

Appendix A: Variables and Definitions

1993 SSBF (b)	1998 SSBF (c)	Common Variable Name	Common Variable Description /Definition
Dependent Variable			
n/a	n/a	TC_High_use	Identifies those firms whose use of Trade credit (as measured by TC_PCT) equals or exceeds the median value for firms owned by non-Hispanic white men
Use of Trade Credit			
L1 L1		TC_YES (d)	Asks if a firm used trade credit during the study year (dummy)
L13 L13		denyTC (d)	Asks if a firm has ever been denied trade credit
L3 L2		TC_PCT (d)	Measures the percentage of all of a firm's purchases made with trade credit
L2 L3		Suppliers (d)	Number of suppliers of trade credit
Owner's race/ethnicity and gender			
RACE C_	RACE	aa_own	Identifies firms owned by African-American (dummy)
HIS_3 C_	HIS	lat_own	Identifies firms owned by Hispanic whites (dummy)
RACE C_	RACE	asia-own	Identifies firms owned by Asian-Americans (dummy)
MIN_3 C_MINOR		non_min_own (d)	Identifies firms owned by non-Hispanic whites (dummy)
GEN_3 C_SEX		Male (d)	Identifies firms owned by males (dummy)
Owner information – human capital and creditworthiness			
EXPER C_EXP		exp	Owner's management experience (years)
U3 U2		SLOPAY_3	Identifies Owners with three or more personal accounts that were 60 days or more past due within the past 3 years (dummy)
Firm Information – industry and type of organization			
SIC_2 SIC2R		SIC_C	Identifies firms in Construction (dummy)
SIC_2 SIC2R		SIC_Mfg	Identifies firms in Manufacturing (dummy)
SIC_2 SIC2R		SIC_R	Identifies firms in Retail (dummy)
SIC_2 SIC2R		SIC_T	Identifies firms in Transportation (dummy)
SIC_2 SIC2R		SIC_W	Identifies firms in Wholesale (dummy)
B9 B3		ORG	Identifies firms organized as corporations or other limited liability entities
Firm creditworthiness			
FIRIMAGE C_F	AGE	F_age	Years since a firm was started/purchased/acquired by current owners
n/a n/a		Ln_F_age_2	Ln(F_age squared)
P1 P2		SALES	Firm's Total Sales (FY'93 or FY'98)
ASSETS R12		tot_ast	Total Assets at the end of FY '93 or FY '98
n/a	n/a	tot_ast_1	tot_ast (excluding all firms with negative values which is not indicative of a going concern)

n/a n/a		Ln_tot_ast_1	Ln(tot_ast_1)
R5 R3		INVENT	Inventory at the end of FY '93 or FY '98
S5 S2		a_pay	Accounts Payable at the end of FY '93 or FY '98
B13_1 A10	_1 + A10_2	TOT_EMP	Total number of FTE worker including the owner if active in the firm
Sample Weights			
FIN_WGT FIN_	WGT	Our_fin_wgt	Final sample weight for a given observation
Notes <ul style="list-style-type: none"> a) This is table contains only those SSBF dataset variables that will be employed to conduct this study and new variables that were derived from one or more of the SSBF variables listed above. b) The variable names and descriptions were taken from the "Codebook" for 1993 SSBF dataset (U.S. Federal Reserve System 1999). c) The variable names and descriptions were taken from the "Codebook" for 1993 SSBF dataset (U.S. Federal Reserve System 2002). d) This variable was not used as independent variable; however, it was use either to construct another variable or identify those observations contains in the study sample. 			

