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How institutional development news moves an emerging market

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ABSTRACT

Major moves in Colombia's stock market in the 2000s correspond to major news of progress or setbacks in rebuilding the country's institutions, shattered by widespread guerrilla insurgencies in the 1990s. This contrasts with prior work reporting no news on major market moves in the US, a country with comparatively stable institutions. Colombian economy-level news during the institutional rebuilding phase may have been exceptionally economically significant. This suggests that stock market moves might usefully gauge the importance of institutional changes in other developing economies.

1. Introduction

North and Weingast (2000) posit that market indexes might capitalize information about investors' expectations regarding changes in key institutions, such as the rule of law, political representation, and economic opportunity. This reasoning suggests that investors might move in or out of emerging stock markets as news about the expansion or contraction of access to institutions alters their estimates of that economy's future prosperity. North and Weingast therefore suggest market index returns as potentially useful measures of institutional change.

Cutler, Poterba, and Summers (1989) report that major U.S. stock market moves are not driven by major news. Haugen, Talmor, and Torous (1991), Fair (2002), and Cornell (2013) affirm and refine this finding. Mitchell and Mulherin (1994) connect market activity with news but conclude that the impact of public information on market returns is "not particularly strong". Abnormal market-wide returns in the US do correspond to new information about the overall economy, such as unemployment rates (Boyd, Hu, & Jagannathan, 2005), monetary policy (Hardouvelis, 1987; Jain, 1988; Azar & Lo, 2016; Cieslak, Morse, & Vissing-Jorgensen, 2019; Lakdawalay & Schaffer, 2019), and inflation (Jain, 1988; McQueen & Roley, 1993); but some of the largest US market moves occur absent any substantial news.[1]

This absence of evidence invites two explanations: Major US market moves not driven by news might reflect either systematic noise trading or trading by investors with private economy-level information. The size and transparency of the US market weigh against the latter, so attention has focused on systematic noise trader risk (De Long, Shleifer, Summers, & Waldmann, 1990; Baker & Wurgler, 2013; Shiller, 2014; Hirshleifer, 2015; Thaler, 2016; and others).[2] Market moves reflecting systematic noise, rather than news of institutional development or regression (or other economy-level news), weighs against North and Weingast (2000) suggestion.

However, US evidence may not carry across to emerging markets. Summers (1986), formalizing Sherlock Holmes' observation that "absence of evidence is not evidence of absence", cautions that statistical insignificance means either the tested hypothesis is false or the test's *statistical power* is low (i.e. noise in the data obscures evidence about the

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[1] This contrasts with firm-level abnormal returns in response to firm-level news (see, for e.g., Robinson, Glean and Moore, 2018, for corroboratory evidence in emerging markets). Heston and Sinha (2017) also find evidence that that news predicts firm-level stock returns.

[2] We use the term noise trading, rather than *investor confidence* that might also reflect rational investors' trust in institutions (Fukuyama, 1995; La Porta, Lopez-de-Silanes, Shleifer, & Vishny, 1997; Putnam, 1993; Guiso, Sapienza, & Zingales, 2004). Market reactions to information and sentiment can be intertwined (Engelberg, McLean, & Pontiff, 2018).

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hypothesis, which could nonetheless be true). A test's power is increased by using data where the signal – in this context, changes in institutional development – stands out more prominently.

Emerging markets may provide better conditions for exploring these issues. Market-wide fluctuations are larger in lower-income economies (Morck, Yeung & Yu, 2000, 2013; Jin & Myers, 2006; Karolyi, Lee, & Van Dijk, 2012). Calomiris and Mamaysky (2019), summarizing recent work, argue that emerging markets are prone to more extreme changes in politics, public policy, liquidity, law, governance, fiscal and monetary policy, exchange rate regime, sovereign default risk (absent in most developed economies), and financial crises, all of which affect all or most firms simultaneously. Consistent with this, Dang, Moshirian, and Zhang (2015) find news more correlated across firms, and thus more correlated with the market, in less developed economies (see Piccoli, Chaudhury, & Souza, 2017, for supporting evidence from Brazil).

Colombia in the years from 2001 to 2010 provides a unique setting, even among emerging market economies, for linking institutional development to stock market moves, as North and Weingast (2000) suggest. The year 2000 marks an institutional development nadir. After years of institutional deterioration, the government barely held an archipelago of isolated cities, while rival narco-Marxist guerrillas, right-wing paramilitaries and the army fought over the rest of the country. Even in the cities, institutions as fundamental as the state's monopoly on the use of force had faltered. By 2010, institutions were largely rebuilt and Colombia was a relatively normal Latin American middle-income economy.[3] The decade we study features a sequence of unusually large positive shifts in institutional development as well as negative shifts when institutional reconstruction appeared stalled or failing.[4] Colombia during these years thus provides a useful setting for exploring whether major stock market moves correspond to news of institutional development, as North and Weingast (2000) posit, or to no news, as Cutler et al. (1989) conclude is the case in the US.

We match news records to stock market fluctuations from 2001 to 2010, as Colombian institutions were, amid significant setbacks, reconstructed via a series of major public policy shifts. To distinguish economy-level from global or Latin American volatility, we regress the Colombian market return on US and Latin American market returns, and define the residual as Colombia's economy-level *abnormal market return*. We identify 572 *major market move dates* when the daily abnormal market return exceeded one percent in absolute value and search for major institutions-relevant news on those days. We say a news story is *major news* if it is the first mention of an unambiguously important institutional change with obvious security, political or economic repercussions for Colombia. Designating stories as major news is unavoidably subjective, so we provide a complete list of dates and news summaries. We believe other reasonable assessments would closely correspond to this list. We define news as institutions-relevant if it pertains to security (restoration of the rule of law), political reforms (rebuilding of democratic institutions), or economic reforms (liberalization and openness).

We then search for major institutions-relevant news on each major market move date, without distinguishing those with positive and negative returns. We find news of major institutional expansions on most of major market move dates with large positive returns, news of major institutional contractions on a majority of major market move dates with large negative returns, and no news of either sort on an equal number of randomly selected dates without major market moves (a placebo test). Moreover, within the set of dates with major market moves, the incidence of institutions-relevant news rises with the absolute value of the market move.

These findings are consistent with stock market returns in Colombia in this period reflecting public news about institutional changes. They therefore validate using market-wide moves to gauge the importance of institutional development or atavism (North & Weingast, 2000). In Colombia, institutional development associated with re-establishing the rule of law corresponds to larger market-wide gains in earlier years; whereas reforms that strengthen free market institutions correspond to larger market gains in later years. These findings thus second North, Wallis, and Weingast (2009) thesis that the rule of law is a necessary precondition for free market institutions to aid development.

2. Institutional background

By 2001, Colombia was widely regarded as a failed state. Drug lords, guerrillas of the FARC (*Fuerzas Armadas Revolucionarias de Colombia* or Revolutionary Armed Forces of Colombia) and ELN (*Ejército de Liberación Nacional* or National Liberation Army), and paramilitaries of the AUC (*Autodefensas Unidas de Colombia or* United Self-Defense Forces of Colombia) ran amok.[5] Their brazen kidnappings, murders and terrorist attacks threatened even the government's tenuous control over isolated cities, effectively connected only by air because the highways were too dangerous for travel. A brief overview of how this collapse occurred and how the country rebuilt its shattered institutions provides historical and conceptual background for the empirical tests below.

2.1. The death and resurrection of Colombian institutions

Conflict between leftist guerrillas, right-wing paramilitaries, and the state began after a divisive 1946 election. The victorious Conservative Party encouraged their peasant supporters to seize the land of left-leaning peasants. In reaction, the Liberal and Communist parties organized self–defense associations, which soon become guerrilla units. *La Violencia*, the period from 1948 to 1958, saw extremely violent confrontations between partisan supporters.

In 1953, General Gustavo Rojas Pinilla seized power, and offered amnesty to guerilla and paramilitaries who disarmed. The leftist guerrillas who declined became the FARC, a doctrinaire Marxist–Leninist revolutionary movement that smoldered on in remote parts of the country beyond the writ of the formal government.

Under pressure from the traditional political parties, General Rojas stepped down and Alberto Lleras Camargo served as president from 1958 to 1962. Lleras implemented a classic import substitution program. At first, falling inflation strengthened industrial and agricultural sectors, and increased investment in education and social welfare programs vindicated this program. The economy grew at 6.5% per year from 1966 through 1974 (Hanson, 1987), as non-coffee exports increased rapidly. But by 1974, the low productivity side-effects of longstanding trade protection were becoming evident (Morawetz, 1981). The first oil shock, during the Misael Pastrana administration (1970–1974), brought very high inflation – though indexed mortgages shielded housing construction. Nonetheless, high inflation eroded middle class savings and widened wealth inequalities (Londoño, 1995); and import substitution policies favored large established firms and kept potential exports uncompetitive (Hanson, 1987). By 1978, cotton textiles cost over 50% more than similar foreign products. The central government's fiscal deficit worsened after a coffee boom from 1974 to 1978 ended. Although much public spending was wasteful (Bird, 1984),

[3] According to the Economist Intelligence Unit (EIU), by 2010 Colombia was part of a second generation of emerging markets with an increasingly young population, controlled inflation and a stable financial system. This group of countries was called The CIVETS (Colombia, Indonesia, Vietnam, Egypt, Turkey and South Africa) by Robert Ward, Global Forecasting Director for the EIU. Another remarkable fact is that in March 2011 Standard & Poor's raised Colombia's rating to investment grade.

[4] Unfortunately, data for the institutional collapse period leading up to 2001 are not available in electronic format.

[5] What follows is necessarily brief. For a complete history of Colombia, see Calderon & Restrepo (2010).

successive administrations found spending cuts politically difficult, so chronic deficits and a large inefficient public sector persisted.

In the early 1980s, the FARC, long a low-intensity problem in rural areas, began processing Bolivian and Peruvian coca for the U.S. cocaine market. By the 1990s the FARC ran a complete cocaine production supply chain in Colombia. Drugs proved lucrative, and transformed the FARC's roughly 1000 ill-equipped terrorists into some 10,000 well-equipped fighters.

Meanwhile the state's fiscal situation grew more precarious. Low productivity eventually forced the end of import substitution. President Cesar Gaviria Trujillo (1990–1994) enacted a liberalization program (*apertura económica*) that privatized state–owned firms, cut tariffs, and deregulated the financial system. The first years of liberalization saw real GDP growth of 4–5%.

However, government austerity as FARC grew flush with drug money proved dangerous. The Gaviria administration, seeking to counter the rising influence of the FARC, authorized legal paramilitary groups. The next years saw an almost complete collapse of Colombia's institutions as a cocaine-based economy took shape. During the Ernesto Samper administration (1994–1998), these private police and security paramilitaries became the AUC, numbering about 31,000 by the late 1990s. The AUC's leaders described their goal as solely defensive: protecting people from the FARC. But soon the AUC was also in the drug trade. Amid mounting chaos, the economy buckled.

During the Andrés Pastrana administration (1998–2002), the FARC loomed as a genuine rival to the state. Seeking an armistice, Pastrana allocated the FARC a 42,000 km^2 demilitarized zone (DMZ) in 1998. Fig. 1 shows real per capita GDP dropping slightly in 1998, then falling 4.5% in 1999. Colombia's worst recession since the Great Depression ensued, with unemployment topping 20%, and real interest rates surpassing 25%. Real per capita GDP would not regain its 1997 level until 2004; and the peso dropped steadily through 2002, losing three quarters of its value relative to the US dollar. Liberalizations in the early 1990s were blamed, but the timing gap suggests rational expectations about the catastrophic consequences of Pastrana's appeasement policy towards the FARC.

