

Online Appendix

of

“Real Effects of Share Repurchases Legalization on Corporate Behaviors”

by

Zigan Wang, The University of Hong Kong

Qie Ellie Yin, Hong Kong Baptist University

Luping Yu, The University of Hong Kong

Table A1. Sample Construction

To ensure a clear causality identification, we exclude those markets with self-tender repurchases cases before the legalization year. We focus our analyses on the firms buying back shares within two years after the legalization of share repurchases, and hence we also exclude those markets in which the first appearance of share repurchases happened more than two years after the law change. Moreover, we require sufficient financial information available in the Worldscope Database for a given market, such as at least 200 active and inactive companies, and at least five years data before the legalization year. Panel A shows the legalization years and related laws, as well as the years and deal numbers of the first repurchase cases recorded by the SDC Database. Panel B shows the filtering criteria to obtain our main sample with 17 markets.

Panel A. Legalization and SDC Share Repurchases Cases

Market	Laws that Legalize Open Market Share Repurchase	Legalization Year	First Repurchase Case	SDC Deal Number
<i>Markets with legalization years before 1985</i>				
Belgium	The Second Council Directive	1984		
Brazil	Brazilian Corporations Law	1976		
Chile	Chilean Securities Market Law	1981		
United Kingdom	Companies Act	1981		
United States	SEC Rule 10b-18	1982		
<i>Markets with any self-tender repurchases cases in SDC Database before the legalization year</i>				
Australia	First Corporations Law Simplification Bill	1995	1987	21948040
Austria	Safe Harbour Regulation	2003	1994	408038040
Denmark	Danish Companies Act	2000	1989	119503040
Finland	The Companies Act	1997	1996	551410040
France	The 1998 Law Reform	1998	1988	21915040
Hong Kong	Companies (Amendment) Ordinance	1991	1984	156175040
Italy	CONSOB Regulation 11971/1999	1999	1990	178186040
Mexico	Mexican Securities Market Law	1996	1993	338718040
Norway	The Securities Act	1999	1995	467328040
Poland	Polish Commercial Companies Code	2000	1999	843649040
Sweden	Swedish Companies Act	2000	1994	415301040
Thailand	The Second Revision of the Public Limited Company Act	2001	1994	430072040
<i>Markets without any share repurchase cases in SDC Database within two years after the legalization</i>				
Bulgaria	Public Offering of Securities Act	1991	NA	
Egypt	Egyptian Companies Law	1992	2008	2014212040
India	SEBI's Buy Back of Securities Regulation	1998	2001	1334996040
Indonesia	The Company Law	1995	2001	1228099040
Ireland	The Irish Companies Acts	1990	1993	394613040
Jordan	The Securities Law	2002	NA	
Malaysia	Malaysian Companies Act	1997	2001	1335964040
Peru	Peruvian General Corporations Act	1997	2010	2199718040
Sri Lanka	The Companies Act	2007	2015	2806038040
Vietnam	The Corporation and Securities Laws	2000	2010	2151683040
<i>Markets for analyses</i>				
Canada	Canada Business Corporations Act	1985	1985	97827040
China	Administration of Repurchase of Public Shares by Listed Companies Procedures (Trial Implementation)	2005	2005	1672814040
Germany	German Stock Corporation Act (Aktiengesetz)	1998	1998	842806040
Greece	The Commission Regulation	2003	2003	1402914040
Israel	The Companies Law	1999	1999	942220040
Japan	Commercial Law (1994), Tax Reform Act (1995)	1995	1995	450952040
Kuwait	Capital Markets Law	2010	2011	2296984040
Netherlands	Dutch Civil Code	1992	1993	332690040
New Zealand	The Companies Act	1994	1994	447075040
Russia	Federal Law on Joint Stock Companies (LJSC)	1995	1996	597023040
Singapore	The Companies Act	1998	1999	923168040
South Africa	Listing Requirements	2000	2000	1017165040
South Korea	Securities Act	1994	1996	537334040
Spain	Spanish Company Law	1989	1990	165256040
Switzerland	Swiss Company Law	1992	1993	332310040
Taiwan	Securities and Exchange Act	2000	2002	1278824040
Turkey	The Commercial Law	2009	2010	2256287040