Appendix B: Descriptive Statistics – Firm Characteristics

Characteristics of Firms included in the 1998 SSBF Study Sample ^{a c}

		Race/Ethnicity of the firm Owner		
		Non-Hispanic, White Men ^b	African-American Men ^b	Hispanic, White Men ^b
N (# of observations)		1,162	85	82
Variable				
Sales (for FY 1998)	Mean	\$1,793,782	\$ 399,735**	\$ 445,845**
	Median	\$ 258,951	\$ 105,748	\$ 196,452
Tot_Ast (Total Assets at FYE 1998)	Mean	\$ 696,646	\$ 29,203**	\$ 137,048**
	Median	\$ 95,095	\$ 50,727	\$ 44,529
INVENT (Inventory at FYE 1998)	Mean	\$ 171,055	\$ 41,804*	\$ 28,529**
	Median	\$ 6,000	\$ 3,008	\$ 3,000
A_Pay (Accounts Payable at FYE 1998)	Mean	\$ 121,343	\$ 23,587**	\$ 43,233*
	Median	\$ 4,245	\$ 0	\$ 0
F_AGE (firm age in years)	Mean	14.9	13.2	10.6**
	Median	12.0	10.8	8.0
TOT_EMP (total # of workers)	Mean	11.8	5.5*	6.5*
	Median	4.0	3.0	3.0

Notes:

- a) The sample used for this study includes observations for 1,414 firms and is weighted using the SSBF sample weights. In total the entire 1998 SSBF Dataset includes observations from approximately 3,550 firms. For the purposes of this study, firms engaged in the following industries were excluded: Mining, Service, Finance, Insurance or Real Estate. These firms were excluded because the financial characteristics of those firms differ sharply from those in the following industries: Manufacturing, Retail, Wholesale, Transportation and Construction. The study sample also excluded all of the female-owned firms contained in the 1998 SSBF Dataset.
- b) Commencing with the 1990 Census, the U.S. Census Bureau considers 'Hispanic' to be an ethnic classification not a racial classification. As a result of this change in classifications, there are White Hispanics, African-American Hispanic, Asian-American Hispanic, etc.
- c) While the 1998 SSBF Dataset includes observations for female-owned firms, those firms were excluded from the samples used for this research.

* differences from Non-Hispanic, White men significant at the .05 level

** differences from Non-Hispanic, White men significant at the .01 level

Characteristics of Firms included in the 1998 SSBF Study Sample^{d f} (cont'd)

		Race/Ethnicity of the firm Owner		
		Non-Hispanic, White Men	Asian-American Men	Other races Men ^e
N (# of observations)		1,162	63	22
Variable				
Sales (for FY 1998)	Mean	\$1,793,782	\$1,046,371	\$ 796,049
	Median	\$ 258,951	\$ 212,440	\$ 158,000
Tot_Ast (Total Assets at FYE 1998)	Mean	\$ 696,646	\$ 342,916	\$ 331,721
	Median	\$ 95,095	\$ 64,105	\$ 87,274
INVENT (Inventory at FYE 1998)	Mean	\$ 171,055	\$ 126,158	\$ 87,441
	Median	\$ 6,000	\$ 20,736	\$ 10,187
A_Pay (Accounts Payable at FYE 1998)	Mean	\$ 121,343	\$ 116,887	\$ 178,696
	Median	\$ 4,245	\$ 0	\$ 0
F_AGE (firm age in years)	Mean	14.9	9.5**	12.6
	Median	12.0	9.3	12.8
TOT_EMP (total # of workers)	Mean	11.8	7.2	10.6
	Median	4.0	4.0	3.6

Notes:

- d) The sample used for this study includes observations for 1,414 firms and is weighted using the SSBF sample weights. In total the entire 1998 SSBF Dataset includes observations from approximately 3,550 firms. For the purposes of this study, firms engaged in the following industries were excluded: Mining, Service, Finance, Insurance or Real Estate. These firms were excluded because the financial characteristics of those firms differ sharply from those in the following industries: Manufacturing, Retail, Wholesale, Transportation and Construction. The study sample also excluded all of the female-owned firms contained in the 1998 SSBF Dataset.
- e) This category includes observations for firms owned by Native Americans, Alaskan Natives and persons identifying themselves as 'mixed race.'
- f) While the 1998 SSBF Dataset includes observations for female-owned firms, those firms were excluded from the samples used for this research.