That policy gave the FARC sovereignty over a large territory, from which it attacked the army elsewhere in the country. By 2001, the FARC commanded some 18,000 fighters. The FARC, the other guerrilla groups, and the paramilitaries became increasingly aggressive through the 1990s. Kidnapping business people and politicians became new profit centers. The kidnapping trade expanded from fewer than 100 in 1978 to over 3000 per year from 1998 to 2001. Extortion and outright theft from businesses and individuals became their third profit center.

By 2000, Colombia was being numbered among a failing, and even failed, states in the sense that the government no longer exercised a monopoly over the legitimate use of force in much of the country (Broekman, 2000; Nuñez, 2001; Rotberg, 2002). Political decisions in Bogotá mattered there and in a few other urban centers. The formal economy crumpled; the most profitable businesses were narcotics, kidnappings, and extortion.

The Álvaro Uribe administration (2002–2010) abruptly terminated the appeasement policy, outlawed the FARC, the other guerrillas and the paramilitaries, and launched full-scale military operations against them all. Popular support for the outlawed groups, now viewed as drug traffickers rather than political fighters, collapsed. As the government reasserted its monopoly on the use of force, security indicators rapidly improved. Kidnappings dropped from over 3000 in 2000 to fewer than 200 in 2010. By April 2004, the government had a permanent police or military presence in almost the whole of Colombian territory for the first time in decades.

Fig. 2 summarizes the impact of these policy changes and shows a sharp and contemporaneous drop in terrorist related incidents and massacres. Foreign Direct Investment into Colombia seems to pick up at the sharpest point of decline in violence there. Fig. 3 shows a substantial net increase in the size of the formal sector (number of legally registered businesses) in the early years of the Uribe administration, when market gains associated with security institution reconstruction were highest. Legal business registrations indicate an expansion of economic activity under formal institutions; so these results underscore security institutions' primary importance.

The Uribe administration also had to rebuild political and economic institutions (Pécaut, 2010). Reconstructed political institutions brought people from previously illegal groups onto voter lists. A sequence of free market liberalizations saw per capita GDP nearly doubling in PPP international dollars over the next decade, rising from $6780 in 2001 to

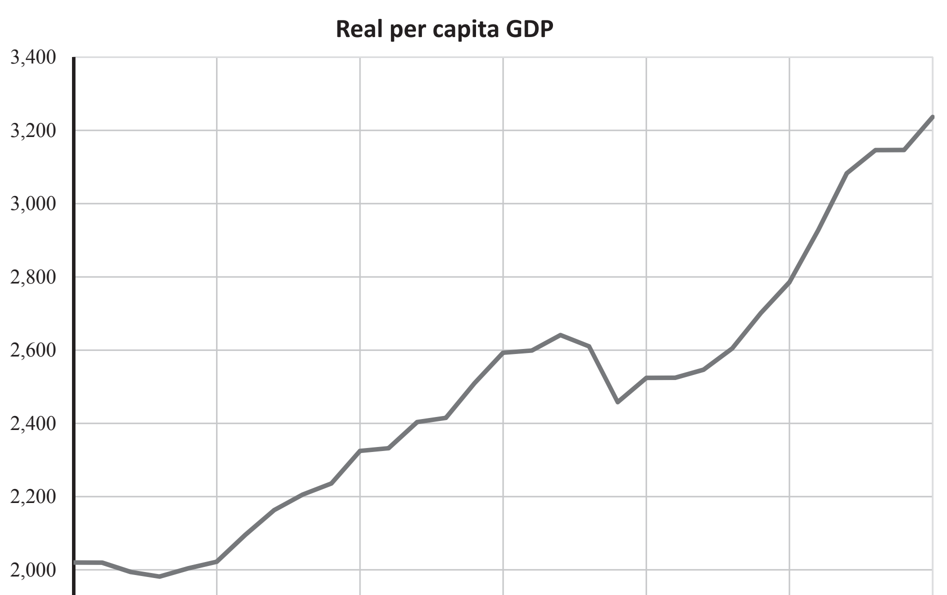

Fig. 1. The figure shows the Colombian gross domestic product per capita from 1980 (2019.85 dollars) to 2010 (3236.58 dollars). Data are in constant 2000 U.S. dollars. Source: World Bank.

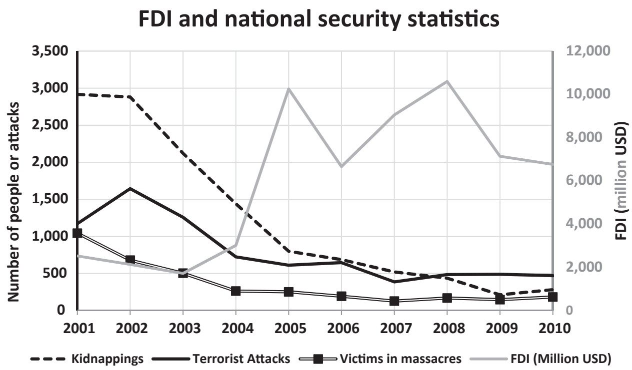

Fig. 2. FDI rises from 2005 on, after the number of kidnappings, terrorist attacks, and massacre victims drops in 2001 through 2005. Sources: DANE (National Administrative Department of Statistics), National Defense Ministry of Colombia, Proexport, and País Libre Foundation. Panel B plots the increase in new listings net of delistings as a fraction of the previous year's total listings.

$10,776 a decade later, with inflation at 2.28% and unemployment under 10% for the first time in decades. Colombian government debt was rated investment grade and *The Economist Intelligence Unit* (EIU) included Colombia in a cohort of promising emerging market economies.

Uribe's detractors and supporters continue to debate the social welfare implications of his reforms. We leave such normative questions to others, and focus on the narrower question of possible links between the stock market's movements, news associated with his policies, and changes in Colombia's institutions.

2.2. Access to institutions

Our objective is to see if major stock market moves correspond to major news of institutional access expansions and contractions. The New Institutional Economics (North, 1990, 1994) provides a framework for organizing these news stories. A baseline institutional structure for Latin American economies is the *limited access order*, in which the state uses its monopoly on the legal use of violence – the police, courts, and armed forces – to protect the property of an *extractive elite* only (North et al., 2009).

A limited access order can be very stable because it vertically integrates government and big business. Because big businesses cannot function without property rights, only the elite, whose property rights the state actually defends, can own them. Because big business owners control the state, its laws and regulations are designed to favor that elite. This typically entails limiting entry and competition (Djankov, La Porta, Lopez-de-Silanes, & Shleifer, 2002). In the ensuing status quo, the vast majority of the population live largely outside formal institutions that provide public goods, legal rights, and property protection to the elite and others protected by the elite's patronage networks (Johnson, Kaufmann, & Zoido-Lobaton, 1998). Institutional access expansion then entails expanding access to these institutions to ever larger fractions of the population. If access is expanded to the entire population, we have an *open access order*.

An open access order has the state not only suppressing private violence, but using its police powers to protect everyone's private property and political rights impartially. This impersonal application of the state's monopoly on violence opens access to economic activity to all. North et al. (2009, 16) argue that this too can become stable because

"People are more likely to obey rules, even at considerable cost to themselves, if they believe that other people will also obey the rules.

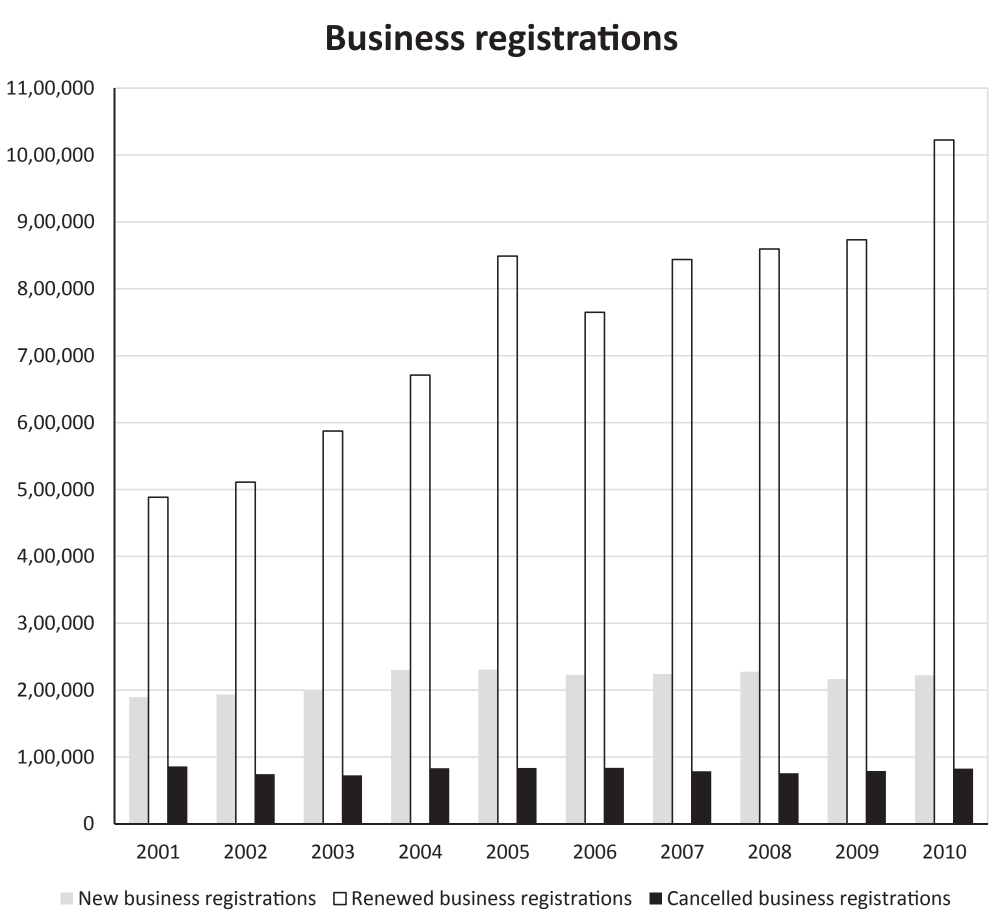

Fig. 3. The figure plots expansion of the formal sector of Colombia's economy by year. New business registrations is the number of businesses attaining formal status for the first time. Renewed business registrations are previously registered businesses that remain in the formal sector the following year. Cancelled business registrations are business that either fail, change hands, or become informal.

This is particularly true with rules about the use of violence. An individual has an incentive to shoot first and talk later when he fears that the others will fail to follow the rules and refrain from using violence. In order for a formal rule – an institution – to constrain violence, particularly violence among individuals with no personal knowledge of one another, some organization must exist within which a set of officials enforce the rules in an impersonal manner. In other words, formal institutions control violence only in the presence of an organization capable of enforcing the rules impersonally".

Prior to *La Violencia*, Colombia approximated a typical limited-access state. Although it sustained a two-party political system, this reflected two vying elite factions – one pro-American and secular, the other pro-Roman Catholic and conservative. In the late 1940s, this competition descended into violent conflict that, over the next half century, largely destroyed the institutions of the limited access order.[6] In particular,

1. The state informally, and later formally, ceded its monopoly on the lawful use of violence to guerillas and paramilitaries.
2. Armed vigilantes seized the property of people who thought themselves within the patronage network.
3. The formal economy collapsed, destroying much of the wealth of the limited access order's elite.