Panel B. Filtering Criterion

Number of Markets in the Sample	Filtering Criteria	Excluded Markets
46	We start with all markets for which sufficient financial information is available in the Worldscope Database, such as at least 200 active and inactive firms.	
44	We exclude the markets for which the legalization information of open market share repurchases cannot be found.	Pakistan, Philippines
39	We exclude the markets with legalization years before 1985 because in these markets pre-legalization observations are inadequate to construct meaningful comparisons with post-legalization data.	US, UK, Brazil, Belgium, Chile
27	We exclude the markets with any self-tender repurchases cases in the SDC Database before legalization.	Australia, Austria, Denmark, Finland, France, Hong Kong, Italy, Mexico, Norway, Poland, Sweden, Thailand
17	We exclude the markets without any share repurchase cases in the SDC Database within two years after legalization.	Bulgaria, Egypt, India, Indonesia, Ireland, Jordan, Malaysia, Peru, Sri Lanka, Vietnam
17	We exclude firms that did not repurchases shares within two years after legalization.	

Table A2. Variable Definition

This table presents how we construct the firm-year level sample and the definitions of the dependent, independent, and control variables.

Sample Construction

Firm-Year Level Sample Each firm-year observation contains the firm characteristics and the financial indicators of a firm in a given year. To construct our samples, we first download all observations from the Worldscope Database from 1980 (the base year) to 2018. We first drop the markets with less than 200 active and inactive companies. Next, we exclude Pakistan and Philippines because we cannot find the law related to share repurchases. We also exclude the United States, the United Kingdom, Brazil, Belgium, and Chile, because they legalized share repurchases earlier than 1985. Furthermore, to clearly identify the legalization of share repurchases, we exclude the markets with SDC self-tender repurchases cases before legalization. We additionally focus on the markets with SDC repurchases cases within two years after legalization. After this filtering, we end up with a panel dataset that covers 17 markets, including Canada, mainland China, Germany, Greece, Israel, Japan, Kuwait, Netherlands, New Zealand, Russia, Singapore, South Africa, South Korea, Spain, Switzerland, Taiwan, and Turkey.

To obtain a clean identification of the causal effect of share repurchases, we focus on the firms that indeed buyback their own shares within two years after legalization. After this filtering, we end up with a panel dataset with 15,257 observations for 967 firms.

Dependent Variables

		Source
Abnormal Stock Return	Firm-year variable. Abnormal percentage stock return is calculated as (Buy-and-hold Return - Buy-and-hold Return of the Overall Market). Buy-and-hold Return of the Overall Market is the percentage change of the market capitalization of all listed firms. Winsorized at level 1% and 99% levels.	Worldscope
Buy-and-hold Return	Firm-year variable. The percentage change of split-adjusted market price (year-end). Year-end Market Price (Worldscope item 05001) represents the closing price of the company's stock on 31 December for U.S. firms. For non-U.S. firms, this item represents the closing price of the company's stock at their fiscal year-end. Winsorized at level 1% and 99% levels.	Worldscope
Capital Expenditure	Firm-year variable. The ratio of capital expenditure to total assets (in percentage). Calculated as [Capital Expenditure (Worldscope item 04601) / Total Assets (Worldscope item 02999)] * 100. Capital Expenditure (Worldscope item 04601) represents the funds used to acquire fixed assets other than those associated with acquisitions. End-of-year total assets (denominator) are adjusted by adding back the share repurchase item. Winsorized at level 1% and 99% levels.	Worldscope
Cash	Firm-year variable. The ratio of cash to total assets (in percentage) at the end of the year. Calculated as [Cash & Short Term Investments (Worldscope item 02001) / Total Assets (Worldscope item 02999)] * 100. End-of-year total assets (denominator) are adjusted by adding back the share repurchase item. Winsorized at level 1% and 99% levels.	Worldscope
Change in Shares Number	Firm-year variable. The change in shares held by individual investors (in percentage). Calculated as [SharesChg / Common Shares Outstanding (Worldscope item 05301)] * 100. SharesChg represents the number of shares changed between the report date and the prior report date. The shares are held by individual investors (OwnTypeCode = 303). In Worldscope's definition, an individual investor is a major individual shareholder of a firm. It is sometimes the executive or director of the firm. Winsorized at level 1% and 99% levels.	Thomson Reuters (Ownership)
Change in Shares Value	Firm-year variable. The change in value of shares held by individual investors (in percentage). Calculated as [ValueChg / Common Shares Outstanding (Worldscope item 05301)] * 100. ValueChg represents the value of the shares changed. The shares are held by individual investors (OwnTypeCode = 303). Winsorized at level 1% and 99% levels.	Thomson Reuters (Ownership)

