

# Growth Effect of FSL

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## Financial Sector Liberalization (FSL)

## Domestic Financial Liberalization (DFL) and Capital

## Account Liberalization (KAL)

FSL promises:

1. Improvement in global capital allocation
2. Enhance opportunities to savers and investors that will lead to an improved macroeconomic performance
3. Create more instruments, e.g., derivatives
4. Force government to bear a “healthy discipline” for macroeconomic stability.

## Domestic Financial Liberalization (DFL) and

### Capital Account Liberalization (KAL)

- DFL: Two important policies are: (1) lower the reserve requirement ( $rr$ ); and (2) raise competition in the banking sector. The idea is, *lowering  $rr$  will increase credits, and increased competition will raise efficiency*, hence better intermediaries and better credit allocation.
- KAL: liberalizing capital account will let *capital to flow more easily to be channeled through domestic intermediaries (either banks or firms), allowing more competition*. In either case, pressures for higher efficiency in domestic banks are introduced, including greater willingness to take forex risks. KAL can also detect policy inconsistencies.

**Panel A: Annual Average Real GDP Growth Rate**

Years	-10	-7	-5	-3	Country	3	5	7	10
	-0.0054	-0.0104	-0.0102	0.0105	Argentina	-0.0100	0.0182	0.0143	*
	-0.0042	0.0139	0.0019	-0.0216	Brazil	0.0031	0.0160	0.0160	*
	0.0237	0.0507	0.0527	0.0541	Chile	0.0631	0.0663	*	*
	0.0126	0.0206	0.0245	0.0179	Colombia	0.0187	0.0261	0.0204	*
	0.0151	0.0082	0.0116	0.0207	Greece	0.0214	0.0157	0.0105	0.0131
	0.0301	0.0315	0.0323	0.0209	India	0.0420	0.0468	*	*
	-0.0185	-0.0294	0.0057	0.0498	Jordan	-0.0021	*	*	*
	*	*	0.0344	0.0357	Japan	0.0211	0.0265	0.0272	0.0336
	0.0783	0.0800	0.0813	0.0699	Korea	0.0535	0.0580	*	*
	0.0279	0.0176	0.0097	-0.0114	Malaysia	0.0583	0.0566	0.0574	0.0575
	0.0010	-0.0258	-0.0085	-0.0231	Mexico	0.0252	0.0187	0.0054	*
	0.0207	0.0169	0.0182	0.0102	New Zealand	-0.0025	-0.0097	0.0012	0.0052
	0.0152	0.0188	0.0051	-0.0143	Nigeria	0.0128	*	*	*
	0.0343	0.0315	0.0303	0.0294	Pakistan	0.0240	0.0221	0.0149	*
	-0.0092	-0.0156	0.0192	0.0249	Philippines	-0.0169	-0.0017	0.0076	*
	-0.0174	-0.0161	-0.0074	-0.0177	South Africa	-0.0152	-0.0045	*	*
	0.0412	0.0345	0.0352	0.0359	Thailand	0.0936	0.0869	0.0808	0.0757
	-0.0284	-0.0184	-0.0111	-0.0248	Venezuela	0.0459	0.0144	0.0087	*
	-0.0070	-0.0042	0.0011	-0.0186	Zimbabwe	0.0013	0.0131	*	*
	0.0407	0.0341	0.0369	0.0392	Indonesia	0.0685	0.0622	0.0614	*
	0.0197	0.0139	0.0039	-0.0010	Portugal	0.0597	0.0558	0.0472	0.0363
	0.0174	0.0302	0.0354	0.0393	Turkey	0.0118	0.0268	0.0157	*
	0.0125	0.0083	0.0051	0.0068	Spain	0.0315	0.0374	0.0346	0.0254
	0.0258	0.0229	0.0203	0.0296	Sri Lanka	0.0427	0.0390	*	*
	0.0142	0.0136	0.0178	0.0151	Average	0.0271	0.0334	0.0277	0.0432
					# of increases	16 (of 24 valid)	16 (of 22)	11 (of 15)	4 (of 6)

**Panel B: Cross-Sectional Comparison Annual Average Real GDP Growth Rate**

	k = 3	5	7	10
Full Liberalized	0.0234	0.0226	0.0213	0.0204
Never Liberalized	-0.0008	0.0014	0.0018	0.0032

The variable we explore in this table is the k-year average growth rate of real per capita gross domestic product. Official liberalization means that the equity market is liberalized. Full liberalized denotes countries that are fully liberalized throughout our sample whereas

**Table 2: Classic Growth Regression and the Impact of Liberalization**

Annual Average Real GDP Growth Rate ( $k=5$ )

Panel A: Classic Growth Regression		Panel B: Classic Growth Regression with Liberalization Indicator							
	Sample I	II	III	IV					
Constant	-0.2369	-0.2581	-0.1559	-0.3438	Constant	-0.2281	-0.2374	-0.1493	-0.2018
<i>Std. error</i>	0.0181	0.0216	0.0295	0.0538	<i>Std. error</i>	0.0179	0.0214	0.0286	0.0658
Log(GDP)	-0.0071	-0.0069	-0.0093	-0.0156	Log(GDP)	-0.0094	-0.0088	-0.0115	-0.0158
<i>Std. error</i>	0.0006	0.0006	0.0007	0.0011	<i>Std. error</i>	0.0007	0.0007	0.0008	0.0011
Govt/GDP	-0.0044	-0.0175	-0.0212	-0.0158	Govt/GDP	-0.0039	-0.0178	-0.0187	-0.0301
<i>Std. error</i>	0.0085	0.0096	0.0105	0.0164	<i>Std. error</i>	0.0087	0.0098	0.0105	0.0165
Enrollment	0.0277	0.0059	0.0162	0.0624	Enrollment	0.0305	0.0112	0.0243	0.0566
<i>Std. error</i>	0.0079	0.0098	0.0119	0.0174	<i>Std. error</i>	0.0077	0.0097	0.0116	0.0171
Population Growth	-0.5978	-0.6037	-0.9389	-1.2056	Population Growth	-0.5594	-0.5731	-0.8159	-1.1013
<i>Std. error</i>	0.0577	0.0642	0.0791	0.1121	<i>Std. error</i>	0.0621	0.0691	0.0835	0.1151
Log(Life Expectancy)	0.0746	0.0806	0.0624	0.1182	Log(Life Expectancy)	0.0755	0.0781	0.0627	0.0838
<i>Std. error</i>	0.0049	0.0057	0.0079	0.0140	<i>Std. error</i>	0.0049	0.0056	0.0076	0.0167
					Official Liberalization Indicator	0.0095	0.0083	0.0113	0.0130
					<i>Std. error</i>	0.0016	0.0017	0.0020	0.0036