This institutional breakdown denied the limited access order its traditional claims to even this minimal legitimacy. Institutions no longer suppressed wanton violence, sustained the patronage networks, or even protected the property of the elites. The institutional corrosion was slow, and data are not readily available for much of this period.

In contrast, the decade of institutional reconstruction, from 2001 to 2010, is well documented – in particular, stock prices and news archives are readily available. This lets us follow the reconstruction of institutions and look for signs of movement towards what North et al. (2009) call an *open-access order*, the institutional framework they recognize in only two dozen or so high-income countries.

We are interested in how changes in assets prices capture Colombia's institutional reconstruction. North and Weingast (2000) argue that expanded institutional access should increase the value of private property, including financial assets. Specifically (p. 415), they explain that

"The creation of political institutions offering credible commitments to wealth-holders should increase both the value of individual financial assets and the size of capital markets on the whole. Changes in asset prices can be used not only to identify significant political and institutional events, but also to measure the degree of that significance".

We therefore use large swings in the Colombian stock market to identify large changes in asset prices, and then seek to link them to news about major institutional changes.

2.3. Dimensions of institutional access

North et al. (2009) posit three sets of institutions as determining the extent to which an open access order exists. First, *security-related institutions* must place the military and police under political control and charge them with protecting the rights of everyone, not just an elite. Second, *political institutions* must prevent the elite from controlling how the state uses violence. In every existing open-access order, this is the job of democratic government. Third, *economic institutions* must open economic opportunities for the entire populace. In all existing open-access orders, some variant of free market economics has this charge. These three sorts of institutions combine to link politicians' self-interest in retaining power to their upholding the rule of law and advancing broad economic and social interests. We therefore reconsider Colombia's history from 2001 to 2010 with special regard for these three categories of institutional development, and discuss each in the following paragraphs.

2.3.1. Security-related institutions

The state reclaimed its monopoly on the use of violence in stages, and despite several important reversals.

We define *security-related institutional access expansions* as events that make the state's monopoly on the use of violence more credible. These include successful military operations against guerrillas or paramilitaries, paramilitary demobilizations, the capture or killing of guerilla or paramilitary leaders, and operations that successfully damage the narcotics industry, which financed the guerillas and paramilitaries. We define *security-related institutional access contractions* as events that make the state's monopoly on the use of violence less credible. These include successful terrorist attacks by guerrillas or paramilitary forces, successful operations by such groups against the military, revelations of human rights violations by the state, and revelations of government officials having private dealings with guerillas or paramilitaries.

Security-related events need not be solely domestic. For example, Colombia's diplomatic successes in gaining US or EU aid to combat drug trafficking could count too. Another major event in March 2008 was the Colombian military's incursion into Ecuador to attack a FARC camp. This dealt a blow to the FARC, but also precipitated a major diplomatic crisis that damaged Colombia's ties with Ecuador. We call this event a security-related institutional access contraction because it left Colombia's neighbors less likely to cooperate with future efforts to rein in guerillas and paramilitaries.

2.3.2. Political institutions

The suppression of wanton violence is a prerequisite for opening access to political institutions. While security-related institutions constrain violence by non-state actors, political institutions shape the state's use of violence. We define *political institutional access expansions* as events that credibly signify harder constrains on the state's use of violence to favor elites or the state using its monopoly on violence to create and defend the whole people impersonally. The latter includes news of the state enforcing laws, regulations, and policies that curtail political corruption. In contrast, *political institutional access contractions* are events that credibly arouse concerns that the state's use of violence is the discretionary disposal of elites. Examples include revelations of unpunished official corruption, evidence of bureaucratic secrecy and subservience to elites, and the like.

2.3.3. Economic institutions

Chronically limited access to economic institutions may explain Latin America's persistent economic stagnation (Haber, North & Weingast, 2008). Uneducated voters can be attracted to populist policies that, in reality, close off access to economic opportunities for people not already wealthy or well-connected (Rajan & Zingales, 2003; Edwards, 2010). Rapid development programs such as import substitution, which prescribes high tariffs and subsidies to local business owners to stimulate local manufacturing (Prebisch, 1950), tend to favor low-productivity firms dependent on government connections (Edwards, 2010). Despite their near universal failures, such programs persist (Edwards, 2010) – deepening the vertical integration of state and business characteristic of a limited access order and sidelining capital markets, which, in any case, cannot allocate resources efficiently if corporate control is limited to small elites of limited talent (Morck, Stangeland, & Yeung, 2000).

Colombia's government began moving away from such policies in the 1990s, and "began to open its economy to external trade via a series of changes in the law and policy of foreign commerce" (Fandl, 2008, p. 173). The move gathered momentum, and by 2007 El Tiempo could report nine on-going free trade negotiations for access to 54 national

[6] See Badel (1999), Pécaut (2010), and others.

markets.[7] Once in place, such treaties limit low-productivity politically connected domestic firms' scope for lobbying for trade protection or subsidies and expand high-productivity domestic firms' market access. Moreover, as trade becomes more important, foreign firms and capital can provide opportunities for people historically shunned by the local elite. Ministry of Commerce, Industry and Tourism's statistics show exports growing fivefold from 2000 to 2012.

We define *economic institutional access expansions* as events that credibly expand access to economic opportunities. Examples include reforms that expand access to capital, lower costs of capital, increase competition, boost trade, or open access to foreign capital. We define *economic institutional access contractions* as events that credibly constrict access to economic opportunities. Examples include policies that limit new entrants' or unconnected firms' access to capital, raise their costs of capital, limit competition, constrain trade, or block foreign capital.

3. What moves the Colombian stock market?

The abruptness and importance of this period's security, political, and economic institutional changes make 2001 to 2010 a useful testing ground under the premise that more important news stories are more likely to move the market. Nonetheless, the usual issues in linking stock price movements to news arise here too. First, insiders can learn of news early, and their trades might move the market before the news becomes public. Second, public investors' expectations about future news can move stock prices in advance and even induce seemingly perverse reactions to news – as when a firm's low earnings announcement boosts its share price because investors expected worse. Third, public investors may not believe some news. For example, news of higher tax rates may not lower stock prices if investors expect ample loopholes. All such concerns are genuine, but also work against successfully linking major stock market moves to major news stories.

3.1. Defining major stock market moves and major news stories

3.1.1. Constructing market indexes

Stock *i*'s *return* on trading day *t*, denoted $R_{i,t}$ is the stock's total return from the *t*–1 close to the date *t* close, adjusted for dividends, splits, and stock dividends. Daily total returns and trading volumes for all common stocks issued by firms listed on the Colombian Stock Exchange (CSE) from January 2000 to September 2010 are from Thomson DataStream (TDS). These comprise 95% of total market capitalization. The remaining 5% consists of preferred shares, committed to paying constant dividends.

The list of traded common stocks varies little over time. No Colombian firms with listed common stocks went bankrupt or were taken over in the decade from 2000 to 2010; however, some initial public offerings (IPOs) occurred during this period.

Many CSE stocks trade infrequently, and DataStream assumes a total return of zero until trading recurs. This creates artificial periods of zero returns followed by large positive or negative one day returns when infrequently traded stocks' prices catch up with market moves. Including only stocks with positive volume would create undesirable addition and deletion problems in the construction of the indexes, so we apportion thinly traded stocks' returns across periods of inactivity. To illustrate, the cement company Paz del Rio did not trade between April 28th and May 3rd 1994. Its DataStream total return index is 117.14 for April 27th and subsequently until May 4th when the figure abruptly changes to 114.29 – seemingly a string of zero returns followed by a one-day price drop of 2.4%. However, this could be misleading if the stock's shadow price changed during the period of inactivity. To prevent such effects from artificially magnifying market swings, we apportion such returns evenly across inactive dates and the first day of renewed trading. That is, we decrease Paz del Rio's total return index by 0.49% each day from April 28th through May 4th. We then use these recalculated stock-level total return indexes to construct market indexes. Of course, the stock's shadow price might follow any path from 117.14 to 114.29, perhaps even that assumed by DataStream. Our approach most likely induces a conservative bias, erring on the side of understating the magnitudes of market-wide swings. We construct our own index rather than taking that in DataStream as given to mitigate this problem and because some tests below utilize subindexes of freestanding firm stocks and business group member firm stocks. Nonetheless, intermittent and thin trading doubtless add noise to our market returns.

To further mitigate this, we construct a market index of only the most actively traded common stocks. We say a stock is *actively traded* if it trades, on average, at least once every two days. This screen leaves 19 to 27 actively traded stocks, the count rising to 20 in 2003, 25 in 2007 and to 27 in 2009 because of IPOs that remain actively traded.[8] Actively traded stocks comprise roughly 80% of total market capitalization on an average trading day. The *active market return* is the equal-weighted mean of these stocks' daily total returns (i.e. adjusted for dividends and stock splits), and is denoted $R_{a,t}$. This is our primary market index return.

We use an equal-weighted index because a few very large firms' stock price movements drive value-weighted indexes. We nonetheless construct value-weighted analogs to $R_{a,t}$ and our other equal-weighted indexes, and repeat our tests using these as robustness checks.

We also construct alternate market return measures. We extend the active sample to 26 to 34 active or intermittently traded stocks that trade on average at least once every five days. These comprise approximately 83% of total market capitalization. Using these, we construct a daily equal-weighted *extended market returns* time series, denoted $R_{e,t}$ and equal to the equally-weighted average of the returns of all these stocks each day. For completeness, we analogously construct equal-weighted *complete market returns*, denoted $R_{c,t}$ using all 58 to 68 common stocks (including very infrequently traded ones).

A second concern is that moves in the Colombian market might reflect global, rather than local factors. We therefore construct an *active market abnormal return* as

$$AR_{a,t} = R_{a,t} - \widehat{R}_{a,t} \tag{1}$$

where $\widehat{R}_{a,t}$ is a predicted value of $R_{a,t}$ each day based on the rolling regression

$$R_{a,t} = \alpha_{a,t} + \beta_{a,t} R_{LA,t} + \vartheta_{a,t} R_{US,t} + \varepsilon_{a,t} \tag{2}$$

The parameters $\alpha_{a,t}$, $\beta_{a,t}$ and $\vartheta_{a,t}$ are estimated over a window from 140 to 21 trading days before date *t*. The right-hand side variables, $R_{LA,t}$ and $R_{US,t}$, are the returns on the TDS Latin America Index (TDSLAI), and the TDS US Index (TDSUSI), respectively. Both variables are expressed in COP. An identical methodology constructs our *extended market abnormal return* and *complete market abnormal return*, $AR_{e,t}$ and $AR_{c,t}$, from the extended market return $R_{e,t}$ and complete market return $R_{c,t}$.

A third concern is that we may not identify event dates precisely. For example, news that appears in the papers on date *t* might have been carried on television or radio on date *t*-1. If so, there may be information spillover prior to (or after) the designated event dates. We therefore repeat our tests using cumulative returns, the sum of daily returns starting t_s trading days before the recorded major market move date *t*

[7] See "Colombia busca tener TLC con 54 naciones", *El Tiempo*, August 23, 2007.