Debt Issuance	Firm-year variable. Debt issuance is the change in total debt (in percentage). Calculated as $[(\text{Current Year's Total Debt} - \text{Last Year's Total Debt}) / \text{Last Year's Total Assets}] * 100$. Winsorized at level 1% and 99% levels.	Worldscope
Dividend	Firm-year variable. The ratio of dividend to total assets (in percentage). Calculated as $[\text{Dividends Per Share (Worldscope item 05101)} * \text{Common Shares Outstanding (Worldscope item 05301)} / \text{Total Assets (Worldscope item 02999)}] * 100$. End-of-year total assets (denominator) are adjusted by adding back the share repurchase item. Winsorized at level 1% and 99% levels.	Worldscope
Net Asset from Acquisitions	Firm-year variable. The ratio of net assets from acquisitions to total assets (in percentage). Calculated as $[\text{Net Assets From Acquisitions (Worldscope item 04355)} / \text{Total Assets (Worldscope item 02999)}] * 100$. Net Assets From Acquisitions (Worldscope item 04355) represents assets acquired through pooling of interests or mergers. End-of-year total assets (denominator) are adjusted by adding back the share repurchase item. Winsorized at level 1% and 99% levels.	Worldscope
Patent	Firm-year variable. The number of international patents held by a firm defined by priority dates. Priority year is the first year for a patent to apply to ANY patent office. For example, if a firm applied a patent in China on Jan. 1st, 2010, in US on June. 1st, 2010, and in all other countries on Jan. 1st, 2011. Then the first ever record will be Jan. 1st, 2010. This date can be regarded as the first event date to prove the invention. The firm can show to other countries' patent office saying that the idea and invention has been filed on the priority date.	REGPAT
R&D	Firm-year variable. The ratio of R&D expense to total assets (in percentage). Calculated as $[\text{Research And Development Expense (Worldscope item 01201)} / \text{Total Assets (Worldscope item 02999)}] * 100$. Research And Development Expense (Worldscope item 01201) represents all direct and indirect costs related to the creation and development of new processes, techniques, applications and products with commercial possibilities. End-of-year total assets (denominator) are adjusted by adding back the share repurchase item. Winsorized at level 1% and 99% levels.	Worldscope
Repurchase	Firm-year variable. The ratio of share repurchase to total assets (in percentage). Calculated as $[\text{Common/Preferred Redeemed, Retired, Converted (Worldscope item 04751)} / \text{Total Assets (Worldscope item 02999)}] * 100$. Common/Preferred Redeemed, Retired, Converted (Worldscope item 04751) represents funds used to decrease the outstanding shares of common and/or preferred stock. End-of-year total assets (denominator) are adjusted by adding back the share repurchase item. Winsorized at level 1% and 99% levels.	Worldscope
Tobin's Q	Firm-year variable. Tobin's Q is calculated as $[\text{Market Capitalization (Worldscope item 08001)} + \text{Total Liabilities (Worldscope item 03351)}] / [\text{Common Equity (Worldscope item 03501)} + \text{Total Liabilities (Worldscope item 03351)} + \text{Com/Pfd Purchased, Retired, Converted, Redeemed (Worldscope item 04751)}]$. Compared to the standard computational formula, here we adjust the denominator by adding back the share repurchase item. Winsorized at level 1% and 99% levels.	Worldscope
Total Payout	Firm-year variable. The ratio of the total payout (sum of dividend and share repurchase payments) to total assets (in percentage). Calculated as $\{[\text{Dividends Per Share (Worldscope item 05101)} * \text{Common Shares Outstanding (Worldscope item 05301)} + \text{Common/Preferred Redeemed, Retired, Converted (Worldscope item 04751)}] / \text{Total Assets (Worldscope item 02999)}\} * 100$. End-of-year total assets (denominator) are adjusted by adding back the share repurchase item. Winsorized at level 1% and 99% levels.	Worldscope
Treasury Shares Number	Firm-year variable. The ratio of treasury shares to the number of shares outstanding (in percentage). Calculated as $[\text{Treasury Shares (Worldscope item 05303)} / \text{Common Shares Outstanding (Worldscope item 05301)}] * 100$. Treasury Shares (Worldscope item 05303) represents the number of common shares reacquired by the company. Winsorized at level 1% and 99% levels.	Worldscope
Treasury Shares Value	Firm-year variable. The ratio of treasury stock to the market capitalization (in percentage). Calculated as $[\text{Treasury Stock (Worldscope item 03499)} / \text{Market Capitalization (Worldscope item 08001)}] * 100$. Treasury stock represents the acquisition cost of shares held by the company. Winsorized at level 1% and 99% levels.	Worldscope