I, II, III, and IV refer to samples of 95, 75, 50 and 28 countries detailed in appendix table A1. The dependent variable is the 5-year average growth rate of real per capita gross domestic product. Log(GDP) is the log real per capita GDP level in 1980. Govt/GDP is the ratio of government consumption to GDP; Enrollment is the secondary school enrollment ratio; Population growth is the growth rate of total population; Log(Life Expectancy) is the log life expectancy of the total population; and the official liberalization variable takes a value of one when the equity market is liberalized, and zero otherwise. The weighting matrix we employ in our GMM estimation provides a correction for cross-sectional heteroskedasticity. All standard errors account for the overlapping nature of the data.

**Table 3: Robustness of the Liberalization Effect**  
Annual Average Real GDP Growth Rate (k=5)

Panel A: Sensitivity to Alternative Liberalization Dates				
	Sample I	II	III	IV
Constant	-0.2240	-0.2344	-0.1373	-0.2351
<i>Std. error</i>	0.0178	0.0213	0.0290	0.0653
Log(GDP)	-0.0093	-0.0088	-0.0105	-0.0150
<i>Std. error</i>	0.0006	0.0006	0.0007	0.0012
Govt/GDP	-0.0019	-0.0158	-0.0236	-0.0229
<i>Std. error</i>	0.0088	0.0099	0.0107	0.0165
Enrollment	0.0304	0.0108	0.0224	0.0572
<i>Std. error</i>	0.0078	0.0098	0.0116	0.0173
Population Growth	-0.5531	-0.5682	-0.7913	-1.1104
<i>Std. error</i>	0.0620	0.0686	0.0838	0.1183
Log(Life Expectancy)	0.0742	0.0772	0.0582	0.0900
<i>Std. error</i>	0.0048	0.0056	0.0077	0.0170
First Sign Liberalization Indicator	0.0102	0.0091	0.0105	0.0094
<i>Std. error</i>	0.0015	0.0016	0.0018	0.0033

  

Panel B: Sensitivity to Regional Influences				
	Sample I	II	III	IV
Constant	-0.2268	-0.2347	-0.1571	-0.2095
<i>Std. error</i>	0.0180	0.0214	0.0288	0.0645
Log(GDP)	-0.0096	-0.0090	-0.0117	-0.0158
<i>Std. error</i>	0.0007	0.0007	0.0007	0.0011
Govt/GDP	-0.0049	-0.0197	-0.0236	-0.0318
<i>Std. error</i>	0.0088	0.0099	0.0106	0.0169
Enrollment	0.0305	0.0110	0.0225	0.0553
<i>Std. error</i>	0.0078	0.0098	0.0115	0.0171
Population Growth	-0.5454	-0.5569	-0.7493	-1.0934
<i>Std. error</i>	0.0631	0.0706	0.0857	0.1158
Log(Life Expectancy)	0.0754	0.0777	0.0649	0.0854
<i>Std. error</i>	0.0049	0.0057	0.0077	0.0164
Official Liberalization Indicator (Latin)	0.0069	0.0073	0.0068	0.0138
<i>Std. error</i>	0.0034	0.0034	0.0035	0.0071
Official Liberalization Indicator (Not-Latin)	0.0108	0.0099	0.0136	0.0133
<i>Std. error</i>	0.0016	0.0017	0.0019	0.0035

  

Panel C: Sensitivity to Business Cycle: Lagged World Growth and Real Interest Rates				
	Sample I	II	III	IV
Constant	-0.2334	-0.2453	-0.1654	-0.2437
<i>Std. error</i>	0.0185	0.0220	0.0304	0.0678
Log(GDP)	-0.0095	-0.0089	-0.0118	-0.0162
<i>Std. error</i>	0.0007	0.0007	0.0008	0.0011
Govt/GDP	-0.0053	-0.0188	-0.0211	-0.0293
<i>Std. error</i>	0.0088	0.0099	0.0107	0.0165
Enrollment	0.0322	0.0117	0.0244	0.0559
<i>Std. error</i>	0.0077	0.0098	0.0116	0.0169
Population Growth	-0.5503	-0.5553	-0.7864	-1.0202
<i>Std. error</i>	0.0627	0.0701	0.0853	0.1195
Log(Life Expectancy)	0.0762	0.0793	0.0656	0.0924
<i>Std. error</i>	0.0049	0.0057	0.0079	0.0170
OECD GDP growth (lagged)	0.0614	0.0349	0.0444	0.0424
<i>Std. error</i>	0.0317	0.0342	0.0334	0.0413
World real interest rate (lagged)	0.0337	0.0473	0.0834	0.1069
<i>Std. error</i>	0.0325	0.0352	0.0350	0.0434
Official Liberalization Indicator	0.0101	0.0089	0.0123	0.0133
<i>Std. error</i>	0.0016	0.0017	0.0020	0.0036

  