[8] Brio and Foganza trade less than once every five days after their IPOs on March 2nd and March 20th, 2009, respectively. The other eight IPOs, which all trade at least every other day are ETB (September 26th 2003), BVC (June 28th 2007), Enka (September 24th 2007), Ecopetrol (November 28th 2007), BMC (December 6th 2007), Helm (December 19th 2007), EEB (July 29th 2009) and Biomax (October 28th 2009).

Table 1
Incidence of news about institutions on major market move days.

The Table classifies the 101 "news days" in three different types of institutional change (security, political or economic). In addition, each of the three categories of events is partitioned into institutional expansions and institutional contractions. It also shows subclasses for the three categories.

Type of Institutional Change	Expansion	Contraction	Total
Security			
Purely domestic	15	12	
With global interference	10	12	
Subtotal	25	24	49
Political institutions			
Political system	5	12	
Protection to investors	3		
International perception	2		
Government efficiency		3	
Tax stability		2	
Subtotal	10	17	27
Economic institutions			
Trade - Goods market openness	12	8	
Capital market openness	2	1	
Internal competition	2		
Subtotal	16	9	25
Total	**51**	**50**	**101**

and ending t_e trading days after t. Specifically, we define the cumulative return of the active market return as

$$CR_{a,t} = \prod_{\tau=t-t_s}^{t+t_e} (1 + R_{a,\tau}) - 1 \tag{3}$$

and the cumulative active market abnormal return as

$$CAR_{a,t} = \prod_{\tau=t-t_s}^{t+t_e} (1 + AR_{a,\tau}) - 1 \tag{4}$$

Analogs using the *cumulative extended market returns*, $CR_{e,t}$, and *cumulative abnormal extended market returns*, $CAR_{e,t}$, are constructed similarly. The cumulative *complete market return* and *cumulative complete market abnormal return*, denoted $CR_{c,t}$ and $CAR_{c,t}$, are similarly constructed.

Finally, we also construct subindexes composed of affiliated firms, those in business groups controlled by elite business families, and unaffiliated firms, defined as all others. We construct separate cumulative returns and abnormal returns for each subindex and repeat this exercise using the active and extended samples.

The tables focus on the raw and abnormal active and extended market indexes. The complete raw and abnormal market indexes yield identical patterns of results, but are conceptually problematic because of exacerbated thin trading bias problems.

3.1.2. Identifying major market move dates and news dates

We define a *major market move date* as those on which the abnormal active market swings at least 1% in either direction – that is, dates on which $|AR_{a,t}| > 0.01$. Scanning through the 2255 trading days from July 3rd 2001 and ending September 30th 2010 identifies 572 major market move dates.

For each major market move date, without information about the sign of the market's movement that day, we note the day's front-page headline news in the local papers and scan major international newspapers for news about Colombia. An assumption in our methodology is that news of institutional change reaches investors via print media. The major Colombian newspapers are published in the early morning, and the stock market was open only from 9:00 to noon throughout our sample window (afternoon trading began in 2012). This allows us, in most cases, to identify with a high degree of confidence which news items might be expected to move the market on which days.

To count as major news, the story must be important, new, and pertinent. The *importance* of a news item is gauged by its *shelf life*. A news story that never merits mention again is unlikely to be important. A news story that continues to attract follow-up coverage for many weeks or months is more likely to be important. We say a news item is *important* if it has at least one follow-up story at least one month later. We define *follow-up stories* as those that recapitulate the news, but do not add new information that alters its political or economic importance. We say an article is *new* if it does not qualify as a follow up article – that is, if it conveys information about an entirely new development or new information that alters the political or economic importance of a prior story.

Inferring the *pertinence* of a news story is unavoidably subjective. A sporting win is likely not pertinent news, the successful negotiation of a free trade treaty likely is pertinent news, and many things fall in between. To gauge pertinence, we read each story, looking for relevance to three dimensions of institutional change: those associated with the rule of law, the legitimacy of the political system, and the freedom of markets.

A news items is attached to a date only if it is both important and pertinent. This exercise identifies 101 important and pertinent event-dates of the 572 "major market move dates" where the market moved up or down by more than 1%. We thus have 101 "news days" and 471 "no news days".

In a third step, each of the three categories of events is partitioned into institutional access expansions and institutional access contractions – again, without reference to the sign of the market's movement that day. Finally, we defined subclasses for the three categories. For example, an event associated with the state's monopoly on the legal use of violence is labeled as a purely domestic event.

Table 1 summarizes this exercise. Appendix A provides a complete list of events, along with their classifications and the sign and magnitude of the stock index movement that day.

3.1.3. Measurement windows

Fig. 4 separately plots the mean active market returns, using active stocks only, for all institutional access expansions (black), institutional access contractions (dark grey), and no news (light grey) major market move dates, in event time, from date t – 20 to t + 20.

The figure shows that unusual returns are concentrated on the day of the major market move. Given the very large *annual* returns on the CSE over the 2001–2010 period, longer run returns around the major move tend to be positive, reflecting the long-term trend. We therefore concentrate our analysis on one-day returns. As robustness checks, we repeat all our tests using three-day and five-day windows centered on the major move date and find qualitatively similar results.

Analogous figures (not shown) repeat the exercise for market returns based on a complete list of stocks, rather than active stocks only; as well as for subcategories of news days reveal similar patterns.

3.1.4. Magnitudes of market moves and the incidence of news

Thus far we have based our analysis on market index returns that exceed 1% in absolute value. This led to movements in the stock market that were corroborated by news articles in many, but not all, cases. For example, on the 572 days when the market moved by more than 1%, we find substantiating news on 101 days – that is, a pick-up rate of 17.6%. Focusing on a narrower subset of market movement whose absolute values exceed two percent boosts the pick-up rate to almost 40%. A still more restrictive criterion of three percent boosts the incidence of news days to 78% of move days. This monotonic relation, summarized in Fig. 5, supports the view that larger stock market movements are more likely due to economy-level fundamentals news.

4. Empirical findings

We contrast the means and variances of market returns across classes of major market movement dates. For example, to compare the

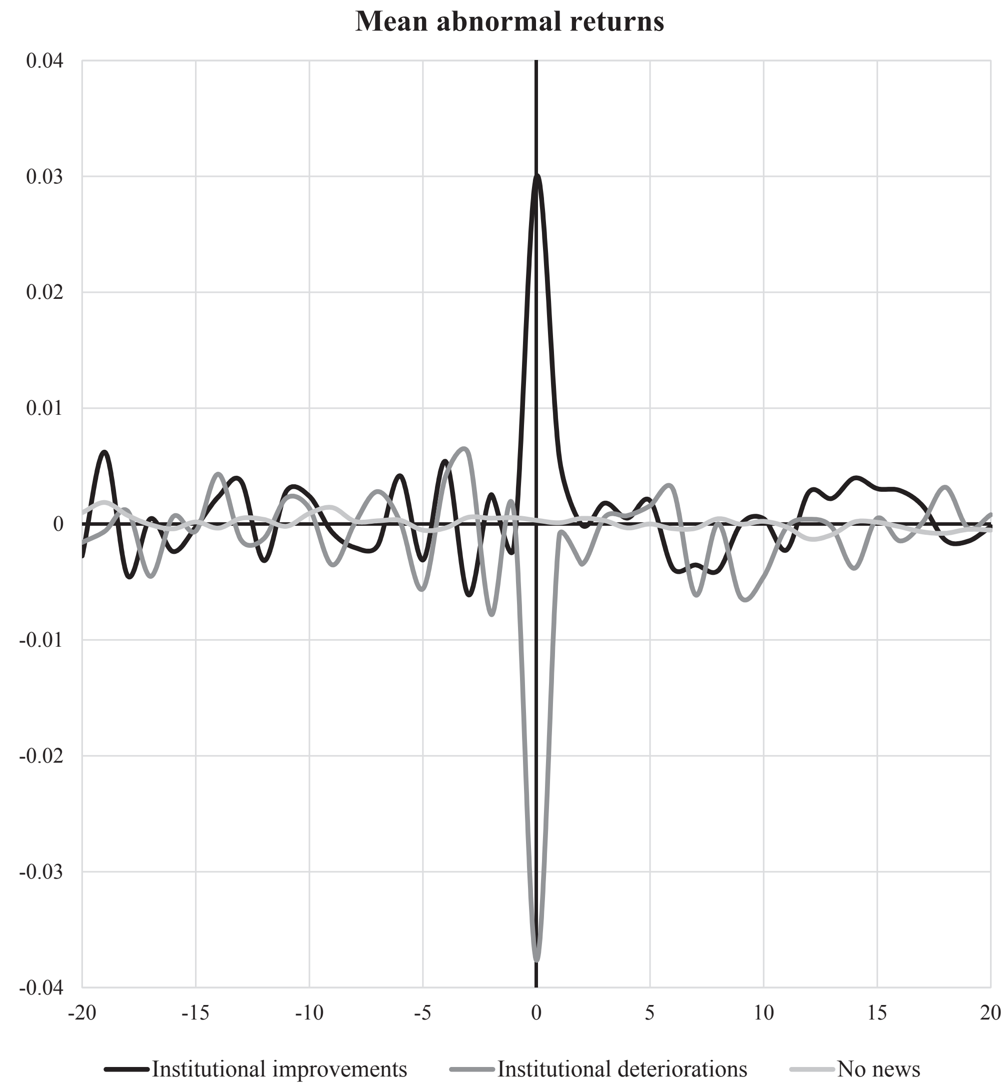

Fig. 4. The figure separately plots the mean active market returns, using active stocks only, for all institutional expansions (black), institutional contractions (dark grey), and no news (light grey) major market move dates, in event time, from date t – 20 to t + 20.

mean or the variance of market returns in the class of major market move dates with no news with the mean or the variance of market returns with news of institutional changes, we present the mean or the variance of market returns for each class. Our statistical tests are F-tests to reject equal variances in the two classes. Where potentially useful, these are supplemented by the appropriate t-tests to reject the null hypothesis of equal means.[9]

Further tests compare means and variances of the market's return across finer sub-classes of major market move days. This exercise partitions major market move dates with news of institutional changes into those with news of institutional access expansions and those with institutional access contraction; those with news of changes in security, political or economic institutions; and their intersections. This exercise was done without reference to the sign of the market move on each day.

In Fig. 6, we plot the variance of abnormal market returns twenty days before and after the major market move day. We find that abnormal market returns on news days have a variance more than five times larger than on non-news days. The heightened abnormal market return variance on news days relative to no-news days is most starkly evident on the major market move date, and much less so on the days immediately surrounding the major market move date. Excluding this immediate window, market return volatility is statistically indistinguishable for news and no-news days, indicating that the market volatility is not spread out through time.

4.1. Analysis of variance

Tables 2 and 3 present Analysis of Variance (ANOVA) tests partitioning major market move dates into those with and without news of institutional access expansions or contractions. F-test p-levels used to contrast these variances.

Panel A in Table 2 shows significantly higher stock market volatility on major market move dates with news of institutional changes than on major market move dates without such news. This confirms the results in Fig. 6 that news of institutional changes corresponds to more extreme market swings, even within this set of dates on which the market moved up or down by more than one percent. This pattern is confirmed across all sub-samples of stocks.

Table 3 partitions the active stocks sample into affiliated and unaffiliated firms and repeat this exercise. Unaffiliated firm stocks are marginally significantly ($p = 0.11$) more volatile than are the stocks of firms in family-controlled business groups on dates with institution-relevant news. Otherwise affiliated and unaffiliated firms stocks

[9] The t-tests are roughly equivalent to regressing the market return or abnormal return on dummies for the various classes of major move dates.