	Independent Variables	Source
Cash Flow Shock	<i>Cash Flow Shock</i> measures the difference in their normal cash flows. It is the difference between the average cash flows in years -1 and 0 (legalization year) and the average cash flows in years -4, -3 and -2. It is calculated as [Avg (Cash Flow/Total Assets) in years -1 and 0] - [Avg (Cash Flow/Total Assets) in years -4 to -2].	Worldscope
Dividend Tax Penalty	Market-year variable. <i>Dividend Tax Penalty</i> measures the relative taxation of dividends compared to capital gains, which is defined as: $\delta^{DIV} = \frac{\tau^{DIV} - \tau^{CG}}{1 - \tau^{CG}}$ where τ^{DIV} is the highest marginal tax rate on dividend income and τ^{CG} denotes the highest marginal tax rate on long-term capital gains income. For higher values of δ^{DIV} , firms benefit more from distributing cash through share repurchases.	OECD Tax Database; Manually Collected
KZ Index	Firm-year variable. Kaplan-Zingales index is based on the Kaplan-Zingales (1997) paper on financing constraints. Winsorized at level 5% and 95% levels.	Worldscope
Legalization	Market-year variable. This dummy variable equals one in the years after a market legalized share repurchases and zero otherwise.	Manually Collected
Net Tax Rate on Dividend	Market-year variable. Net Tax Rate on Dividend is the maximum effective statutory tax rates on dividend income, taking into account corporate income tax, personal income tax, and any type of integration or relief to reduce the effects of double taxation.	OECD Tax Database
Operating Cash Flow Volatility	<i>Operating Cash Flow Volatility</i> is the standard deviation of the ratio of operating income to total assets measured over the 5-year period before legalization.	Worldscope
Restriction	This dummy variable equals one if a market has both price and volume restrictions on share repurchases, and zero otherwise. Price restrictions contain all restrictions on the highest price of share repurchases, including but not limited to "Not higher than 5 % above the average price", "Not higher than 10 % above the average price", "Not higher than 15 % above the average price", "Not higher than most recent price", and "Must be purchased at market price". Volume restrictions contain all restrictions on the volume of share repurchases, including but not limited to "Max 5 % of total shares", "Max 10 % of total shares", "Max 20 % of total shares". Legalization * Restriction equals one if there are both price and volume restrictions after legalization, and zero otherwise.	Manually Collected
	Control Variables	Source
EBIT / Sales	Firm-year variable. The ratio of earnings before interest and taxes to net sales (in percentage). Calculated as [Earnings Before Interest and Taxes (Worldscope item 18191) / Net Sales (Worldscope item 01001)] * 100. Winsorized at level 1% and 99% levels.	Worldscope
Leverage	Firm-year variable. The ratio of total debt to total assets. Calculated as {Total Debt (Worldscope item 03255) / [Total Assets (Worldscope item 02999) + Com/Pfd Purchased, Retired, Converted, Redeemed (Worldscope item 04751)]} * 100. Specifically, here we adjust the denominator (total assets) by adding back the share repurchase item. Winsorized at level 1% and 99% levels.	Worldscope
Market-to-book Ratio	Firm-year variable. Worldscope item 09704. The market value of equity to the book value of assets. Calculated as Market Capitalization / Common Equity. Winsorized at level 1% and 99% levels.	Worldscope