Panel D: Sensitivity to Business Cycle: Contemporaneous World Growth and Real Interest Rates				
	Sample I	II	III	IV
Constant	-0.2241	-0.2371	-0.1536	-0.2240
<i>Std. error</i>	0.0185	0.0220	0.0309	0.0670
Log(GDP)	-0.0093	-0.0087	-0.0115	-0.0161
<i>Std. error</i>	0.0007	0.0007	0.0008	0.0011
Govt/GDP	-0.0084	-0.0203	-0.0233	-0.0307
<i>Std. error</i>	0.0087	0.0098	0.0107	0.0165
Enrollment	0.0367	0.0174	0.0302	0.0634
<i>Std. error</i>	0.0076	0.0098	0.0115	0.0164
Population Growth	-0.5574	-0.5619	-0.7824	-1.0136
<i>Std. error</i>	0.0623	0.0699	0.0855	0.1240
Log(Life Expectancy)	0.0744	0.0778	0.0631	0.0883
<i>Std. error</i>	0.0050	0.0057	0.0081	0.0168
OECD GDP growth (contemporaneous)	0.1469	0.1177	0.1435	0.1695
<i>Std. error</i>	0.0301	0.0328	0.0315	0.0394
World real interest rate (contemporaneous)	-0.0625	-0.0484	-0.0132	-0.0182
<i>Std. error</i>	0.0282	0.0309	0.0300	0.0372
Official Liberalization Indicator	0.0097	0.0085	0.0124	0.0141
<i>Std. error</i>	0.0016	0.0017	0.0020	0.0036

**Table 5: Macroeconomic Reforms and Financial Liberalization**

Annual Average Real GDP Growth Rate (k=5)

	Sample I			
	I	II	III	IV
Constant	-0.2368	-0.2628	-0.1494	-0.1717
<i>Std. error</i>	0.0183	0.0216	0.0294	0.0631
Log(GDP)	-0.0095	-0.0088	-0.0120	-0.0167
<i>Std. error</i>	0.0007	0.0007	0.0008	0.0011
Govt/GDP	-0.0207	-0.0263	-0.0303	-0.0344
<i>Std. error</i>	0.0093	0.0103	0.0109	0.0134
Enrollment	0.0128	-0.0167	0.0057	0.0574
<i>Std. error</i>	0.0083	0.0103	0.0121	0.0169
Population Growth	-0.5210	-0.4954	-0.8100	-1.1441
<i>Std. error</i>	0.0595	0.0684	0.0842	0.1167
Log(Life Expectancy)	0.0775	0.0840	0.0638	0.0775
<i>Std. error</i>	0.0050	0.0057	0.0078	0.0159
Trade	0.0092	0.0108	0.0090	0.0084
<i>Std. error</i>	0.0011	0.0012	0.0012	0.0013
Inflation (Latin)	0.0002	0.0001	0.0005	0.0003
<i>Std. error</i>	0.0001	0.0002	0.0003	0.0004
Inflation (Non-Latin)	0.0050	0.0021	0.0042	-0.0492
<i>Std. error</i>	0.0019	0.0024	0.0039	0.0134
Official Liberalization Indicator	0.0113	0.0084	0.0112	0.0088
<i>Std. error</i>	0.0016	0.0017	0.0020	0.0034

  

	I	II	III	IV
Constant	-0.2368	-0.2549	-0.1564	-0.3184
<i>Std. error</i>	0.0183	0.0218	0.0292	0.0708
Log(GDP)	-0.0095	-0.0089	-0.0120	-0.0170
<i>Std. error</i>	0.0007	0.0007	0.0008	0.0011
Govt/GDP	-0.0207	-0.0339	-0.0318	-0.0251
<i>Std. error</i>	0.0093	0.0104	0.0107	0.0169
Enrollment	0.0128	-0.0146	0.0066	0.0364
<i>Std. error</i>	0.0083	0.0104	0.0119	0.0171
Population Growth	-0.5210	-0.5098	-0.8138	-1.1565
<i>Std. error</i>	0.0595	0.0686	0.0839	0.1207
Log(Life Expectancy)	0.0775	0.0825	0.0656	0.1133
<i>Std. error</i>	0.0050	0.0057	0.0078	0.0180
Trade	0.0092	0.0105	0.0087	0.0089
<i>Std. error</i>	0.0011	0.0012	0.0012	0.0013
Inflation Spread (Latin)	0.0002	0.0002	0.0005	0.0006
<i>Std. error</i>	0.0001	0.0001	0.0002	0.0003
Inflation Spread (Non-Latin)	0.0050	0.0041	0.0081	0.0651
<i>Std. error</i>	0.0019	0.0020	0.0030	0.0207
Official Liberalization Indicator	0.0113	0.0094	0.0115	0.0074
<i>Std. error</i>	0.0016	0.0017	0.0019	0.0036

