

Export Survival: The Role of Banks and Stock Markets

Online Appendix

Melise JAUD* Madina KUKENOVA† Martin STRIEBORNY‡

This version: March 24, 2022

*World Bank; E-Mail: mjaud@worldbank.org

†Swiss School of Higher Education; E-Mail: madina.kukenova@sshe.ch

‡University of Glasgow, Adam Smith Business School, Room 469, Main Building, University Avenue, Glasgow, G12 8QQ, United Kingdom. E-Mail: martin.strieborny@glasgow.ac.uk

Appendix A - Full Sample of Countries Exporting to the USA

Armenia; Australia; Austria; Bahrain; Belgium-Luxembourg; Belize; Bolivia; Bulgaria; Burundi; Cameroon; Canada; Central African Republic; Chile; China; Colombia; Congo, Dem. Rep.; Costa Rica; Cote d'Ivoire; Croatia; Cyprus; Czech Republic; Denmark; Dominican Republic; Ecuador; Fiji; Finland; France; Gabon; Gambia; Germany; Ghana; Greece; Hungary; Iceland; Iran; Ireland; Israel; Italy; Japan; Malawi; Malaysia; Malta; Mexico; Morocco; Netherlands; New Zealand; Norway; Pakistan; Paraguay; Philippines; Poland; Portugal; Romania; Russian Federation; Saudi Arabia; Sierra Leone; Singapore; Slovakia; Southern African Customs Union (comprises South Africa, Botswana, Lesotho, Namibia, Swaziland); Spain; Sweden; Switzerland, Liechtenstein; Togo; Trinidad and Tobago; Tunisia; Uganda; Ukraine; United Kingdom; Uruguay; Venezuela; Zambia.

Appendix B - Industries with the Lowest and the Highest Levels of the Three Main Measures of Financial Vulnerability

Table I: Bottom and top 15 industries: Investment needs

SIC code	SIC industry name	Investment needs
2111	Cigarettes	0.000
234	Women's and children's undergarments	0.206
278	Blank books and bookbinding	0.305
2851	Paints, varnishes, lacquers, enamels and allied prods	0.308
2761	Manifold business forms	0.312
2711	Newspapers: publishing or publishing and printing	0.325
3561	Pumps and pumping equipment	0.328
3613	Switchgear and switchboard apparatus	0.329
305	Hose and belting and gaskets and packing	0.337
2451	Mobile homes	0.339
2891	Adhesives and sealants	0.342
3721	Aircraft	0.342
251	Household furniture	0.343
3942	Dolls and stuffed toys	0.347
3812	Search, detection, navigation, guidance, aeronautical syst.	0.350
3861	Photographic equipment and supplies	0.442
3911	Jewelry, precious metal	0.444
3577	Computer peripheral equipment, nec	0.445
3651	Household audio and video equipment	0.460
351	Engines and turbines	0.464
3612	Power, distribution and specialty transformers	0.481
3751	Motorcycles, bicycles and parts	0.513
396	Costume jewelry and notions	0.536
3845	Electro-medical and electrotherapeutic apparatus	0.562
3652	Phonograph records and prerecorded audio tapes and disks	0.589
299	Miscellaneous petroleum and coal products	0.620
3841	Surgical and medical instruments and apparatus	0.640
2835	In vitro and in vivo diagnostic substances	0.657
2834	Pharmaceutical preparations	0.754
2836	Biological products, (no diagnostic substances)	1.000

Table II: Bottom and top 15 industries: Liquidity needs

SIC code	SIC industry name	Liquidity needs
2836	Biological products, (no diagnostic substances)	0.000
2711	Newspapers: publishing or publishing and printing	0.025
2721	Periodicals: publishing or publishing and printing	0.053
279	Printing trade services	0.067
2741	Miscellaneous publishing	0.068
205	Bakery products	0.077
3695	Magnetic and optical recording media	0.082
2451	Mobile homes	0.083
339	Miscellaneous primary metal products	0.084
2911	Petroleum refining	0.084
2086	Bottled and canned soft drinks and carbonated waters	0.096
275	Commercial printing	0.100
2011	Meat packing plants	0.102
2761	Manifold business forms	0.102
2834	Pharmaceutical preparations	0.109
232	Men's and boys' furnishings	0.323
3845	Electromedical and electrotherapeutic apparatus	0.324
396	Costume jewelry and notions	0.326
3634	Electric housewares and fans	0.327
239	Miscellaneous fabricated textile products	0.329
3861	Photographic equipment and supplies	0.341
3728	Aircraft parts and auxiliary equipment, nec	0.341
3873	Watches, clocks, clockwork operated devices/parts	0.342
2833	Medicinal chemicals and botanical products	0.353
3844	X-ray apparatus and tubes and related irradiation apparatus	0.381
3541	Machine tools, metal cutting types	0.399
3532	Mining machinery and equip (no oil and gas field mach and equip)	0.411
3562	Ball and roller bearings	0.420
391	Jewelry, silverware, and plated ware	0.425
2084	Wines, brandy, and brandy spirits	1.000