Market Share	Firm-year variable. Firm's percentage share of sales by all public firms in the same SIC industry and the same country. Winsorized at level 1% and 99% levels.	Worldscope
Net Income	Firm-year variable. Natural logarithm of [1 + Raw Net Income (Worldscope item 07250)]. Raw Net Income represents the net income of the company converted to U.S. dollars using the fiscal year-end exchange rate. Obtained from Worldscope (Fundamentals Annual).	Worldscope
Net Sales	Firm-year variable. Natural logarithm of [1 + Raw Net Sales or Revenues (Worldscope item 07240)]. Raw Net Sales or Revenues represents the net sales or revenues of the company converted to U.S. dollars using the fiscal year-end exchange rate. Obtained from Worldscope (Fundamentals Annual).	Worldscope
Non-operating Cash Flow	Firm-year variable. The ratio of non-operating cash flow to total assets. Calculated as [Total Other Cash Flow (Worldscope item 04151) / Total Assets (Worldscope item 02999)] * 100. Winsorized at level 1% and 99% levels.	Worldscope
Operating Cash Flow	Firm-year variable. The ratio of operating cash flow to total assets. Calculated as [Funds from Operations (Worldscope item 04201) / Total Assets (Worldscope item 02999)] * 100. Winsorized at level 1% and 99% levels.	Worldscope
PPE / Sales	Firm-year variable. The ratio of property, plant and equipment to net sales (in percentage). Calculated as [Property, Plant And Equipment (Worldscope item 02301) / Net Sales (Worldscope item 01001)] * 100. Winsorized at level 1% and 99% levels.	Worldscope
Quick Ratio	Firm-year variable. Worldscope item 08101. Calculated as (Cash & Equivalents + Receivables (Net)) / Current Liabilities. Winsorized at level 1% and 99% levels.	Worldscope
ROA	Firm-year variable. Calculated as {Net Income (Worldscope item 01651) / [Total Assets (Worldscope item 02999) + Com/Pfd Purchased, Retired, Converted, Redeemed (Worldscope item 04751)]} * 100. Specifically, here we adjust the denominator (total assets) by adding back the share repurchase item. Winsorized at level 1% and 99% levels.	Worldscope
Sales Growth	Firm-year variable. Worldscope item 08631. The growth rate of firm's net sales (in percentage). Calculated as (Current Year's Net Sales or Revenues / Last Year's Total Net Sales or Revenues - 1) * 100. Winsorized at level 1% and 99% levels.	Worldscope
Total Assets	Firm-year variable. Natural logarithm of [1 + Raw Total Assets (Worldscope item 07230)]. Raw Total Assets represents the total assets of the company converted to U.S. dollars using the fiscal year-end exchange rate. Obtained from Worldscope (Fundamentals Annual).	Worldscope