**Panel B: Inflation High-Low Spread**

**Table 6: Financial Development versus Financial Liberalization**  
Annual Average Real GDP Growth Rate (k=5)

	Panel A: Banking Sector Development				Panel B: Banking Sector and Equity Market Development			
	Sample I	II	III	IV	Sample III	IV		
Constant	-0.2288	-0.2481	-0.1450	-0.3366	-0.1373	-0.3304		
<i>Std. error</i>	0.0182	0.0216	0.0291	0.0708	0.0309	0.0746		
Log(GDP)	-0.0104	-0.0099	-0.0133	-0.0186	-0.0126	-0.0180		
<i>Std. error</i>	0.0007	0.0008	0.0008	0.0013	0.0008	0.0013		
Govt/GDP	-0.0233	-0.0371	-0.0323	-0.0124	-0.0387	-0.0127		
<i>Std. error</i>	0.0095	0.0108	0.0110	0.0188	0.0109	0.0185		
Enrollment	0.0067	-0.0248	-0.0080	0.0226	-0.0069	0.0143		
<i>Std. error</i>	0.0086	0.0107	0.0126	0.0182	0.0127	0.0184		
Population Growth	-0.5323	-0.5195	-0.8594	-1.2297	-0.8127	-1.3198		
<i>Std. error</i>	0.0587	0.0684	0.0848	0.1290	0.0901	0.1419		
Log(Life Expectancy)	0.0768	0.0825	0.0651	0.1203	0.0606	0.1155		
<i>Std. error</i>	0.0050	0.0058	0.0077	0.0180	0.0083	0.0187		
Trade	0.0092	0.0107	0.0096	0.0102	0.0110	0.0119		
<i>Std. error</i>	0.0011	0.0011	0.0012	0.0014	0.0012	0.0015		
Inflation Spread (Latin)	0.0002	0.0002	0.0006	0.0008	0.0005	0.0009		
<i>Std. error</i>	0.0001	0.0001	0.0002	0.0003	0.0002	0.0003		
Inflation Spread (Non-Latin)	0.0053	0.0042	0.0087	0.0736	0.0075	0.0961		
<i>Std. error</i>	0.0019	0.0020	0.0031	0.0215	0.0024	0.0226		
Private Credit	0.0086	0.0100	0.0087	0.0066	0.0051	0.0059		
<i>Std. error</i>	0.0020	0.0021	0.0022	0.0026	0.0022	0.0026		
Official Liberalization Indicator	0.0098	0.0076	0.0104	0.0061	0.0076	0.0078		
<i>Std. error</i>	0.0016	0.0017	0.0019	0.0036	0.0023	0.0023		
Log(# of dom companies)					0.0010	0.0014		
<i>Std. error</i>					0.0004	0.0006		
Official Liberalization Indicator					0.0083	0.0036		
<i>Std. error</i>					0.0019	0.0036		

## Panel A: Effects of Financial Liberalization on Financial Development

Sample III: 50 countries		Sample III: 50 countries		
Dependent Variable: Average Turnover		Dependent Variable: Average Log(# of stocks)		
	k = 1	2	3	
Constant	-1.3634	-1.4573	-1.5860	-1.2640
<i>Std. error</i>	0.2319	0.2121	0.1982	1.0370
Log(GDP)	0.0211	0.0200	0.0161	0.0058
<i>Std. error</i>	0.0062	0.0058	0.0057	0.0261
Govt/GDP	-0.3103	-0.3185	-0.3387	-1.2926
<i>Std. error</i>	0.1012	0.0909	0.0843	0.3406
Enrollment	0.1094	0.1109	0.0808	0.1441
<i>Std. error</i>	0.0903	0.0819	0.0805	0.3707
Population Growth	0.9376	1.1719	1.3368	-3.5210
<i>Std. error</i>	0.7442	0.6752	0.6314	2.5320
Log(Life Expectancy)	0.3183	0.3431	0.3839	1.5207
<i>Std. error</i>	0.0606	0.0558	0.0530	0.2681
Official Liberalization Indicator	0.1611	0.1605	0.1660	0.4675
<i>Std. error</i>	0.0157	0.0147	0.0144	0.0585
Sample I: 95 countries		Sample III: 50 countries		
Dependent Variable: Average Private Credit/GDP		Dependent Variable: Average Private Credit/GDP		
	k = 1	2	3	
Constant	-0.9338	-0.8889	-0.8891	-0.7842
<i>Std. error</i>	0.0699	0.0718	0.0721	0.2572
Log(GDP)	0.0850	0.0878	0.0870	0.1303
<i>Std. error</i>	0.0041	0.0041	0.0042	0.0066
Govt/GDP	0.2554	0.2068	0.1757	0.2000
<i>Std. error</i>	0.0478	0.0465	0.0454	0.1127
Enrollment	0.5231	0.5822	0.5971	1.2484
<i>Std. error</i>	0.0445	0.0452	0.0457	0.0916
Population Growth	-0.1110	0.0049	0.0848	2.4165
<i>Std. error</i>	0.1996	0.2000	0.2002	0.7425
Log(Life Expectancy)	0.1196	0.1025	0.1039	-0.0262
<i>Std. error</i>	0.0223	0.0229	0.0231	0.0665
Official Liberalization Indicator	0.2223	0.2276	0.2285	0.1144
<i>Std. error</i>	0.0091	0.0093	0.0095	0.0139

## Panel B: Effects of Financial Development on Probability of Financial Liberalization

Dependent Variable: 1996 Official Liberalization Indicator

Independent Variables are average of previous 5 years  
50 countries

Dependent Variable: 1996 Official Liberalization Indicator

Constant	-11.773
<i>Std. error</i>	16.468
Log(GDP)	0.669
<i>Std. error</i>	1.484
Govt/GDP	14.476
<i>Std. error</i>	23.590
Private Credit	-2.561
<i>Std. error</i>	6.957
Turnover	7.376
<i>Std. error</i>	11.816
Log(# of dom companies)	0.939
<i>Std. error</i>	0.862

Dependent Variable: 1993 Official Liberalization Indicator

Constant	-6.044
<i>Std. error</i>	4.260
Log(GDP)	0.720
<i>Std. error</i>	0.654
Govt/GDP	-11.585
<i>Std. error</i>	4.929
Private Credit	0.438
<i>Std. error</i>	3.111
Turnover	0.175
<i>Std. error</i>	1.848
Log(# of dom companies)	0.537
<i>Std. error</i>	0.300

Dependent Variable: 1990 Official Lib Indicator

Constant	-6.908
<i>Std. error</i>	2.507
Log(GDP)	1.370
<i>Std. error</i>	0.741
Govt/GDP	-14.068
<i>Std. error</i>	12.733
Private Credit	1.264
<i>Std. error</i>	1.829
Turnover	0.258
<i>Std. error</i>	1.291
Log(# of dom companies)	-0.360
<i>Std. error</i>	0.451

Dependent Variable: 1987 Official Lib Indicator

Constant	-11.137
<i>Std. error</i>	3.909
Log(GDP)	1.405
<i>Std. error</i>	0.515
Govt/GDP	-4.910
<i>Std. error</i>	7.734
Private Credit	1.774
<i>Std. error</i>	3.091
Turnover	-0.535
<i>Std. error</i>	2.327
Log(# of dom companies)	-0.145
<i>Std. error</i>	0.429