* differences from Non-Hispanic, White men significant at the .05 level

** differences from Non-Hispanic, White men significant at the .01 level

Characteristics of Firms (**trade credit users only**) included in the 1998 SSBF
Study Sample ^{a c}

		Race/Ethnicity of the firm Owner		
		Non-Hispanic, White Men ^b	African-American Men ^b	Hispanic, White Men ^b
N (# of observations)		914	51	46
Variable				
Sales (for FY 1998)	Mean	\$2,094,871	\$ 628,680	\$ 721,915**
	Median	\$ 369,092	\$ 147,658	\$ 276,095
Tot_Ast (Total Assets at FYE 1998)	Mean	\$ 818,416	\$ 202,084**	\$ 225,803**
	Median	\$ 123,570	\$ 84,614	\$ 83,187
INVENT (Inventory at FYE 1998)	Mean	\$ 211,382	\$ 64,682	\$ 38,750**
	Median	\$ 10,000	\$ 4,895	\$ 5,000
A_Pay (Accounts Payable at FYE 1998)	Mean	\$ 154,213	\$ 38,549**	\$ 50,375*
	Median	\$ 10,000	\$ 2,492	\$ 4,904
F_AGE (firm age in years)	Mean	15.0 13.4		11.6*
	Median	12.6	12.0	10.3
TOT_EMP (total # of workers)	Mean	13.7	7.4	9.1
	Median	5.0	4.0	4.0

Notes:

- a) Of the 1,414 firms that constitute the study sample, only 1,072 were granted trade credit in FY 1998. The values shown above are for those 1,072 firms. The sample was weighted using the SSBF sample weights. In total the entire 1998 SSBF Dataset includes observations from approximately 3,550 firms. For the purposes of this study, firms engaged in the following industries were excluded: Mining, Service, Finance, Insurance or Real Estate. These firms were excluded because the financial characteristics of those firms differ sharply from those in the following industries: Manufacturing, Retail, Wholesale, Transportation and Construction. The study sample also excluded all of the female-owned firms contained in the 1998 SSBF Dataset.
- b) Commencing with the 1990 Census, the U.S. Census Bureau considers 'Hispanic' to be an ethnic classification not a racial classification. As a result of this change in classifications, there are White Hispanics, African-American Hispanic, Asian-American Hispanic, etc.
- c) While the 1998 SSBF Dataset includes observations for female-owned firms, those firms were excluded from the samples used for this research.

* differences from Non-Hispanic, White men significant at the **.05** level

** differences from Non-Hispanic, White men significant at the **.01** level

Characteristics of Firms (**trade credit users only**) included in the 1998 SSBF Study Sample ^{d f} (cont'd)

		Race/Ethnicity of the firm Owner		
		Non-Hispanic, White Men	Asian-American Men	Other race, Men ^e
N (# of observations)		914	44	17
Variable				
Sales (for FY 1998)	Mean	\$2,094,871	\$1,444,428	\$ 927,724
	Median	\$ 369,092	\$ 319,607	\$ 116,712
Tot_Ast (Total Assets at FYE 1998)	Mean	\$ 818,416	\$ 470,404	\$ 387,844
	Median	\$ 123,570	\$ 65,382	\$ 87,274
INVENT (Inventory at FYE 1998)	Mean	\$ 211,382	\$ 160,867	\$ 98,175
	Median	\$ 10,000	\$ 26,917	\$ 6,114
A_Pay (Accounts Payable at FYE 1998)	Mean	\$ 154,213	\$ 162,861	\$ 226,936
	Median	\$ 10,000	\$ 3,240	\$ 680
F_AGE (firm age in years)	Mean	15.0	9.0**	13.6
	Median	12.6	8.3	14.5
TOT_EMP (total # of workers)	Mean	13.7	9.4	12.2
	Median	5.0	4.1	4.0

Notes:

- d) Of the 1,414 firms that constitute the study sample, only 1,072 were granted trade credit in FY 1998. The values shown above are for those 1,072 firms. The sample was weighted using the SSBF sample weights. In total the entire 1998 SSBF Dataset includes observations from approximately 3,550 firms. For the purposes of this study, firms engaged in the following industries were excluded: Mining, Service, Finance, Insurance or Real Estate. These firms were excluded because the financial characteristics of those firms differ sharply from those in the following industries: Manufacturing, Retail, Wholesale, Transportation and Construction. The study sample also excluded all of the female-owned firms contained in the 1998 SSBF Dataset.
- e) This category includes observations for firms owned by Native Americans, Alaskan Natives and persons identifying themselves as 'mixed race.'
- f) While the 1998 SSBF Dataset includes observations for female-owned firms, those firms were excluded from the samples used for this research.