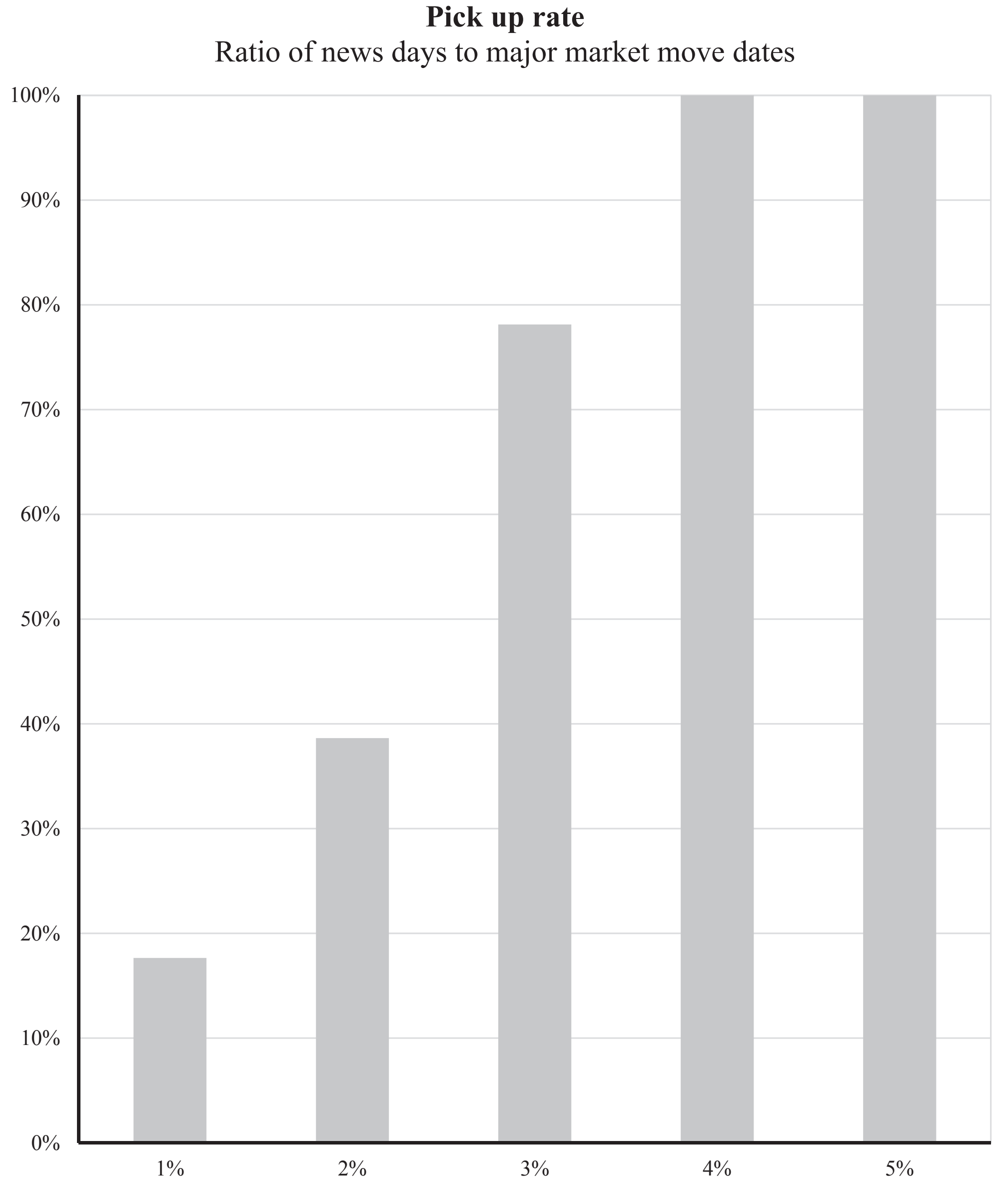

Fig. 5. The figure plots the ratio of news days to major market move dates (pick-up rate) for different levels of market variations (from 1% to 5%). For example, on the 572 days when the market moved by more than 1%, there was substantiating news on 101 days, representing a pick up rate of 17.6%.

variances are statistically indistinguishable. Panel B in Table 3 elaborates on this analysis based on category of news – that is, news of changes in security, political or economic institutions. P-values from F-tests are provided in the table. In general, there isn't a significant difference between affiliated and unaffiliated firms on major move days with news about security-related or economic institutions. However, the expansion and contraction of political institutions corresponds to significantly greater volatility in a subindex of unaffiliated firms than in a subindex of firms in the business groups of Colombia's elite families. This is consistent with the unaffiliated firms being more dependent on formal institutions.

Overall, Tables 2 and 3 support linking large moves of the Colombian stock market to news about expected access to institutions expanding or contracting. Thus, unlike in the U.S. stock market, major market moves in Colombia do appear to correspond to news – specifically, to news concordant with expanding or contracting expected access to institutions.

Other alternative ways of performing this exercise show the results in Table 2 to be highly robust. For example, estimating Colombian abnormal market returns by regressing the raw local market returns on the DataStream Emerging markets total return index,[10] rather than the TDSLAI and USI, yields qualitatively similar patterns of means to those shown. The tables use returns in Colombian pesos. This is reasonable because inflation was low throughout the sample window. Nonetheless, converting all prices and indexes to US dollars, and replicating all the above also generates a table similar to Table 2. We also redo all our tests using both expanded and completed abnormal market and market returns. In addition, news dates could not be always precisely identifiable from newspaper archives. For example, television news might report an event the day before it appears in newspapers, and rumors might circulate even earlier. Alternatively, the full ramifications of an event might not be clear immediately, and the market might move for different days as these become clear. We therefore redo our tests searching for news in larger windows around major market moves and our results remain unchanged.

[10] We repeat these tests using the TDS Brazil Total Return Index and TDSGI. Very similar results ensue.

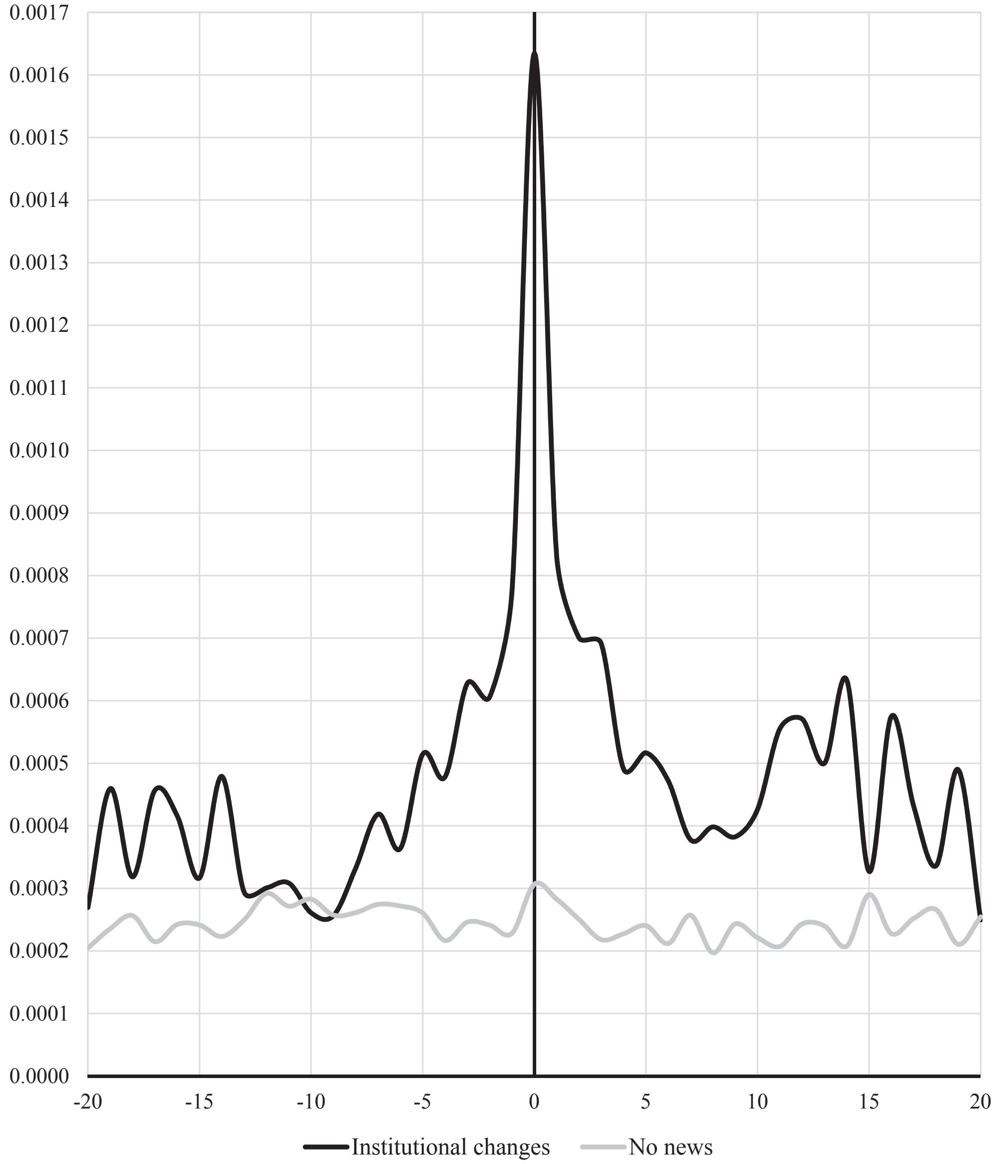

Fig. 6. The figure plots the variance of abnormal market returns twenty days before and after the major market move day.

Table 2
Analysis of variances of market abnormal returns.

Panel A shows the Analysis of Variance (ANOVA) tests partitioning major market move dates into those with and without news of institutional expansions or contractions for the active, expanded and complete market indexes. Panel B elaborates on the ANOVA analysis subdividing new days by category of news – that is, news of changes in security, political or economic institutions. Numbers in braces are p-levels for F-tests of differences in variances, and are in boldface for significance at 10% or better

	Obs.	Active Market Index 27 firms		Expanded Market Index 34 firms		Complete Market Index 68 firms	
Activity criterion for inclusion in index		Traded at least every two days		Traded at least every five days		No restriction	
Panel A							
Class of major move days		*Standard Deviations of one-day Abnormal Market Return {p-level for F test rejecting equal variance}*					
Institutions-relevant news	101	0.0404	**{0.00}**	0.0333	**{0.00}**	0.0163	**{0.00}**
No news	471	0.0175		0.0147		0.0073	
Panel B							
Classes of major move days		*Standard Deviations of one-day Abnormal Market Return {p-level for F test rejecting variance equal to that on no-news major move days}*					
Institutional news re.							
Security	49	0.0385	**{0.00}**	0.0321	**{0.00}**	0.0158	**{0.00}**
Political	27	0.0385	**{0.00}**	0.0320	**{0.00}**	0.0157	**{0.00}**
Economic	25	0.0431	**{0.00}**	0.0348	**{0.00}**	0.0172	**{0.00}**

Table 3
Analysis of variance for affiliated versus unaffiliated firms.