I and III refers to samples of 95 and 50 countries detailed in appendix table A1. In Panel A, the dependent variable is the 1, 2, or 3-year average of either equity markets turnover, log number of companies, or private credit to GDP ratio. The weighting matrix we employ in our GMM estimation provides a correction for cross-sectional heteroskedasticity. All standard errors are robust, accounting for the overlapping nature of the data. In Panel B, the dependent variable is the official liberalization indicator. A cross-sectional Probit model is estimated for 1987, 1990, 1993, 1996

**Table 8: The Sources of the Liberalization Effect**  
 Liberalization and the Components of GDP

**Panel A: Annual Average Investment/GDP Ratio (k=5)**

	Sample I	II	III	IV
Constant	-0.3370	-0.3165	-0.4205	0.1725
<i>Std. error</i>	0.0287	0.0326	0.0632	0.1188
Log(GDP)	-0.0157	-0.0130	-0.0148	-0.0109
<i>Std. error</i>	0.0011	0.0010	0.0015	0.0020
Govt/GDP	-0.0147	-0.0285	0.0023	-0.1097
<i>Std. error</i>	0.0149	0.0152	0.0207	0.0315
Enrollment	0.7288	0.6498	0.7024	0.7951
<i>Std. error</i>	0.0156	0.0187	0.0232	0.0303
Population Growth	0.2270	0.2899	0.0554	-0.8799
<i>Std. error</i>	0.0796	0.0759	0.1637	0.2153
Log(Life Expectancy)	0.1230	0.1175	0.1428	-0.0029
<i>Std. error</i>	0.0083	0.0092	0.0166	0.0302
Official Liberalization Indicator	0.0141	-0.0116	0.0079	0.0127
<i>Std. error</i>	0.0025	0.0026	0.0034	0.0053

**Panel B: Annual Average Consumption/GDP Ratio (k=5)**

	Sample I	II	III	IV
Constant	1.7627	0.9759	0.5343	0.6856
<i>Std. error</i>	0.0429	0.0642	0.0811	0.1171
Log(GDP)	-0.0418	-0.0270	-0.0206	-0.0093
<i>Std. error</i>	0.0017	0.0020	0.0021	0.0017
Govt/GDP	-0.4817	-0.4814	-0.4089	-0.8128
<i>Std. error</i>	0.0269	0.0292	0.0259	0.0283
Enrollment	-0.2665	-0.5038	-0.4503	-0.7622
<i>Std. error</i>	0.0227	0.0266	0.0276	0.0376
Population Growth	-2.5579	-1.8045	0.4181	0.0178
<i>Std. error</i>	0.1410	0.1917	0.1986	0.2088
Log(Life Expectancy)	-0.1442	0.0247	0.1006	0.0692
<i>Std. error</i>	0.0118	0.0168	0.0208	0.0292
Official Liberalization Indicator	-0.0082	-0.0246	-0.0085	0.0123
<i>Std. error</i>	0.0043	0.0046	0.0049	0.0071

**Panel C: Annual Average Government/GDP Ratio (k=5)**

	Sample I	II	III	IV
Constant	0.0275	0.0123	0.0911	0.2702
<i>Std. error</i>	0.0109	0.0130	0.0204	0.0292
Log(GDP)	0.0069	0.0055	0.0014	0.0040
<i>Std. error</i>	0.0006	0.0007	0.0004	0.0005
Govt/GDP	0.8426	0.8756	0.9187	0.9701
<i>Std. error</i>	0.0113	0.0111	0.0072	0.0099
Enrollment	0.0377	0.0258	0.0169	0.0330
<i>Std. error</i>	0.0046	0.0052	0.0076	0.0100
Population Growth	0.2806	0.2772	-0.0861	0.1707
<i>Std. error</i>	0.0853	0.1075	0.0309	0.0558
Log(Life Expectancy)	-0.0168	-0.0117	-0.0228	-0.0733
<i>Std. error</i>	0.0025	0.0032	0.0054	0.0074
Official Liberalization Indicator	-0.0027	0.0006	0.0053	0.0041
<i>Std. error</i>	0.0006	0.0009	0.0013	0.0019

**Panel D: Annual Average (Export-Imports)/GDP Ratio (k=5)**

	Sample I	II	III	IV
Constant	-0.1833	0.4063	1.0657	0.1080
<i>Std. error</i>	0.0192	0.0350	0.0652	0.0565
Log(GDP)	0.0433	0.0326	0.0354	0.0196
<i>Std. error</i>	0.0007	0.0008	0.0009	0.0008
Govt/GDP	-0.2353	-0.1624	-0.3058	-0.0580
<i>Std. error</i>	0.0074	0.0173	0.0261	0.0119
Enrollment	-0.3607	0.0080	-0.1525	-0.0222
<i>Std. error</i>	0.0102	0.0104	0.0179	0.0146
Population Growth	0.4565	-0.0973	-0.4199	0.6206
<i>Std. error</i>	0.1452	0.0991	0.1428	0.1112
Log(Life Expectancy)	-0.0179	-0.1557	-0.3016	-0.0582
<i>Std. error</i>	0.0045	0.0090	0.0157	0.0152
Official Liberalization Indicator	-0.0211	-0.0107	-0.0061	-0.0231
<i>Std. error</i>	0.0017	0.0013	0.0029	0.0024