Table A3. Price and Volume Restrictions of Share Repurchases After Legalization

Market	Authority	Price Restriction	Volume Restriction
Canada	TSX (Toronto Stock Exchange)	Not higher than most recent price	Max 5 % of total shares
Germany	BaFin (Financial Supervisory Authority)	The minimum and maximum repurchase price must also be specified before authorization	Max 10 % of total shares
Greece	ATHEX (Athens Stock Exchange)	No higher than most recent price	Max 10 % of total shares, 25% of average daily volume
Israel	ISA (Israeli Securities Authority)	According to the market price	Max 25% of average daily volume
Japan	TSE (Tokyo Stock Exchange)	Not higher than last day price	Max 25% of daily volume (of the previous month)
Russia	MOEX (Moscow Exchange)	Repurchased shares must be reissued at a price not lower than the market value within one year of their repurchase	Max 10 % of total shares
Singapore	SGX (Singapore Exchange)	Not higher than 5 % above the average price (of the previous trading 5 days)	Max 10 % of total shares
South Korea	KRX (Korea Exchange)	Not higher than 5 % above the average price (of the previous trading 5 days)	Max 25% of average daily volume
Turkey	BIST (Borsa Istanbul)	Max and minimum price limits calculated with 10% margin on the determined price in the valuation report	Max 10 % of total shares

Table A4. Variable Definition (Market-year Sample)

This table presents how we construct the market-year level sample and the definitions of the dependent, independent, and control variables used in the Weibull hazard model.

Sample Construction		
Market-Year Level Sample	Each market-year observation contains the market characteristics of a market in a given year together with the year of repurchases legalization. The macro-level economic development measures such as GDP, GDP per Capita, and Market Cap are obtained from DataBank provided by the World Bank. The market average of financial indicators is constructed from Worldscope.	
Dependent Variables		Source
Legalization Event	Market-year variable. This dummy variable equals one in the year of repurchases legalization and zero otherwise.	Manually Collected
GDP Growth (One Year)	Market-year variable. Short-term GDP growth rate. Calculated as $[\text{GDP (one year after)} - \text{GDP (current year)}] / \text{GDP (current year)} * 100$. GDP is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products.	World Bank (WDI)
GDP Growth (Five Years)	Market-year variable. Long-term GDP growth rate. Calculated as $[\text{GDP (five year after)} - \text{GDP (current year)}] / \text{GDP (current year)} * 100$. GDP is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products.	World Bank (WDI)
Total Patent (log)	Market-year variable. Natural logarithm of $(1 + \text{Patent Applications})$. Patent Applications is worldwide patent applications filed through the Patent Cooperation Treaty procedure or with a national patent office.	World Bank (WDI)
Unemployment Rate	Market-year variable. Unemployment refers to the share of the labor force that is without work but available for and seeking employment. Definitions of labor force and unemployment differ by country.	World Bank (WDI)
Independent/Control Variables		Source
Legalization	Market-year variable. This dummy variable equals one in the years after a market legalized share repurchases and zero otherwise.	Manually Collected
Average Abnormal Stock Return	Market-year variable. The average abnormal stock return of all firms in a market-year. Abnormal Stock Return is described in Table A2.	Worldscope
Average Buy-and-hold Return	Market-year variable. The average buy-and-hold return of all firms in a market-year. Buy-and-hold Return is described in Table A2.	Worldscope
Average Capital Expenditure	Market-year variable. The average ratio of capital expenditure to total assets (in percentage) of all firms in a market-year. Capital Expenditure is described in Table A2.	Worldscope
Average Cash	Market-year variable. The average ratio of cash to total assets (in percentage) of all firms in a market-year. Cash is described in Table A2.	Worldscope
Average Dividend	Market-year variable. The average ratio of dividend to total assets (in percentage) of all firms in a market-year. Dividend is described in Table A2.	Worldscope
Average Market Capitalization	Market-year variable. The average market capitalization (log) of all firms in a market-year. Market Capitalization (log) is described in Table A2.	Worldscope