Table III: Bottom and top 15 industries: Asset intangibility

SIC code	SIC industry name	Asset intangibility
3433	Heating equipment, except electric and warm air furnaces	0.000
2911	Petroleum refining	0.001
3661	Telephone and telegraph apparatus	0.001
2621	Paper mills	0.001
2451	Mobile homes	0.001
367	Electronic components and accessories	0.001
3721	Aircraft	0.001
2211	Broad woven fabric mills, cotton	0.001
333	Primary nonferrous metals	0.003
3312	Steel works, blast furnaces and rolling mills (coke ovens)	0.003
331	Blast furnace and basic steel products	0.003
207	Fats and oils	0.003
327	Concrete, gypsum, and plaster products	0.004
287	Agricultural chemicals	0.004
3663	Radio and tv broadcasting and communications equipment	0.005
3533	Oil and gas field machinery and equipment	0.147
305	Hose and belting and gaskets and packing	0.148
2842	Specialty cleaning, polishing and sanitation preparations	0.149
3579	Office machines, nec	0.150
3585	Air-cond and warm air heating equip, refrig equip	0.165
3728	Aircraft parts and auxiliary equipment, nec	0.177
3944	Games, toys and children's vehicles (no dolls and bicycles)	0.193
284	Soap, cleaners, and toilet goods	0.196
3634	Electric housewares and fans	0.240
2844	Perfumes, cosmetics and other toilet preparations	0.242
396	Costume jewelry and notions	0.244
2741	Miscellaneous publishing	0.311
2111	Cigarettes	0.381
2711	Newspapers: publishing or publishing and printing	0.477
2721	Periodicals: publishing or publishing and printing	1.000

Appendix C - Stock Market Value Traded and Broader Measures of Bank Development

Table IV: Investment needs and stock market value traded

Dep. var.: Survival	(1) 1y	(2) 5y	(3) 10y
investment needs \times banks	-0.026 (0.050)	0.007 (0.036)	0.058 ^c (0.030)
investment needs \times stock market value traded	0.100 ^b (0.050)	0.068 ^b (0.033)	0.023 (0.022)
investment needs \times GDPpc	0.004 (0.019)	-0.006 (0.012)	-0.008 (0.011)
investment needs \times real exchange rate	-1.741 ^c (0.928)	-0.558 (0.662)	-0.590 (0.564)
Observations	233,886	233,886	233,886
R-squared	0.260	0.550	0.701
Country-Time FE	yes	yes	yes
Product FE	yes	yes	yes
Full set of controls included	yes	yes	yes

Dependent variable is the probability of export survival of product k from industrial sector (industry) i exported by country c to the USA. Export survival probability is measured l years after the beginning of export spell, with $l = 1$ in column (1), $l = 5$ in column (2), and $l = 10$ in column (3). The regressions are estimated by OLS and contain a full set of fixed effects at the product level and the (exporting country)*time level, with time referring to the beginning of a given export spell. Stock market value traded is the value of stock market transactions divided by GDP in exporting country c . Other variables are described in the main text. The full set of controls also includes initial export, total export, number of suppliers, multiple spell, and interaction terms between physical and human capital endowments of country c and the corresponding capital intensities at the industry level. All time-varying explanatory variables are measured at the beginning of the export spell. Robust standard errors are clustered at the (exporting country)*time level, with time referring to the beginning of a given export spell. ^a, ^b, ^c denote statistical significance at the 1%, 5%, and 10% level, respectively.

Table V: Liquidity needs and stock market value traded

Dep. var.: Survival	(1) 1y	(2) 5y	(3) 10y
liquidity needs \times banks	0.064 (0.041)	0.069 ^b (0.031)	0.052 ^b (0.022)
liquidity needs \times stock market value traded	0.064 ^c (0.034)	0.002 (0.025)	-0.034 ^b (0.017)
liquidity needs \times GDPpc	0.055 ^a (0.014)	0.037 ^a (0.013)	0.031 ^a (0.010)
liquidity needs \times real exchange rate	-1.148 (0.766)	-0.256 (0.636)	-0.412 (0.471)
Observations	233,886	233,886	233,886
R-squared	0.261	0.550	0.701
Country-Time FE	yes	yes	yes
Product FE	yes	yes	yes
Full set of controls included	yes	yes	yes