**Table 9: The Cost of Capital and the Liberalization Effect**

**Panel A: Growth, Liberalization and the Cost of Capital (Credit Rating)**

	Sample II	III	IV
Constant	-0.2877	-0.1304	-0.2026
<i>Std. error</i>	0.0145	0.0247	0.0671
Log(GDP)	-0.0104	-0.0121	-0.0160
<i>Std. error</i>	0.0005	0.0005	0.0011
Govt/GDP	-0.0263	-0.0271	-0.0304
<i>Std. error</i>	0.0082	0.0083	0.0120
Enrollment	-0.0306	0.0173	0.0547
<i>Std. error</i>	0.0067	0.0093	0.0163
Population Growth	-0.4485	-0.8004	-1.0901
<i>Std. error</i>	0.1027	0.1013	0.0860
Log(Life Expectancy)	0.0871	0.0551	0.0831
<i>Std. error</i>	0.0035	0.0066	0.0174
Official Liberalization Indicator	0.0010	0.0105	0.0127
<i>Std. error</i>	0.0013	0.0017	0.0047
Log(Credit Rating)	0.0102	0.0054	0.0014
<i>Std. error</i>	0.0010	0.0013	0.0032

**Panel B: Growth, Liberalization and the Cost of Capital (Dividend Yield)**

	Sample IV
Constant	-0.2025
<i>Std. error</i>	0.0671
Log(GDP)	-0.0159
<i>Std. error</i>	0.0010
Govt/GDP	-0.0355
<i>Std. error</i>	0.0122
Enrollment	0.0499
<i>Std. error</i>	0.0181
Population Growth	-1.1259
<i>Std. error</i>	0.0884
Log(Life Expectancy)	0.0842
<i>Std. error</i>	0.0175
Official Liberalization Indicator	0.0163
<i>Std. error</i>	0.0049
Dividend Yield	0.0376
<i>Std. error</i>	0.0412
Div Yield*Lib Indicator	-0.0682
<i>Std. error</i>	0.0440

**Panel C: Investment, Liberalization and the Cost of Capital (Credit Rating)**

	Sample II	III	IV
Constant	-0.3678	-0.4247	0.2109
<i>Std. error</i>	0.0264	0.0571	0.1139
Log(GDP)	-0.0142	-0.0157	-0.0123
<i>Std. error</i>	0.0008	0.0011	0.0024
Govt/GDP	-0.0305	0.0035	-0.1002
<i>Std. error</i>	0.0109	0.0177	0.0316
Enrollment	0.6134	0.6876	0.8051
<i>Std. error</i>	0.203	0.0259	0.0336
Population Growth	0.2600	0.1188	-0.8640
<i>Std. error</i>	0.0406	0.1831	0.1715
Log(Life Expectancy)	0.1342	0.1374	-0.0193
<i>Std. error</i>	0.0079	0.0154	0.0293
Official Liberalization Indicator	0.0098	0.0051	0.0132
<i>Std. error</i>	0.0020	0.0032	0.0066
Log(Credit Rating)	0.0003	0.0097	0.0095
<i>Std. error</i>	0.0014	0.0024	0.0069

**Panel D: Investment, Liberalization and the Cost of Capital (Dividend Yield)**

	Sample IV
Constant	0.2246
<i>Std. error</i>	0.0992
Log(GDP)	-0.0107
<i>Std. error</i>	0.0021
Govt/GDP	-0.1305
<i>Std. error</i>	0.0283
Enrollment	0.7497
<i>Std. error</i>	0.0329
Population Growth	-0.9631
<i>Std. error</i>	0.1638
Log(Life Expectancy)	-0.0112
<i>Std. error</i>	0.0262
Official Liberalization Indicator	0.0213
<i>Std. error</i>	0.0071
Dividend Yield	-0.0719
<i>Std. error</i>	0.0403
Div Yield*Lib Indicator	-0.2209
<i>Std. error</i>	0.0538

**Table 10: Insider Trading and the Liberalization Effect**Annual Average Real GDP Growth Rate ( $k=5$ )**Panel A: Liberalization and Insider Trading Law**

	Sample I	II	III	IV
Constant	-0.2340	-0.2465	-0.1616	-0.2138
<i>Std. error</i>	0.0190	0.0237	0.0238	0.0689
Log(GDP)	-0.0093	-0.0086	-0.0114	-0.0157
<i>Std. error</i>	0.0005	0.0006	0.0006	0.0010
Govt/GDP	-0.0009	-0.0149	-0.0191	-0.0306
<i>Std. error</i>	0.0074	0.0095	0.0080	0.0128
Enrollment	0.0301	0.0104	0.0241	0.0584
<i>Std. error</i>	0.0061	0.0080	0.0102	0.0183
Population Growth	-0.5312	-0.5340	-0.7517	-1.0438
<i>Std. error</i>	0.1329	0.1593	0.1036	0.0949
Log(Life Expectancy)	0.0765	0.0796	0.0654	0.0861
<i>Std. error</i>	0.0043	0.0053	0.0061	0.0181
Official Liberalization Indicator	0.0093	0.0079	0.0117	0.0129
<i>Std. error</i>	0.0016	0.0019	0.0018	0.0046
Insider Trading Law	0.0001	0.0004	-0.0005	-0.0004
<i>Std. error</i>	0.0006	0.0006	0.0008	0.0009

**Panel B: Liberalization and Insider Trading Prosecution**

	Sample I	II	III	IV
Constant	-0.2319	-0.2413	-0.1584	-0.1971
<i>Std. error</i>	0.0181	0.0228	0.0226	0.0680
Log(GDP)	-0.0096	-0.0090	-0.0119	-0.0158
<i>Std. error</i>	0.0005	0.0006	0.0005	0.0010
Govt/GDP	-0.0011	-0.0143	-0.0178	-0.0314
<i>Std. error</i>	0.0075	0.0100	0.0079	0.0124
Enrollment	0.0315	0.0135	0.0292	0.0564
<i>Std. error</i>	0.0058	0.0077	0.0095	0.0164
Population Growth	-0.5544	-0.5710	-0.8047	-1.0766
<i>Std. error</i>	0.1378	0.1722	0.1011	0.0864
Log(Life Expectancy)	0.0765	0.0791	0.0653	0.0824
<i>Std. error</i>	0.0040	0.0049	0.0057	0.0179
Official Liberalization Indicator	0.0092	0.0080	0.0116	0.0138
<i>Std. error</i>	0.0016	0.0019	0.0017	0.0044
Insider Trading Prosecution	0.0036	0.0031	0.0037	0.0015
<i>Std. error</i>	0.0008	0.0009	0.0010	0.0012

I, II, III, and IV refer to samples of 95, 75, 50 and 28 countries detailed in appendix table A1. The dependent variable is the 5-year average growth rate of real per capita gross domestic product.