Panel A shows the Analysis of Variance (ANOVA) tests partitioning major market move dates into those with and without news of institutional expansions or contractions for the active affiliated and unaffiliated market indexes. Panel B elaborates on the ANOVA analysis subdividing new days by category of news – that is, news of changes in security, political or economic institutions. Numbers in braces are p-levels for F-tests of differences in variances, and are in boldface for significance at 10% or better.

	Obs.	Affiliated firms index 17 firms		Unaffiliated firms index 10 firms		Difference	
Activity criterion		Active stocks: Traded at least every two days					
Panel A							
Class of major move day		*Standard Deviations of one-day Abnormal Market Return {p-level for F test rejecting equal variance}*					
Institutions-relevant news	101	0.0409	**{0.00}**	0.0462	**{0.00}**	−0.005	{0.11}
No news	471	0.0187		0.0178		0.001	
Panel B							
Class of major move day		*Standard Deviations of one-day Abnormal Market Return {p-level for F test rejecting variance equal to that on no-news major move days}*					
Institutional news re							
Security	49	0.0400	**{0.00}**	0.0350	**{0.00}**	0.005	{0.18}
Political	27	0.0373	**{0.00}**	0.0586	**{0.00}**	−0.021	**{0.01}**
Economic	25	0.0440	**{0.00}**	0.0443	**{0.00}**	0.000	{0.48}

4.2. Institutional change news and market moves

Table 4 presents comparisons of mean abnormal market returns. Institutional access expansion news dates have a positive mean abnormal return of 3.00%; those with news of institutional access contraction have large negative mean abnormal active market returns of –3.76%. These are significantly different from both zero and the corresponding mean abnormal active market returns on no-news major market move days. Recall that our sample of major market move days contains, by construction, only those days when the absolute value of market returns exceeds 1%. Within this set of dates, these results associate that days with institutional access expansion and contraction news with large positive and negative returns vis-à-vis days without such news.

In general, affiliated and unaffiliated firms display statistically indistinguishable reactions to both access expansion and access contraction news, though the point estimate for affiliated firms gaining from institutional expansion news exceeds that for unaffiliated firms. To the extent that affiliated firms are more politically well-connected intrinsically, the insignificant difference between the two groups is surprising. Our priors were that unaffiliated firms would gain more from institutional access expansion because limited access institutions, by definition, limit access to elite insiders. One possibility is that firms prominent enough to enter our sample are effectively politically connected in any event, so the institutional changes we study might strengthen or weaken limited access, rather than expand access. We discuss this issue in Section 4.4.

Abnormal market returns on major market move days with negative news are significantly larger in absolute value than those on major market move days with positive news. This is consistent with the market reacting more sharply to bad news than good news. Below we investigate whether the asymmetry between access expansion and contraction news impacts is common to all types of news, or if it is driven by particular institutions.

Table 4
Mean active stocks abnormal market return: expansions and contractions.

The table contrasts the mean of abnormal market returns after separating major market move days with news of institutional expansions from those with news of institutional contractions. Numbers in square brackets are p-levels for t-tests of differences in mean abnormal returns, and are in boldface for significance at 10% or better.

	Obs.	Active market index (27 firms)	Affiliated firms index (17 firms)	Unaffiliated firms index (10 firms)	Difference significance [p-level]
Activity criterion		Active stocks: Traded at least every two days			
Panel A.					
Class of major move day					
Expansion news	51	0.0300	0.0308	0.0248	[0.22]
		[0.00]	**[0.00]**	**[0.00]**	
Contraction news	50	−0.0376	−0.0370	−0.0402	[0.62]
		[0.00]	**[0.00]**	**[0.00]**	
Panel B.					
Class of major move day					
News Suggesting Expansion of Institutions re.					
Security	25	0.0250	0.0266	0.0167	**[0.02]**
Political	10	0.0292	0.0287	0.0233	[0.59]
Economic	16	0.0383	0.0386	0.0383	[0.98]
News Suggesting Contraction of Institutions re.					
Security	24	−0.0408	−0.0410	−0.0396	[0.85]
Political	17	−0.0359	−0.0329	−0.0480	[0.32]
Economic	9	−0.0325	−0.0343	−0.0270	[0.14]

4.2.1. Changes in the security situation and market moves

We posit that without the government's monopoly on violence, that is, when non-governmental actors compete openly in meting out violence, very little long-term investments can take place. Thus any event that degrades security ought to be associated with large declines in asset values, regardless of whether the assets are owned by affiliated or unaffiliated firms. We find that security institutional setbacks are associated with a decline in asset values (–4.1%), significantly higher than the increase in asset values upon security improvement news (+2.5%). One possibility is that a strong security institution is a necessary condition for economic growth – any deterioration therefore has a relatively big impact on asset values. By contrast, security improvement news is by itself not a sufficient condition for economic growth to take place – the quality and strength of economic institutions (free trade, market access, finance etc) that appear in its wake determines the magnitude of asset value revaluations.

Interestingly, security contraction events are equal opportunity setbacks – there is no significant difference in the devaluations of affiliated and unaffiliated firms. By contrast, security expansion events are associated with a larger revaluation for affiliated vs. unaffiliated firms, perhaps indicative of the greater ability of affiliated firms to raise financing for the investment boost associated with greater security.

4.2.2. Changes in political institutions and market returns

Three main findings emerge from Table 4 regarding political institutions. First, major market move days with news of expansions in access to political institutions have mean positive abnormal returns equal to 2.92%. Second, major market move days with news of contractions in access to political institutions have a mean negative abnormal return of –3.59%.

According to North (1990), political rules lead to economic rules, though causality can run both ways. Political rights and hence individual contracts are specified and enforced by political decision-making, but economic interest can also exert influence on the political structure (e.g rent seeking behavior). In a simplified political model, the ruler offers protection and justice or at least the reduction of internal disorder and the protection of property rights in return for taxes (North, 1990).

Some of the events related to news of expansions in access to political institutions in this study are represented by the enactment of new laws which improve firms' disclosure and price formation and making the rules of the game for the economic exchange more transparent. In addition, some events are related to changes to the political system, such as constitutional reforms and regulation on the financing of political campaigns. These events support the establishment of a set of rights and privileges for all citizens, aiming to create a stable structure for political and economic relationships, and facilitate enforcement that protects organizations and exchange relationships. In contrast, news of contracting access to political institutions, such as changes in rules which threaten tax and the stability of the political system, cause the opposite effect, and are less likely to have a symmetric effect on all firms. We conjecture that unaffiliated firms have more to lose from events associated with a weakening of political institutions (for e.g., such events may favor crony capitalism).

Major market move days with political news see larger moves in unaffiliated firms' stocks than in the stocks of firms in a business group controlled by one of Colombia's elite business families. Once again, this is consistent with the unaffiliated firms being more dependent on formal institutions. Table 4 shows the average return on major market move days with news of contracted access to political institutions to be −4.8% for unaffiliated firms and −3.3% for affiliated firms (though the difference in means is not significant).

4.2.3. Changes in economic institutions and stock market returns

The mean return associated with positive news about economic reforms is 3.8% and –3.2% for negative news (Table 4). These findings suggest that an economic institutional access expansion (contraction) has a positive (negative) impact on the market's expectations in regards to firms' future profits. As we discussed before, a proper economic model should embody a set of economic institutions providing incentives for individuals and organizations to be engaged in productive activities. We note briefly that economic expansion events elicit a larger impact than economic contraction events, in contrast with security expansions and contractions. We conjecture that this is because security institutions are best seen as necessary orders, while economic institutions are best seen as structures built atop security institutions. Later, we investigate this conjecture in a regression framework.

We interpret our results as underscoring the importance of governmental efforts to establish new trade agreements, foster internal competition, and gain capital market openness. A better international perception of the Colombian economic environment should increase economic exchange and foster long-term performance of the economy. Goods market openness through trade agreements enhances commercial possibilities for local and foreign investors, rules fostering internal competition encourage economic exchange and international perception of local economic environments affects the willingness of foreign entrepreneurs to invest in those countries. In addition, financial market openness also has an important role fostering economic performance. Bekaert, Harvey, Lundblad, and Siegel (2007) find evidence suggesting that financial market openness seems to be an important determinant of the ability to exploit growth opportunities in a country, and are hence a critical factor in spurring economic growth. In later work, Bekaert, Harvey, and Lundblad (2011) dissect growth into two channels, capital stock growth and total factor productivity growth, and find that financial openness positively impacts both of these channels, but has a greater impact on factor productivity than investment. According to them, this explains why the growth effects of liberalization appear to be largely permanent, not temporary. They attribute these permanent liberalization effects to the role financial openness plays in stock market and banking sector development, and to changes in the quality of institutions.

4.3. Sequencing of institutional access expansion

Colombian institutions all but collapsed, and then were resurrected. This lets us examine how various forms of institutional development might depend on each other. For example, Acemoglu and Robinson (2006) write

"Any sudden eruption of violence, any turmoil transforming the political system, any situation heightening the already existing conflicts in society also disrupts the economic structure, the relationship of trust, the cooperation that is the essence of capitalist production" (p288).

Such considerations lead them to argue that well developed security and political institutions must be locked in for economic institutional access expansions to have traction. Acemoglu, Johnson, and Robinson (2005) likewise argue that institutions providing basic law and order must be in place before other sorts of institutions – e.g. those supporting broader political rights or market economics – can be effective.[11]

To explore these issues further, we estimate the cumulative value to the Colombian stock market of the country's stock at time t of institutional capital related to institutions of type $h \in$ {security, political, economic} as

$$K_{h,t} = \prod_{\tau=0}^{t-s} (1 + AR_{h,L,t}) - 1 \tag{6}$$

Thus, $K_{security}$ is the cumulative value to the stock market of all the events classified as either security enhancements or security access contractions from the beginning of our sample period (July 3rd 2001) until $\boldsymbol{s}$ time units prior to time $\boldsymbol{t}$. The cumulative values to the stock market of political and economic institutional capital, $K_{political}$ and $K_{economic}$, respectively, are analogously defined.

We then run regressions of the form

$$AR_{L,t} = b_0 + \sum_h b_h K_{h,t} + u_t \tag{7}$$

The left-hand side variable is the abnormal return associated with an economic institutional access expansion and the right-hand side variables are the measures of the stock of each sort of capital accumulated prior to time $\boldsymbol{t}$. In addition, we estimate other analogues of this estimation where the left-hand side variable is defined as the abnormal returns on security access expansions events and the abnormal return on each political institutional access expansion.

A first issue is the magnitude of $\boldsymbol{s}$. An institutional access expansion might become more credibly part of the country's institutional capital with the passage of time. That length of time is an empirical issue, so we rerun regression [7] for $\boldsymbol{s} \in$ {0, 1, 2, … 12 months} for our sample of economic institutional access expansions and access contractions. If $\boldsymbol{s} = 0$ months, we take the cumulative valuation of each form of institutional capital up to the day prior to the event date in question.

Table 5 summarizes the results of this exercise, and reveals a significantly magnified abnormal return for economic institutional changes that follow a more valuable cumulative net access expansion in security and political institutions. The market's valuation of the strengthening of economic institutions rises significantly as security-related as well as political institutional capital accumulates. In contrast,

[11] Acemoglu et al. (2005) distinguish *de facto* political power, the private use of violence, from *de jure* political power, sway over the state's use of legal violence, and argue that the latter supplanting the former is a precondition to broader institutional development.

Table 5
Sequencing of institutional access expansion.