Dependent variable is the probability of export survival of product k from industrial sector (industry) i exported by country c to the USA. Export survival probability is measured l years after the beginning of export spell, with $l = 1$ in column (1), $l = 5$ in column (2), and $l = 10$ in column (3). The regressions are estimated by OLS and contain a full set of fixed effects at the product level and the (exporting country)*time level, with time referring to the beginning of a given export spell. All variables are described in the main text and Table IV. The full set of controls also includes initial export, total export, number of suppliers, multiple spell, and interaction terms between physical and human capital endowments of country c and the corresponding capital intensities at the industry level. All time-varying explanatory variables are measured at the beginning of the export spell. Robust standard errors are clustered at the (exporting country)*time level, with time referring to the beginning of a given export spell. ^a, ^b, ^c denote statistical significance at the 1%, 5%, and 10% level, respectively.

Table VI: Asset intangibility and stock market value traded

Dep. var.: Survival	(1) 1y	(2) 5y	(3) 10y
asset intangibility \times banks	0.012 (0.062)	0.019 (0.044)	0.019 (0.033)
asset intangibility \times stock market value traded	0.205 ^a (0.054)	0.173 ^a (0.038)	0.071 ^b (0.028)
asset intangibility \times GDPpc	0.003 (0.018)	0.015 (0.015)	0.007 (0.013)
asset intangibility \times real exchange rate	-1.911 ^c (1.104)	-2.771 ^a (0.833)	-1.983 ^a (0.661)
Observations	233,886	233,886	233,886
R-squared	0.260	0.550	0.701
Country-Time FE	yes	yes	yes
Product FE	yes	yes	yes
Full set of controls included	yes	yes	yes

Dependent variable is the probability of export survival of product k from industrial sector (industry) i exported by country c to the USA. Export survival probability is measured l years after the beginning of export spell, with $l = 1$ in column (1), $l = 5$ in column (2), and $l = 10$ in column (3). The regressions are estimated by OLS and contain a full set of fixed effects at the product level and the (exporting country)*time level, with time referring to the beginning of a given export spell. All variables are described in the main text and Table IV. The full set of controls also includes initial export, total export, number of suppliers, multiple spell, and interaction terms between physical and human capital endowments of country c and the corresponding capital intensities at the industry level. All time-varying explanatory variables are measured at the beginning of the export spell. Robust standard errors are clustered at the (exporting country)*time level, with time referring to the beginning of a given export spell. ^a, ^b, ^c denote statistical significance at the 1%, 5%, and 10% level, respectively.

Table VII: Investment needs and alternative dimensions of bank development

Dep. var.: Survival	(1) 1y	(2) 5y	(3) 10y	(4) 1y	(5) 5y	(6) 10y
investment needs \times bank assets	0.012 (0.046)	-0.017 (0.030)	0.014 (0.025)			
investment needs \times total credit				-0.027 (0.046)	0.001 (0.031)	0.043 (0.026)
investment needs \times stock markets	0.029 (0.041)	0.068 ^a (0.026)	0.056 ^a (0.020)	0.039 (0.043)	0.061 ^b (0.027)	0.044 ^b (0.021)
investment needs \times GDPpc	0.004 (0.020)	0.001 (0.012)	-0.004 (0.010)	0.011 (0.019)	-0.001 (0.012)	-0.005 (0.010)
investment needs \times real exchange rate	-2.034 ^b (0.938)	-0.620 (0.657)	-0.502 (0.550)	-1.767 ^c (0.906)	-0.653 (0.650)	-0.610 (0.549)
Observations	235,229	235,229	235,229	239,824	239,824	239,824
R-squared	0.258	0.548	0.699	0.256	0.548	0.697
Country-Time FE	yes	yes	yes	yes	yes	yes
Product FE	yes	yes	yes	yes	yes	yes
Full set of controls included	yes	yes	yes	yes	yes	yes

Dependent variable is the probability of export survival of product k from industrial sector (industry) i exported by country c to the USA. Export survival probability is measured l years after the beginning of export spell, with $l = 1$ in columns (1) and (4), $l = 5$ in columns (2) and (5), and $l = 10$ in columns (3) and (6). The regressions are estimated by OLS and contain a full set of fixed effects at the product level and the (exporting country)*time level, with time referring to the beginning of a given export spell. Bank assets represents the ratio between the claims held by deposit-taking banks vis-a-vis the domestic real non-financial sector and the GDP level in exporting country c . Total credit is ratio between the overall credit by both deposit-taking banks and other financial institutions and the GDP level in exporting country c . Other variables are described in the main text. The full set of controls also includes initial export, total export, number of suppliers, multiple spell, and interaction terms between physical and human capital endowments of country c and the corresponding capital intensities at the industry level. All time-varying explanatory variables are measured at the beginning of the export spell. Robust standard errors are clustered at the (exporting country)*time level, with time referring to the beginning of a given export spell. ^a, ^b, ^c denote statistical significance at the 1%, 5%, and 10% level, respectively.