* differences from Non-Hispanic, White men significant at the **.05** level

** differences from Non-Hispanic, White men significant at the **.01** level

Appendix C: Descriptive Statistics – Characteristics of Firm Owners

Characteristics of Firm Owners included in the 1998 SSBF Study Sample ^a

Variable	Race/Ethnicity of the firm Owner					
	Non-Hispanic, White Men ^b	African-American Men ^b	Hispanic, White Men ^b	Asian-American Men ^b	Other races Men ^{b c}	
	Entire Study Sample					
N (# of observations)	1,162	85	82	63	22	
Exp (# of years of management experience) – mean values	20.4	17.9	15.9**	11.9**	17.4	
Slopay_3 – % of all firms (owner late 60 days or more in paying 3 or more personal accounts)	5.9%	12.9%	8.3%	7.0%	3.2%	
	Trade Credit Users Only					
N (# of observations)	914	51	46	44	17	
Exp (# of years of management experience) – mean values	20.3	18.3	17.5	11.9**	17.9	
Slopay_3 – % of all firms (owner late 60 days or more in paying 3 or more personal accounts)	5.7%	8.4%	11.9%	0.4%**	4.1%	

Notes:

- a) The sample used for this study includes observations for 1,414 firms and is weighted using the SSBF sample weights. In total the entire 1998 SSBF Dataset includes observations from approximately 3,550 firms. For the purposes of this study, firms engaged in the following industries were excluded: Mining, Service, Finance, Insurance or Real Estate. These firms were excluded because the financial characteristics of those firms differ sharply from those in the following industries: Manufacturing, Retail, Wholesale, Transportation and Construction. The study sample also excluded all of the female-owned firms contained in the 1998 SSBF Dataset.
 - b) Commencing with the 1990 Census, the U.S. Census Bureau considers 'Hispanic' to be an ethnic classification not a racial classification. As a result of this change in classifications, there are White Hispanics, African-American Hispanics, Asian-American Hispanics, etc.
 - c) This category includes observations for firms owned by Native Americans, Alaskan Natives and persons identifying themselves as 'mixed race.'
- * differences from Non-Hispanic, White men significant at the **.05** level
- ** differences from Non-Hispanic, White men significant at the **.01** level

Appendix D: Descriptive Statistics – Industry Breakdown

Distribution by Industry of Firms included in the 1998 SSBF Study Sample ^{a c}

Variable	Race/Ethnicity of the firm Owner		
	Non-Hispanic, White Men ^b	African- American Men ^b	Hispanic, White Men ^b
Entire Study Sample			
N (# of observations):	1,162	85	82
SIC_C (construction firms)	27.9% 26.7%	15.1%**	
SIC_Mfg (manufacturing firms)	17.3%	11.7%	21.8%
SIC_R (retail firms)	31.4% 46.2%	35.6%	
SIC_T (transportation firms)	7.2%	10.4%	10.7%
SIC_W (wholesale firms)	16.2%	4.9%**	16.8%
ORG (firms organized as corporations or LLPs)	50.8%	41.8%	41.0%
Trade Credit Users Only			
N (# of observations):	914	51	46
SIC_C (construction firms)	31.0% 32.9%	16.2%*	
SIC_Mfg (manufacturing firms)	20.1%	15.2%	24.3%
SIC_R (retail firms)	27.3% 44.5%	37.9%	
SIC_T (transportation firms)	5.1%	5.2%	6.7%
SIC_W (wholesale firms)	16.6%	2.2%**	14.9%
ORG (firms organized as corporations or LLPs)	57.0%	53.9%	52.2%

Notes:

- a) The sample used for this study includes observations for 1,414 firms and is weighted using the SSBF sample weights. In total the entire 1998 SSBF Dataset includes observations from approximately 3,550 firms. For the purposes of this study, firms engaged in the following industries were excluded: Mining, Service, Finance, Insurance or Real Estate. These firms were excluded because the financial characteristics of those firms differ sharply from those in the following industries: Manufacturing, Retail, Wholesale, Transportation and Construction. The study sample also excluded all of the female-owned firms contained in the 1998 SSBF Dataset.
- b) Commencing with the 1990 Census, the U.S. Census Bureau considers 'Hispanic' to be an ethnic classification not a racial classification. As a result of this change in classifications, there are White Hispanics, African-American Hispanic, Asian-American Hispanic, etc. That said, for the purposes of most government activities and agencies (e.g. the Small Business Administration), all Hispanics are considered minorities.
- c) While the 1998 SSBF Dataset includes observations for female-owned firms, those firms were excluded from the samples used for this research.