The table shows the link between prior institutional expansions and abnormal returns of current institutional expansions. Abnormal return associated with institutional expansions (the dependent variable) is calculated based on the TDS Latin American and United States Indexes return as described in [1]. Security, Political, and Economic Capital is defined as the cumulative abnormal return associated with Security, Political, and Economic institutional expansions starting from July-3–2001 through T, where T is the closing price three-months prior to the event. Numbers in parenthesis are regression coefficient standard errors. Significant coefficients are in boldface.

Explained variable: Abnormal Active Market Return on major move day with news of	Expansion of institutions related to		
	Security	Political	Economic
Explanatory variables (Lagged period: 3 months)			
Security capital	−0.0250	0.0028	**0.1734**
	(0.02)	(0.03)	(0.05)
Political capital	−0.0255	−0.0095	**0.2294**
	(0.03)	(0.04)	(0.07)
Economic capital	0.0265	−0.0266	**−0.1795**
	(0.02)	(0.02)	(0.04)

the market's valuation of the strengthening of security or political institutions shows no such effect. Finally, after more economic liberalization reforms accumulate additional economic liberalization reforms are valued significantly less highly by the stock market. Perhaps a stock of economic liberalizations sets in motion expectations of continued liberalization, diminishing the actual market impact of such events.

We conclude that the cumulative value of past net institutional enhancements related to security and political institutions enhances the market's valuation of additional access expansions to economic institutions. Loosely speaking, absent the rule of law, the state of economic institutions matters less; but given stronger institutions supporting the rule of law, economic institutional changes matter more. This supports the arguments of Acemoglu and Robinson (2006) and Acemoglu et al. (2005) that economic institutions build upon more basic institutions that limit the private use of violence.

4.4. Opening previously limited access?

Did Colombia merely rebuilt the limited access institutions it featured before its decades of trouble or did its new institutions bring more open access?

Fig. 3 graphs the expansion of economic activity occurring under the country's formal institutions. In many emerging economies, many businesses operate informally – that is, they are not legally registered and are therefore technically illegal. Limited access economies typically feature a handful of large business groups, each controlled by an elite family and a handful of very large state-owned enterprises. Expensive, time consuming, and frequently corrupt registration procedures mean most small business operators prefer to avoid registering their businesses and to do without legal status.

The figure shows the number of businesses registering for the first time and the number of businesses whose registrations are cancelled remaining flat over the years, but the number of previously registered businesses that remain registered for another year rising sharply from 2002 to 2005, as security institutions are rebuilt. Overall, the size of the formal sector, measure as the number of businesses, more than doubles – from just under 500,000 businesses in 2001 to over one million in 2010. However, Fig. 3 echoes our previous findings: the critical institution catalyst was security.

5. Conclusions

Cutler et al. (1989) finding that large US stock market moves are largely unverified by corroboratory news over the previous days begs several questions, chief among which are establishing the importance of macro-news that may get overwhelmed by the background noise coming from idiosyncratic firm-level information. We submit that the first decade of institutional building in Colombia provides a perfect stage to explore these questions for two reasons. First, Colombia underwent a rapid transformation in the first decade of the 21st century centered on re-building damaged institutions from prior conflicts. Second, the relative lack of firm-level information in emerging economies, vis-à-vis advanced economies allows us to examine the importance of macro-news in a less noisy environment.

Our empirical findings are as follows: Major moves in Colombia's stock market, unlike in the US stock market (e.g. Cutler et al., 1989; Haugen et al., 1991; Mitchell & Mulherin, 1994; Fair, 2002; Cornell, 2013), correspond clearly to major news about country-level fundamentals. An important finding in our paper is the monotonic relation between the magnitude of the market move and the probability of finding corroboratory news preceding the move. This result clarifies the finding of very little supporting news behind large market moves documented in Cutler et al. (1989) as largely an issue of signal to noise ratio. Given the much higher levels of idiosyncratic noise in US stock market returns (see, for e.g., Morck, Yeung, & Yu, 2000), the Colombian setting allows greater power in linking large market moves with causal news.

During our sample period, Colombia's institutions, shattered by a decades-long guerrilla insurgency and a long succession of often counterproductive government countermeasures, were rebuilt virtually from the ground up. This institutional reconstruction, with its advances and setbacks, made Colombian country-level fundamentals perhaps uniquely volatile. We conclude that institutional volatility can raise the signal to noise ratio in tests of this sort, letting the link between news and the stock market stand out particularly well.

We further find that major gains by the Colombian stock market net of global index returns correspond to news of the country's institutions becoming stronger and major losses correspond to news of institutions becoming weaker. We conclude that these findings support the speculation of North and Weingast (2000) that market-wide stock returns might usefully be used to gauge the success, credibility and importance of institutional changes in developing economies. We welcome further research using other economies with rapidly changing institutions.

Changes in the quality of institutions associated with security are especially likely on major market move days, and deteriorations in the quality of these sorts of institutions are especially evident on major market moves downward. Institutional changes associated with security stand out most markedly in early years, and changes in institutions associated with politics and the economy grow relatively more important after security-related institutions have firmed up. We conclude that, to the extent that listed firm valuations represent the strength of private sector as a whole, these findings support the contentions of North et al. (2009) that sound institutions supporting the rule of law are a necessary precondition for political market-related institutional reforms to boost economy-level performance. The narrower conclusion that this sequencing of institutional reforms matters to the values public shareholders attach to listed firms, follows without that qualification. We conclude that public policy makers seeking to rebuild shattered institutions might wish to prioritize reforms opening access to the rule of law. Without these, reforms to political and economic institutions are less valuable (at least to shareholders).

Some Colombian firms belong to large pyramidal groups controlled by elite politically-connected business families. Others are unaffiliated, and might be considered somewhat less deeply connected to the country's traditional economic elites. In general, shareholders view the expansion of institutions as beneficial to firms controlled by elite families as well as other listed firms, and the contraction of institutions as detrimental to both, with one major exception. The expansion and contraction of political institutions corresponds to significantly greater moves in a subindex of unaffiliated firms than in a subindex of firms in the business groups of Colombia's elite families. Renewals of legal business registrations also rose rapidly as institutions expanded, consistent with security, political, and economic institutions brining increasing numbers of people into the formal economy.

Appendix A

The Appendix provides a complete list of events, along with their classifications and the sign and magnitude of the stock index movement that day.

Events of security improvements			Sub class of event	Raw return (COP)	SS	Ab. return (COP)	SS	Market cap million USD
1	January 16, 2002	The United States was discussing the possibility of giving monetary and military support (with a battalion of 1000 fighters) to the Colombian Military Forces to fight against the guerrilla and paramilitary groups.	With global interference	0.0151	***	0.0158	***	4760
2	June 17, 2002	Recently elected President Alvaro Uribe planned a trip to United States to strengthen public relations between Colombia and the United States. The Bush government was highly receptive to Alvaro Uribe because of their common interest in fighting terrorism.	With global interference	0.0109	***	0.0119	***	4895
3	January 7, 2003	The Colombian government rejected the possibility of establishing a demilitarized zone as part of the peace process with paramilitary groups. According to the President Alvaro Uribe, the demilitarized zone had been disastrous for Colombia.	Purely domestic	0.0287	***	0.0278	***	4517
4	January 10, 2003	The President Uribe took the first step in the peace process with paramilitary groups in the shape of a meeting with the official commission in charge of defining the agenda and the schedule in this process.	Purely domestic	0.0321	***	0.0317	***	4520
5	May 27, 2003	Two important diplomatic successes were achieved by Alvaro Uribe. G–8 chancellors supported the Colombian government's policy against guerrillas and the majority of the Latin American country presidents followed suit.	With global interference	0.0101	***	0.0116	***	5209
6	June 26, 2003	The peace dialogs between the paramilitaries forces and members of the administration of the President Alvaro Uribe were resumed. The exploratory commission created to manage the process with the self-defense groups suggested the government to require to the paramilitaries abandon illegal activities such as drug trafficking, theft of fuel, extortion and kidnapping.	Purely domestic	0.0404	***	0.0414	***	5489
7	February 20, 2004	19 FARC leaders and 18 paramilitary leaders were included in the official list of drug traffickers by the US government. This facilitated potential extradition requests to Colombian government by the US and implied a setback for these groups regarding their international image.	With global interference	0.0314	***	0.0314	***	8626
8	May 14, 2004	Colombian congress approved the presence of more United States Armed forces in Colombian territory.	With global interference	0.0562	***	0.0530	***	8490
9	September 8, 2004	The Ministry of National Defence and The Military Forces of Colombia delivered a report of the "Plan Patriota", an operation which sought to reestablish control over Colombian territory. During five months of operations the Military Forces accomplished this goal in three Colombian departments characterized by dense rainforest: Meta, Guaviare and Caquetá. 220 FARC camps were dismantled.	Purely domestic	0.0159	***	0.0158	***	9980
10	December 10, 2004	An important paramilitary leader and his group made up of 1.450 fighters handed in their weapons as part of the demobilization process.	Purely domestic	0.0151	***	0.0126	***	11,984
11	January 31, 2005	An announcement about a possible meeting between the presidents of Colombia and Venezuela generated calm and created hope for good relations between these nations. There were diplomatic tensions between Colombia and Venezuela because of differences related with the FARC.	With global interference	0.0277	***	0.0253	***	13,102
12	April 22, 2005	The DAS (Administrative Department of Security) captured an important guerrilla leader. This resulted in the government being able to dismantle the ELN's activity in Tolima, Colombia.	Purely domestic	0.0118	***	0.0130	***	15,409
13	July 18, 2005	Spain and France showed themselves to be in favor of Uribe's negotiations with paramilitary groups, supporting Colombian government initiative.	With global interference	0.0226	***	0.0211	***	18,465
14	July 25, 2005	President Uribe signed Law 975, Ley de Justicia y Paz (Justice and Peace Law) which regulates the procedures to be followed for those demobilized members of illegal armed groups who had been excluded from the existing amnesty procedures and establishes judicial benefits based on their contribution to justice and reparation. This law facilitated the demobilization process.	Purely domestic	0.0219	***	0.0274	***	19,800
15	November 2, 2005	The Colombian government declared that it was not going to accept delays in the demobilization process. According to the schedule agreed with paramilitary groups, the demobilization should end in December 31st, 2005. Paramilitary groups in operation after that date would be dealt with by the Military Forces of Colombia.	Purely domestic	0.0143	***	0.0121	***	26,681
16	November 18, 2005	The Colombian army deployed a new military operation in the Catatumbo where FARC and the ELN guerrillas were carried out kidnappings and murders of growers of oil palm. The military operation was ordered by the president Alvaro Uribe, during a business meeting organized by the Chamber of Commerce of Cucuta, in which industrialists and farmers complained about guerrillas' kidnappings murders and intimidations.	Purely domestic	0.0361	***	0.0352	***	28,920
17	December 6, 2005	The ELN (National Liberation Army) guerrilla group and the Government set up meetings to try to begin a peace process. This was the result of the success achieved by the Military Forces of Colombia.	Purely domestic	0.0366	***	0.0319	***	30,825
18	December 21, 2005	FARC fighters killed eight policemen in an attack on a village and held 30 others captive for three days before they were freed. The huge pressure exerted by Colombian military forces resulted in the liberation of the hostages. This was interpreted as a succesful reaction by Colombian army.	Purely domestic	0.0294	***	0.0230	***	30,936