Log(GDP) is the log real per capita GDP level in 1980. Govt/GDP is the ratio of government consumption to GDP; Enrollment is the secondary school enrollment ratio; Population growth is the growth rate of total population; Log(Life Expectancy) is the log life expectancy of the total population; Insider Trading Law and Insider Trading Prosecution are indicators representing either the introduction of laws prohibiting insider trading or actual prosecutions, respectively; and the official liberalization variable takes a value of one when the equity market is liberalized, and zero otherwise. The weighting matrix we employ in our GMM estimation provides a correction for cross-sectional heteroskedasticity. All standard errors account for the overlapping nature of the data.

**Table 11: Financial Liberalization and Preconditions**

Annual Average Real GDP Growth Rate (k-5)

**Panel A: Financial Liberalization and Education**

	Sample I	II	III	IV
Constant	-0.2453	-0.2619	-0.1624	-0.3074
<i>Std. error</i>	0.0181	0.0216	0.0296	0.0617
Log(GDP)	-0.0094	-0.0087	-0.0111	-0.0161
<i>Std. error</i>	0.0007	0.0007	0.0008	0.0012
Govt/GDP	0.0051	-0.0064	-0.0170	-0.0214
<i>Std. error</i>	0.0088	0.0098	0.0106	0.0179
Enrollment	0.0216	-0.0029	-0.0029	0.0410
<i>Std. error</i>	0.0081	0.0102	0.0121	0.0181
Population Growth	-0.5288	-0.5281	-0.8576	-1.1904
<i>Std. error</i>	0.0607	0.0673	0.0792	0.1129
Log(Life Expectancy)	0.0798	0.0840	0.0672	0.1115
<i>Std. error</i>	0.0050	0.0057	0.0080	0.0157
Official Liberalization Indicator*Fully Liberalized	0.0085	0.0066	0.0081	0.0037
<i>Std. error</i>	0.0017	0.0018	0.0017	0.0022
Official Liberalization Indicator*High Enrollment	0.0165	0.0157	0.0150	0.0103
<i>Std. error</i>	0.0029	0.0030	0.0028	0.0043
Official Liberalization Indicator*Low Enrollment	-0.0019	-0.0030	-0.0034	-0.0061
<i>Std. error</i>	0.0021	0.0022	0.0024	0.0036
Wald Test: High Enrollment - Low Enrollment	97.475	93.284	66.317	14.643
p-value	0.000	0.000	0.000	0.000

**Panel C: Financial Liberalization and Democracy**

	Sample I	II	III	IV
Constant	-0.2327	-0.2445	-0.1625	-0.2639
<i>Std. error</i>	0.0179	0.0214	0.0283	0.0606
Log(GDP)	-0.0091	-0.0084	-0.0116	-0.0162
<i>Std. error</i>	0.0007	0.0007	0.0008	0.0012
Govt/GDP	-0.0058	-0.0193	-0.0191	-0.0267
<i>Std. error</i>	0.0087	0.0097	0.0105	0.0165
Enrollment	0.0305	0.0108	0.0250	0.0621
<i>Std. error</i>	0.0078	0.0098	0.0118	0.0173
Population Growth	-0.5818	-0.5941	-0.8692	-1.1447
<i>Std. error</i>	0.0614	0.0681	0.0825	0.1146
Log(Life Expectancy)	0.0765	0.0795	0.0666	0.0996
<i>Std. error</i>	0.0049	0.0057	0.0076	0.0154
Official Liberalization Indicator*Democracy	0.0079	0.0063	0.0099	0.0087
<i>Std. error</i>	0.0017	0.0018	0.0020	0.0033
Wald Test: French Law - English Law - Law (Other)	28.356	37.564	36.985	29.073
p-value	0.000	0.000	0.000	0.000

**Panel B: Financial Liberalization and Government Size**

	Sample I	II	III	IV
Constant	-0.2312	-0.2454	-0.1505	-0.3059
<i>Std. error</i>	0.0180	0.0215	0.0295	0.0618
Log(GDP)	-0.0089	-0.0081	-0.0108	-0.0163
<i>Std. error</i>	0.0007	0.0007	0.0008	0.0012
Govt/GDP	-0.0012	-0.0134	-0.0202	-0.0261
<i>Std. error</i>	0.0088	0.0100	0.0109	0.0182
Enrollment	0.0294	0.0087	0.0173	0.0584
<i>Std. error</i>	0.0078	0.0099	0.0118	0.0178
Population Growth	-0.5696	-0.5821	-0.9180	-1.2250
<i>Std. error</i>	0.0624	0.0697	0.0819	0.1141
Log(Life Expectancy)	0.0755	0.0790	0.0631	0.1111
<i>Std. error</i>	0.0049	0.0057	0.0079	0.0158
Official Liberalization Indicator*Fully Liberalized	0.0072	0.0053	0.0072	0.0038
<i>Std. error</i>	0.0017	0.0019	0.0018	0.0023
Official Liberalization Indicator*Big Government	0.0039	0.0028	0.0017	-0.0027
<i>Std. error</i>	0.0024	0.0026	0.0024	0.0036
Official Liberalization Indicator*Small Government	0.0103	0.0090	0.0086	0.0049
<i>Std. error</i>	0.0026	0.0026	0.0027	0.0045
Wald Test: Big Government - Small Government	5.397	3.892	4.308	4.796
p-value	0.020	0.049	0.038	0.029

