseline results could be driven by increases in the securitization of receivables following anti-recharacterization laws. The dependent variable is *Trade Credit/Sales*, the amount of trade credit provided by a supplier to a customer scaled by transaction value in a year. *Supplier Law* is an indicator for the firm being incorporated in a state that has passed an anti-recharacterization law. Panel A reports results when we exclude firms incorporated in Texas or Louisiana. In Panel B, we separately test the effects for firms with and without known SPV usage. SPV usage is defined as one if a firm has disclosed having subsidiaries before, following the approach used in Feng et al. (2009). Control variables in Panel A match those in Panel B of Table 2. Controls in Panel B match those in Panel A of Table 2. Variable definitions are available in Appendix A. Industry fixed effects are captured by 2-digit SIC codes. t-statistics are shown in parentheses, calculated from standard errors clustered by the supplier's state of incorporation. *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively.

Panel A: Excluding Observations from TX and LA Laws

Dep. Var.: *Trade Credit/Sales*	(1)	(2)
Supplier Law	-0.026*	-0.038**
	(-1.80)	(-2.21)
Supplier Characteristics	Yes	Yes
Pair Characteristics	Yes	Yes
Supplier FEs	Yes	
Customer×Year FEs	Yes	Yes
Pair FE		Yes
R^2	0.500	0.497
Observations	3,138	2,907

Panel B: Effects for Firms With and Without SPV Usage

Dep. Var.: *Trade Credit/Sales*	(1)	(2)	(3)	(4)
Supplier Law, Has SPV	-0.029**	-0.024**	-0.044***	-0.026*
	(-2.21)	(-2.10)	(-3.51)	(-2.00)
Supplier Law, No SPV	-0.024*	-0.020	-0.035***	-0.023*
	(-1.99)	(-1.65)	(-2.56)	(-1.88)
Supplier Characteristics		Yes	Yes	Yes
Customer Characteristics		Yes	Yes	Yes
Pair Characteristics		Yes	Yes	Yes
Year FEs	Yes	Yes		Yes
Supplier FEs	Yes	Yes	Yes	
Customer FEs	Yes	Yes	Yes	
Supplier Industry×Year FEs			Yes	
Customer Industry×Year FEs			Yes	
Pair FE				Yes
R^2	0.420	0.456	0.435	0.507
Observations	4,001	3,992	3,686	3,768

Table OA.6
An Alternative Experiment: Shocks to Real Estate Values

This table presents additional evidence of how enhanced access to credit affects firms' extension of trade credit, using changes to the firm's collateral values induced by changes in local real estate values. *Supplier RE Value* measures the market value of real estate assets for the supplier, based on local real estate inflation and historical cost information computed from accumulated depreciation, following Chaney et al. (2012). The sample period is 1993-2007. When included, controls are either contemporary characteristics as in Panel A of Table 2 (Columns (2) and (4)) or are based on 1993 characteristics inflated by local real estate inflation, following Chaney et al. (2012) (Columns (3) and (5)). Supplier HPI and Customer HPI indicate controls for local real estate inflation at the MSA of corporate headquarters for the supplier and customer, respectively, with HPI normalized to 1 in 1993. Variable definitions are available in Appendix A. *t*-statistics are shown in parentheses, calculated from standard errors clustered by the supplier's state of headquarters. *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively.

Dep. Var.: *Trade Credit/Sales*	(1)	(2)	(3)	(4)	(5)
Supplier RE Value	-0.007**	-0.008***	-0.014***	-0.011**	-0.021***
	(-2.07)	(-2.89)	(-2.95)	(-2.08)	(-3.89)
Controls	None	Yes	Interacted	Yes	Interacted
Supplier HPI	Yes	Yes	Yes	Yes	Yes
Customer HPI	Yes	Yes	Yes		
Customer RE Value	Yes	Yes	Yes		
Year FE	Yes	Yes	Yes		
Pair FE	Yes	Yes	Yes	Yes	Yes
Customer×Year FE				Yes	Yes
R^2	0.496	0.576	0.569	0.530	0.505
Observations	627	617	533	631	554