* differences from Non-Hispanic, White men significant at the .05 level

** differences from Non-Hispanic, White men significant at the .01 level

Distribution by Industry of Firms included in the 1998 SSBF Study Sample ^{d f}
(cont'd)

	Race/Ethnicity of the firm Owner		
	Non-Hispanic, White Men	Asian- American Men	Other Races ^e
Variable	Entire Study Sample		
N (# of observations):	1,162	63	22
SIC_C (construction firms)	27.9% 10.2%**		22.0%
SIC_Mfg (manufacturing firms)	17.3%	12.6%	22.9%
SIC_R (retail firms)	31.4% 47.5%*		36.1%
SIC_T (transportation firms)	7.2%	5.2%	4.6%
SIC_W (wholesale firms)	16.2% 24.5%	14.3%	
ORG (firms organized as corporations or LLPs)	50.8%	45.5%	38.3%
	Trade Credit Users Only		
N (# of observations):	914	44	17
SIC_C (construction firms)	24.3%	9.7%**	23.5%
SIC_Mfg (manufacturing firms)	25.9%	16.5%	35.3%
SIC_R (retail firms)	29.1% 49.9%	29.4%	
SIC_T (transportation firms)	5.7%	4.5%	5.9%
SIC_W (wholesale firms)	15.0% 19.4%		5.9%
ORG (firms organized as corporations or LLPs)	72.2%	51.3%	52.9%

Notes:

- d) The sample used for this study includes observations for 1,414 firms and is weighted using the SSBF sample weights. In total the entire 1998 SSBF Dataset includes observations from approximately 3,550 firms. For the purposes of this study, firms engaged in the following industries were excluded: Mining, Service, Finance, Insurance or Real Estate. These firms were excluded because the financial characteristics of those firms differ sharply from those in the following industries: Manufacturing, Retail, Wholesale, Transportation and Construction. The study sample also excluded all of the female-owned firms contained in the 1998 SSBF Dataset.
- e) This category includes observations for firms owned by Native Americans, Alaskan Natives and persons identifying themselves as 'mixed race.'
- f) While the 1998 SSBF Dataset includes observations for female-owned firms, those firms were excluded from the samples used for this research.

* differences from Non-Hispanic, White men significant at the **.05** level

** differences from Non-Hispanic, White men significant at the **.01** level

Appendix E: Descriptive Statistics – Use of Trade Credit

Use of Trade Credit by Firms included in the 1998 SSBF Study Sample ^{a c}

	Race/Ethnicity of the firm Owner		
	Non-Hispanic, White Men ^b	African- American Men ^b	Hispanic, White Men ^b
N (# of observations)	1,162	85	82
Variable			
	Percentage of Firms		
TC_Yes (used trade credit during FY1998)	73.6%	54.6%*	47.9%**
denyTC (ever denied Trade Credit)	6.0%%	11.0%	11.1%
	Mean Value (trade credit users only) ^d		
N (# of observations)	914	51	46
denyTC (ever denied Trade Credit)	7.2%	10.0%	20.0%
TC_PCT (percentage of all purchases made with Trade Credit)	77.5%	64.2%*	67.5%*
Suppliers (number of suppliers of Trade Credit in FY 1998)	32.8 13.5*		12.0**
High_TC_yes (firm's % of purchases with Trade Credit > = median for Non- Hispanic, White Men)	58.0%	41.3%	34.9%**

Notes:

- a) The sample used for this study includes observations for 1,414 firms and is weighted using the SSBF sample weights. In total the entire 1998 SSBF Dataset includes observations from approximately 3,550 firms. For the purposes of this study, firms engaged in the following industries were excluded: Mining, Service, Finance, Insurance or Real Estate. These firms were excluded because the financial characteristics of those firms differ sharply from those in the following industries: Manufacturing, Retail, Wholesale, Transportation and Construction. The study sample also excluded all of the female-owned firms contained in the 1998 SSBF Dataset.
 - b) Commencing with the 1990 Census, the U.S. Census Bureau considers 'Hispanic' to be an ethnic classification not a racial classification. As a result of this change in classifications, there are White Hispanics, African-American Hispanics, Asian-American Hispanics, etc.
 - c) While the 1998 SSBF Dataset includes observations for female-owned firms, those firms were excluded from the samples used for this research.
 - d) Of the 1,414 firms in the study sample, 1,072 firms were granted trade credit in FY 1998.
- * differences from Non-Hispanic, White men significant at the .05 level
- ** differences from Non-Hispanic, White men significant at the .01 level

Use of Trade Credit by Firms included in the 1998 SSBF Study Sample ^{e g}

	Race/Ethnicity of the firm Owner		
	Non-Hispanic, White Men	Asian- American Men	Other races Men ^f
N (# of observations)	1,162	63	22
Variable			
Percentage of Firms			
TC_Yes (used trade credit during FY1998)	73.6%	61.6%	78.4%
denyTC (ever denied Trade Credit)	6.0%	9.3%	3.7%
Mean Value (trade credit users only) ^h			
N (# of observations)	914	44	17
denyTC (ever denied Trade Credit)	7.2%	6.1%	4.7%
TC_PCT (percentage of all purchases made with Trade Credit)	77.5%	55.6%**	49.8%**
Suppliers (number of suppliers of Trade Credit in FY 1998)	32.8	22.1	8.3**
High_TC_yes (firm's % of purchases with Trade Credit > = median for Non- Hispanic, White Men)	58.0%	30.2%**	27.1%*

Notes:

- e) The sample used for this study includes observations for 1,414 firms and is weighted using the SSBF sample weights. In total the entire 1998 SSBF Dataset includes observations from approximately 3,550 firms. For the purposes of this study, firms engaged in the following industries were excluded: Mining, Service, Finance, Insurance or Real Estate. These firms were excluded because the financial characteristics of those firms differ sharply from those in the following industries: Manufacturing, Retail, Wholesale, Transportation and Construction. The study sample also excluded all of the female-owned firms contained in the 1998 SSBF Dataset.
- f) This category includes observations for firms owned by Native Americans, Alaskan Natives and persons identifying themselves as 'mixed race.'
- g) While the 1998 SSBF Dataset includes observations for female-owned firms, those firms were excluded from the samples used for this research.
- h) Of the 1,414 firms in the study sample, 1,072 firms were granted trade credit in FY 1998.
- * differences from Non-Hispanic, White men significant at the .05 level
- ** differences from Non-Hispanic, White men significant at the .01 level

Appendix F: Results of Logistic Regression Analysis

Dependent Variable: TC_High_use

{a dummy variable that identifies those firms whose use of trade credit (as measured by TC_PCT) equals or exceeds the median value for non-Hispanic white men}

Independent Variables	Coefficient	Wald Statistic	Significance p value	EXP (B)
Industry				
SIC_C	0.684**	12.863	.000	1.981
SIC_R -0.214		1.345	.246	0.807
SIC_T -0.491		2.367	.124	0.612
SIC_W	0.620**	8.055	.005	1.859
Organizational Form				
ORG	0.340*	5.651	.017	1.405
Firm Creditworthiness				
Ln_tot_ast_1	0.078*	5.756	.016	1.081
Ln_F_age_2	0.119*	4.917	.027	1.126
Owner's Characteristics				
Exp	0.015*	4.097	.043	1.015
SLOPAY_3 -0.290		1.104	.293	0.748
Race/Ethnicity of Owner				
aa_own -0.503		1.495	.221	0.605
lat_own -0.706		3.667	.055	0.494
asia_own -0.811*		3.868	.049	0.444
Other_race -1.220*		4.826	.028	0.295
Constant -1.863		18.274	.000	0.155

N = 1,072

* differences from Non-Hispanic, White men significant at the .05 level

** differences from Non-Hispanic, White men significant at the .01 level