Average R&D	Market-year variable. The average ratio of R&D expense to total assets (in percentage) of all firms in a market-year. R&D Expense is described in Table A2.	Worldscope
Average Tobin's Q	Market-year variable. The average Tobin's Q (adjusted) of all firms in a market-year. Tobin's Q (adjusted) is described in Table A2.	Worldscope
GDP (log)	Market-year variable. Natural logarithm of (1 + GDP). GDP at purchaser's prices is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources. Data are in constant 2010 U.S. dollars. Dollar figures for GDP are converted from domestic currencies using 2010 official exchange rates. For a few countries where the official exchange rate does not reflect the rate effectively applied to actual foreign exchange transactions, an alternative conversion factor is used.	World Bank (WDI)
GDP Growth	Market-year variable. Annual percentage growth rate of GDP at market prices based on constant local currency.	World Bank (WDI)
GDP per capita (log)	Market-year variable. Natural logarithm of (1 + GDP per capita). GDP per capita is gross domestic product divided by midyear population.	World Bank (WDI)
Inflation	Market-year variable. Inflation as measured by the consumer price index reflects the annual percentage change in the cost to the average consumer of acquiring a basket of goods and services that may be fixed or changed at specified intervals, such as yearly. The Laspeyres formula is generally used.	World Bank (WDI)
Market Capitalization / GDP	Market-year variable. Market capitalization of listed domestic companies (% of GDP). Market capitalization (also known as market value) is the share price times the number of shares outstanding (including their several classes) for listed domestic companies. Investment funds, unit trusts, and companies whose only business goal is to hold shares of other listed companies are excluded. Data are end of year values.	World Bank (WDI)
Stocks Traded / GDP	Market-year variable. Stocks traded, total value (% of GDP). The value of shares traded is the total number of shares traded, both domestic and foreign, multiplied by their respective matching prices. Figures are single counted (only one side of the transaction is considered). Companies admitted to listing and admitted to trading are included in the data. Data are end of year values.	World Bank (WDI)
Stocks Turnover	Market-year variable. Turnover ratio is the value of domestic shares traded divided by their market capitalization. The value is annualized by multiplying the monthly average by 12.	World Bank (WDI)
Tax Revenue / GDP	Market-year variable. Tax revenue (% of GDP). Tax revenue refers to compulsory transfers to the central government for public purposes. Certain compulsory transfers such as fines, penalties, and most social security contributions are excluded. Refunds and corrections of erroneously collected tax revenue are treated as negative revenue.	World Bank (WDI)

Table A5. Summary Statistics (Market-year Sample)

	Obs	Mean	Std. Dev	25%	Median	75%
Dependent Variables						
Legalization Event	163	0.07	0.25	0	0	0
GDP Growth (One Year)	423	3.29	3.50	1.33	3.00	4.79
GDP Growth (Five Years)	365	17.84	15.71	7.66	14.77	23.68
Total Patent (log)	414	8.34	1.95	6.80	8.63	9.79
Unemployment Rate	340	7.63	6.66	3.80	5.33	8.47
Independent Variables						
Legalization	436	0.66	0.48	0	1	1
Average Abnormal Stock Return	126	18.32	36.85	-4.00	11.24	32.31
Average Buy-and-hold Return	134	19.35	37.97	-3.46	12.59	37.49
Average Capital Expenditure	139	7.46	3.14	5.84	7.00	8.59
Average Cash	139	16.28	10.90	8.48	12.70	22.87
Average Dividend	139	1.55	1.24	0.86	1.25	1.85
Average Market Capitalization	138	19.71	0.94	19.20	19.72	20.42
Average R&D Expense	139	1.02	1.14	0.06	0.57	1.88
Average Tobin's Q	138	1.60	0.96	1.15	1.40	1.65
GDP (log)	436	27.12	1.29	26.13	26.99	28.03
GDP Growth	436	3.30	3.52	1.34	2.99	4.79
GDP per capita (log)	436	10.13	0.74	9.82	10.33	10.64
Inflation	436	7.48	27.80	1.12	2.39	5.04
Market Capitalization / GDP	436	87.00	66.96	37.58	66.82	113.85
Stocks Traded / GDP	436	57.55	54.13	15.47	42.11	85.05
Stocks Turnover	436	77.26	68.56	30.53	59.86	101.51
Tax Revenue / GDP	436	16.34	7.00	11.17	14.18	21.56