Table VIII: Liquidity needs and alternative dimensions of bank development

Dep. var.: Survival	(1) 1y	(2) 5y	(3) 10y	(4) 1y	(5) 5y	(6) 10y
liquidity needs \times bank assets	0.018 (0.040)	0.072 ^b (0.031)	0.054 ^a (0.020)			
liquidity needs \times total credit				0.028 (0.039)	0.057 ^b (0.029)	0.052 ^b (0.021)
liquidity needs \times stock markets	0.118 ^a (0.026)	0.039 (0.025)	-0.016 (0.020)	0.115 ^a (0.029)	0.035 (0.026)	-0.025 (0.020)
liquidity needs \times GDPpc	0.059 ^a (0.015)	0.031 ^b (0.014)	0.029 ^a (0.011)	0.061 ^a (0.014)	0.036 ^a (0.013)	0.030 ^a (0.010)
liquidity needs \times real exchange rate	-1.412 ^c (0.757)	-0.712 (0.646)	-0.672 (0.485)	-1.491 ^b (0.749)	-0.603 (0.633)	-0.650 (0.486)
Observations	235,229	235,229	235,229	239,824	239,824	239,824
R-squared	0.259	0.548	0.699	0.256	0.548	0.697
Country-Time FE	yes	yes	yes	yes	yes	yes
Product FE	yes	yes	yes	yes	yes	yes
Full set of controls included	yes	yes	yes	yes	yes	yes

Dependent variable is the probability of export survival of product k from industrial sector (industry) i exported by country c to the USA. Export survival probability is measured l years after the beginning of export spell, with $l = 1$ in columns (1) and (4), $l = 5$ in columns (2) and (5), and $l = 10$ in columns (3) and (6). The regressions are estimated by OLS and contain a full set of fixed effects at the product level and the (exporting country)*time level, with time referring to the beginning of a given export spell. All variables are described in the main text and Table VII. The full set of controls also includes initial export, total export, number of suppliers, multiple spell, and interaction terms between physical and human capital endowments of country c and the corresponding capital intensities at the industry level. All time-varying explanatory variables are measured at the beginning of the export spell. Robust standard errors are clustered at the (exporting country)*time level, with time referring to the beginning of a given export spell. ^a, ^b, ^c denote statistical significance at the 1%, 5%, and 10% level, respectively.

Table IX: Asset intangibility and alternative dimensions of bank development

Dep. var.: Survival	(1) 1y	(2) 5y	(3) 10y	(4) 1y	(5) 5y	(6) 10y
asset intangibility \times bank assets	-0.014 (0.052)	-0.029 (0.038)	-0.009 (0.031)			
asset intangibility \times total credit				-0.025 (0.056)	-0.018 (0.039)	-0.014 (0.030)
asset intangibility \times stock markets	0.217 ^a (0.040)	0.183 ^a (0.031)	0.089 ^a (0.029)	0.222 ^a (0.042)	0.187 ^a (0.032)	0.094 ^a (0.031)
asset intangibility \times GDPpc	0.013 (0.020)	0.027 (0.017)	0.013 (0.014)	0.018 (0.018)	0.024 (0.016)	0.013 (0.014)
asset intangibility \times real exchange rate	-2.708 ^b (1.113)	-3.092 ^a (0.820)	-2.183 ^a (0.670)	-2.634 ^b (1.105)	-3.207 ^a (0.805)	-2.194 ^a (0.652)
Observations	235,229	235,229	235,229	239,824	239,824	239,824
R-squared	0.259	0.548	0.699	0.256	0.548	0.697
Country-Time FE	yes	yes	yes	yes	yes	yes
Product FE	yes	yes	yes	yes	yes	yes
Full set of controls included	yes	yes	yes	yes	yes	yes

Dependent variable is the probability of export survival of product k from industrial sector (industry) i exported by country c to the USA. Export survival probability is measured l years after the beginning of export spell, with $l = 1$ in columns (1) and (4), $l = 5$ in columns (2) and (5), and $l = 10$ in columns (3) and (6). The regressions are estimated by OLS and contain a full set of fixed effects at the product level and the (exporting country)*time level, with time referring to the beginning of a given export spell. All variables are described in the main text and Table VII. The full set of controls also includes initial export, total export, number of suppliers, multiple spell, and interaction terms between physical and human capital endowments of country c and the corresponding capital intensities at the industry level. All time-varying explanatory variables are measured at the beginning of the export spell. Robust standard errors are clustered at the (exporting country)*time level, with time referring to the beginning of a given export spell. ^a, ^b, ^c denote statistical significance at the 1%, 5%, and 10% level, respectively.