**Panel D: Financial Liberalization and Legal Origin**

	Sample I	II	III	IV
Constant	-0.2320	-0.2475	-0.1638	-0.2960
<i>Std. error</i>	0.0206	0.0261	0.0249	0.0696
Log(GDP)	-0.0089	-0.0081	-0.0107	-0.0148
<i>Std. error</i>	0.0005	0.0006	0.0006	0.0009
Govt/GDP	-0.0095	-0.0269	-0.0296	-0.0525
<i>Std. error</i>	0.0080	0.0109	0.0080	0.0152
Enrollment	0.0280	0.0037	0.0131	0.0342
<i>Std. error</i>	0.0063	0.0087	0.0105	0.0223
Population Growth	-0.5742	-0.5793	-0.8941	-1.3499
<i>Std. error</i>	0.1528	0.1897	0.1183	0.1016
Log(Life Expectancy)	0.0761	0.0803	0.0666	0.1087
<i>Std. error</i>	0.0045	0.0057	0.0062	0.0180
Official Liberalization Indicator*French Law	0.0050	0.0031	0.0029	-0.0057
<i>Std. error</i>	0.0018	0.0021	0.0020	0.0052
Official Liberalization Indicator*English Law	0.0091	0.0077	0.0098	0.0046
<i>Std. error</i>	0.0015	0.0018	0.0018	0.0048
Official Liberalization Indicator*Law (Other)	0.0081	0.0072	0.0079	0.0000
<i>Std. error</i>	0.0022	0.0028	0.0022	0.0052
Wald Test: French Law - English Law - Law (Other)	28.356	37.564	36.985	29.073
p-value	0.000	0.000	0.000	0.000

### Annual Average Real GDP Growth Rate (k=5)

Panel E: Financial Liberalization and U.S. Holdings/GDP

	Sample I	II	III	IV
Constant	-0.2333	-0.2543	-0.1583	-0.3505
<i>Std. error</i>	0.0181	0.0218	0.0298	0.0582
Log(GDP)	-0.0075	-0.0071	-0.0097	-0.0157
<i>Std. error</i>	0.0066	0.0066	0.0068	0.0072
Govt/GDP	-0.0047	-0.0182	-0.0196	-0.0142
<i>Std. error</i>	0.0088	0.0099	0.0110	0.0177
Enrollment	0.0297	0.0077	0.0215	0.0663
<i>Std. error</i>	0.0079	0.0099	0.0121	0.0187
Population Growth	-0.6097	-0.6061	-0.9959	-1.1828
<i>Std. error</i>	0.0587	0.0650	0.0813	0.1196
Log(Life Expectancy)	0.0742	0.0799	0.0633	0.1197
<i>Std. error</i>	0.0049	0.0057	0.0080	0.0151
Official Liberalization Indicator*(U.S. Holdings/GDP)	0.0118	0.0051	0.0103	0.0021
<i>Std. error</i>	0.0075	0.0074	0.0073	0.0065

Panel G: Financial Liberalization and Equity Market Correlation

	Sample IV
Constant	-0.3418
<i>Std. error</i>	0.0549
Log(GDP)	-0.0155
<i>Std. error</i>	0.0071
Govt/GDP	-0.0168
<i>Std. error</i>	0.0174
Enrollment	0.0612
<i>Std. error</i>	0.0185
Population Growth	-1.1952
<i>Std. error</i>	0.1241
Log(Life Expectancy)	0.1177
<i>Std. error</i>	0.0142
Official Liberalization Indicator*(market correlation with world)	0.0010
<i>Std. error</i>	0.0051

I, II, III, and IV refer to samples of 95, 75, 50 and 28 countries detailed in appendix table A1. The dependent variable is the 5-year average growth rate of real per capita gross domestic product. Log(GDP) is the

Panel F: Financial Liberalization and U.S. Holdings/MCAP

	Sample I	II	III	IV
Constant	-0.2320	-0.2487	-0.1487	-0.3031
<i>Std. error</i>	0.0180	0.0216	0.0295	0.0578
Log(GDP)	-0.0082	-0.0077	-0.0099	-0.0152
<i>Std. error</i>	0.0066	0.0066	0.0067	0.0071
Govt/GDP	-0.0037	-0.0184	-0.0192	-0.0140
<i>Std. error</i>	0.0088	0.0099	0.0108	0.0166
Enrollment	0.0283	0.0064	0.0195	0.0667
<i>Std. error</i>	0.0078	0.0098	0.0119	0.0180
Population Growth	-0.5741	-0.5780	-0.8795	-1.1750
<i>Std. error</i>	0.0600	0.0664	0.0825	0.1148
Log(Life Expectancy)	0.0747	0.0795	0.0609	0.1071
<i>Std. error</i>	0.0049	0.0057	0.0079	0.0151
Official Liberalization Indicator*(U.S. Holdings/MCAP)	0.0352	0.0325	0.0291	0.0173
<i>Std. error</i>	0.0067	0.0067	0.0067	0.0073

# Findings

- 70% of FSL effect on growth takes place in the 5 years following FSL, and the effect is not permanent
- FSL is associated with 0.83% to 1.13% of real per-capita GDP growth, although FSL also tends to lead to a widening current account deficit
- When using insider-trading prosecution (enforcement), the results are significant and positive, and the FSL coefficient survives.
- Foreign ownership is important to raise FSL benefit
- FSL is not spuriously accounted for by macroeconomic reforms and does not reflect a business cycle effect.
- Although FSL further fin development, measures of fin development fail to fully drive out the FSL effect
- A large secondary SER, a small government sector, and Anglo saxon legal system enhance FSL effect

## In Short.....

- On average, FSL led to a **1%** increase in annual GDP growth rate
- FSL **raises I/Y** through **foreign capital** inflows, and hence **widens DCA**
- FSL does not reflect a business cycle effect
- Effects of FSL are intensified after controlling for SER, size of government, and legal system