Table A6. Treasury Shares

This table presents the impact of legalizing share repurchases on a firm's treasury shares. The dependent variables are *Treasury Shares Number* and *Treasure Shares Value*. The independent variable of interest is *Legalization*, which equals one in the years after a market legalized share repurchases and zero otherwise. In columns with an odd number, we control for *Total Assets*, *Net Sales*, *Net Income*, *Leverage* and *ROA*. In columns with an even number, we further control for *Sales Growth*, *EBIT / Sales*, *PPE / Sales*, *Quick Ratio* and *Market Share*. We also control the firm and year fixed effects. The p-values clustered at firm level are in parentheses. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)
	Treasury Shares Number		Treasury Shares Value	
Legalization	0.756*** (0.00)	0.823*** (0.00)	1.070*** (0.00)	0.830*** (0.00)
Total Assets	0.0405 (0.79)	0.0719 (0.77)	-0.0592 (0.72)	0.266 (0.34)
Net Sales	0.0255 (0.57)	-0.191 (0.43)	0.0491 (0.28)	-0.302 (0.17)
Net Income	0.0137 (0.84)	0.0797 (0.28)	-0.305*** (0.00)	-0.306*** (0.00)
Leverage	-0.00448 (0.49)	-0.00572 (0.46)	0.00823 (0.24)	0.00554 (0.52)
ROA	-0.0314 (0.11)	-0.0376* (0.09)	-0.0401** (0.04)	-0.0267 (0.22)
Sales Growth		0.000322 (0.77)		-0.000941 (0.39)
EBIT / Sales		-0.00502** (0.03)		-0.00715** (0.01)
PPE / Sales		-0.000948 (0.20)		-0.00125 (0.13)
Quick Ratio		0.0101 (0.82)		-0.0181 (0.72)
Market Share		-1.63e-05 (1.00)		0.00299 (0.68)
Constant	Yes	Yes	Yes	Yes
Firm Dummy	Yes	Yes	Yes	Yes
Year Dummy	Yes	Yes	Yes	Yes
Cluster at Firm Level	Yes	Yes	Yes	Yes
Observations	10,640	8,351	10,640	8,351
R-squared	0.559	0.578	0.506	0.511

Table A7. Overall Effects on Markets

This table presents the impact of legalizing share repurchases on the market instead of the firms. The dependent variables are *Total Patent (log)*, *Unemployment Rate*, *GDP Growth (One Year)*, and *GDP Growth (Five Years)*. All dependent variables are at the market-year level. The independent variable of interest is *Legalization*, which equals one in the years after a market legalized share repurchases and zero otherwise. We control for *GDP (log)*, *GDP per capita (log)*, *GDP Growth*, *Stocks Turnover*, *Stocks Traded / GDP*, *Market Capitalization / GDP*, *Tax Revenue / GDP*, and *Inflation*. Variable definitions are provided in Table A4. The p-values clustered at market level are in parentheses. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)
	Total Patent (log)	Unemployment Rate	GDP Growth (One Year)	GDP Growth (Five Years)
Legalization	-0.0249 (0.90)	1.327 (0.11)	-0.211 (0.84)	0.682 (0.85)
GDP (log)	2.193* (0.09)	0.985 (0.88)	2.108 (0.36)	18.88* (0.10)
GDP per capita (log)	-0.848 (0.49)	-5.215 (0.57)	-7.571*** (0.01)	-54.30*** (0.00)
GDP Growth	-0.00494 (0.72)	-0.227*** (0.00)		
Stocks Turnover	0.000584 (0.75)	-0.00443 (0.24)	-0.00210 (0.73)	-0.00528 (0.62)
Stocks Traded / GDP	0.00102 (0.51)	0.00447 (0.73)	0.00736 (0.18)	0.00126 (0.95)
Market Capitalization / GDP	-0.00421** (0.04)	-0.00773 (0.55)	0.0112 (0.13)	-0.00396 (0.86)
Tax Revenue / GDP	-0.0288 (0.56)	0.233 (0.49)	-0.0456 (0.77)	0.141 (0.82)
Inflation	0.00388 (0.32)	-0.0243*** (0.03)	-0.00507 (0.64)	-0.0424 (0.38)
Constant	Yes	Yes	Yes	Yes
Market Dummy	Yes	Yes	Yes	Yes
Year Dummy	Yes	Yes	Yes	Yes
Cluster at Market Level	Yes	Yes	Yes	Yes
Observations	414	340	423	365
R-squared	0.954	0.903	0.609	0.823