19	August 15, 2006	Uribe ordered immediate imprisonment of paramilitary leaders. President Álvaro Uribe made an unexpected announcement which stated that paramilitary leaders should go to prison voluntarily as soon as possible, if they did not want to lose benefit that kept their orders of extradition to United States suspended.	Purely domestic	0.0194	***	0.0112	***	36,833
20	January 22, 2008	The European Union and Spain ratified their position and decided to keep the FARC on their list of terrorist groups.	With global interference	0.0496	***	0.0389	***	87,693
21	March 5, 2008	The Washington Post supported the President Uribe's Foreign Affairs and Security Policy, and pointed at Ecuador and Venezuela as allies of terrorism (The Farc). The achievement of Colombia killing Raul Reyes was eclipsed by the reaction of the Venezuelan president Hugo Chavez, a sympathizer and possibly financial supporter of the Farc, says the newspaper. The Post describes how Chavez openly expressed his mourning by Reyes and made a "show" sending troops to the border with Colombia. Chavez convinced Rafael Correa, the President of Ecuador, to do the same. The Post asserted that Chavez and Correa were supporting a guerrilla group with a clear record of terrorism and drug trafficking, against the democratic government of its neighbor. Uribe should have ordered the incursion in Ecuadorian since its neighbors are giving sanctuary to the terrorists.	With global interference	0.0483	***	0.0464	***	98,767
22	July 3, 2008	Operation Jaque was brought to a successful conclusion. Operation Jaque was a Colombian military operation that resulted in the freedom of 15 hostages, including former Colombian presidential candidate Ingrid Betancourt and three American contractors. The hostages had been held by the Revolutionary Armed Forces of Colombia (FARC) for many years. The operation that freed Betancourt on July 2nd marked one of the worst setbacks for the FARC in 44 years of warfare.	Purely domestic	0.0003		0.0344	***	1,19,640
23	November 14, 2008	The ELN (guerrilla group) released a journalist kidnapped on September 18th, 2008.	Purely domestic	0.0142	***	0.0150	***	72,976
24	September 28, 2009	The United States antidrug czar, Gil Kerlikowske, said that United States ratified its support to Colombia in fighting drug trafficking.	With global interference	0.0123	***	0.0142	***	1,35,969
25	September 8, 2010	Colombian police captured José del Carmen Hoyos, leader of the Front 20 of the Revolutionary Armed Forces of Colombia (FARC) who managed to finances of his group and those of the "Magdalena Medio" block through extortions. The Supreme Court of Justice of Colombia authorized a Public Prosecutor's extradition for the first time. Ramiro Antury Larrahondo was extradited on charges of drug trafficking and accepting a bribe to deviate an investigation.	Purely domestic	0.0153	***	0.0147	***	1,99,621
Events of security setbacks			**Sub class of event**	**Raw Return (COP)**	**SS**	**Ab. Return (COP)**	**SS**	**Market Cap Million USD**
1	June 5, 2003	Only 10 days before the planned meeting between Government and the Paramilitary Groups to sign the first agreement to demobilize 1.000 fighters, infighting and disagreements between paramilitary leaders put the agreement at risk.	Purely domestic	−0.0173	***	−0.0174	***	5214
2	February 24, 2004	France asked Uribe to seek a humanitarian agreement with the FARC to facilitate the release of Ingrid Betancourt, the former French–Colombian presidential candidate kidnapped by the FARC two years ago. This pressure put at risk the security strategy, referred to as 'Democratic Security' by Uribe's Government.	With global interference	−0.0341	***	−0.0339	***	8728
3	May 10, 2004	In despite of significant improvements in some indicators such as burning of vehicles, illegal roadblocks, abductions and attacks on bridges, according to the report of The Security and Democracy Foundation, comparing the last year of the Pastrana's government with the first year of Alvaro Uribe, the number of assaults on vehicles with load near to the four largest cities of the country had increased by 57% and the armed strikes doubled from 12 to 28.	Purely domestic	−0.0452	***	−0.0497	***	8908
4	May 13, 2004	The Anti-terrorism Charter discussionś was suspended at the Congress. Among other aspects, the bill defined which authorities was handled the powers to intercept telecommunications, and to break into and capture without a prior court order with oversight of the Prosecutor office.	Purely domestic	−0.0511	***	−0.0544	***	8123
5	March 3, 2005	Hugo Chavez, president of Venezuela, was significantly increasing arms purchases and Colombian authorities interpreted these actions as a threat.	With global interference	−0.0266	***	−0.0281	***	14,385
6	October 6, 2005	The FARC attacked many villages in the Department of Arauca and established an "armed strike", prohibiting the transport of food and people between villages. The inhabitants of those villages requested the presence of the Military Forces of Colombia.	Purely domestic	−0.0293	***	−0.0264	***	24,662
7	December 19, 2005	San Marino, a village in the department of Chocó, was illegally occupied by The FARC and ELN guerrillas. 7 policemen died and 33 were kidnapped. Civilians and members of the military were also injured as a result. The guerrillas used gas cylinders as weapons.	Purely domestic	−0.0278	***	−0.0283	***	30,340
8	February 1, 2006	A crisis between Colombia and Ecuador broke out because Colombian forces were combating the guerrilla on the border with Ecuador and pursuing an important FARC leader. There were suspicions about an incursion of Colombian forces into Ecuadorian territory. Ecuador accused Colombia of violating its sovereignty starting a diplomatic crisis.	With global interference	−0.0487	***	−0.0544	***	36,568
9	February 7, 2006	Colombian President, Alvaro Uribe, Confirmed that the incursion of Colombian forces in the Ecuadorian territory pursuing an important FARC leader had in fact occurred.	With global interference	−0.0613	***	−0.0606	***	35,470
10	March 6, 2006	150 guerrillas of the Front 47 of The FARC launched a 4-hour attack over Montebonito, a village with 600 inhabitants in the department of Caldas. There were only 12 policemen to defend the village from the assault. The FARC used gas cylinders as weapons. At the same time the FARC launched attacks on other villages such as San Vicente del Caguán, in the department of Caquetá.	Purely domestic	−0.0381	***	−0.0388	***	38,731
11	May 22, 2006	The Buenaventura port was under siege by bombs, lack of light and violence because of the Farc. Officials said that the Guerrilla was trying to affect the presidential election campaign with terrorism attacks.	Purely domestic	−0.0749	***	−0.0654	***	30,783
12	June 7, 2006	Due to scandals involving extrajudicial killings by Colombian security forces and Colombian soldiers accused for suspected human rights violations by different NGOs, the U.S. Congress froze $30 million of military aid to Colombia.	With global interference	−0.0726	***	−0.0731	***	30,834

13	June 8, 2006	Colombian Congress put some restrictions on the faculties of the Ministry of National Defence to buy new military equipment. The Ministry expressed his disagreement arguing that those new rules could delay new arms' acquisitions to fight terrorism.	Purely domestic	−0.0988	***	−0.0994	***	28,390
14	June 12, 2006	Some scandals surrounded the Colombian Army, such as the massacre of ten police officers and a civilian at the hands of the military forces in Jamundí and 24 persons presented as guerrillas fighters killed in combat by the Army, while the relatives said that those are innocent civilians. The last one was the most serious and aberrant case of corruption and brutality starred by members of the Colombian Armed Forces in a long time.	Purely domestic	−0.1019	***	−0.0968	***	26,091
15	December 26, 2006	14 soldiers died in combat against the FARC on 23rd and 24th of December. They were part of military units pursuing FARC leaders. These actions occurred in La Julia (Meta), a Colombian area that used to be under FARC control.	Purely domestic	−0.0172	***	−0.0235	***	46,589
16	December 4, 2007	The United States President, George W. Bush, called President Álvaro Uribe to inquire about actions that had been carried out to free people taken hostage by the FARC.	With global interference	−0.0185	***	−0.0158	***	93,848
17	December 18, 2007	The FARC released a communiqué which indicated that they would release three hostages to President Chavez. The FARC communiqué said the release of the hostages was a "gesture of apology" to Chavez for Uribe's actions and recognition of Chavez's "good faith" and "colossal effort" for the cause of peace in Colombia.	With global interference	−0.0209	***	−0.0222	***	95,418
18	January 17, 2008	Colombian president protested forcefully against systematic aggression of the Venezuelan president towards Colombian government.	With global interference	−0.0373	***	−0.0345	***	90,241
19	January 21, 2008	Colombian authorities stated that the Colombian guerrilla had presence and support in Venezuela. A diplomatic crisis started immediately.	With global interference	−0.0730	***	−0.0565	***	82,531
20	March 4, 2008	Once again, Colombia violated the Ecuadorian sovereignty combating the guerrilla in Ecuadorian territory. This action started the 2008 Andean diplomatic crisis. The Colombian Stock exchange had the greatest fall of all global markets because of this crisis with neighboring Ecuador and Venezuela. Investor confidence declined and many Colombian stocks were sold.	With global interference	−0.0513	***	−0.0449	***	95,796
21	September 29, 2008	Around 300 people inaugurated the Plaza "Manuel Marulanda" in Caracas, Venezuela, with a bust of the former commander of the FARC. This tribute resulted in a wave of indignation and anger felt throughout Colombia.	With global interference	−0.0209	***	−0.0109	***	1,02,037
22	October 15, 2008	The public prosecutoŕs office expressed doubts regarding some supposed guerrilla members killed in combat by military forces. Approximately 100 young missing males were contacted by recruiters with labor opportunities in different regions of Colombia and then were reported by military forces as killed in combat. Families of these supposed guerrilla members were asking for justice and presented evidence to support the alleged innocence of their relatives.	Purely domestic	−0.0423	***	−0.0303	***	80,648
23	November 3, 2009	The Ministry of National Defence of Venezuela denounced the murder of two Venezuelan soldiers by Colombian paramilitaries. That statement intensified tensions between Colombia and Venezuela	With global interference	−0.0090	***	−0.0104	***	1,24,247
24	September 10, 2010	FARC attacked military positions in the location of San Miguel in the Putumayo department, killing 8 policemen in an operation with gas cylinders, one of the weapons internationally considered as prohibited.	Purely domestic	−0.0117	***	−0.0119	***	1,97,827
Strengthening of political institutions			**Sub class of event**	**Raw Return (COP)**	**SS**	**Ab. Return (COP)**	**SS**	**Market Cap Million USD**
1	February 28, 2003	The political parties seeking to shape a common front against terrorism were considering the possibility of encouraging the ratification of a convention to allow the extradition of people linked with political crimes.	Political system	0.0661	***	0.0644	***	4221
2	July 21, 2003	About 40 members of Colombian Congress proposed a constitutional reform to reelect the president of Colombia for a second mandate with the purpose of guarantee policy stability, allowing presidents to have two consecutive periods of 4 years each one.	Political system	0.0145	***	0.0139	***	5619
3	May 23, 2006	There was a stable political landscape close to the elections with a sustained primacy of the candidate and President Alvaro Uribe Velez in the most recent survey.	Political system	0.0555	***	0.0466	***	31,695
4	July 19, 2006	Colombia was considered the third least corrupt country in Latin America according to a report on International Transparency (a non-profit organization that measures corruption indices in the world and evaluates the negative effects of this in terms of economic development).	International perception	0.0445	***	0.0175	***	31,276
5	August 8, 2006	The second Uribés possession as President with the most severe security measures of the history ended with normality in the public order. The president Uribe stated that a potential search of the peace in Colombia could not imply setbacks in the field of security. "We linked all our energies, with severity, to the rescue of the security. We will not hesitate to give them to the peace with generosity". The President asked to the FARC for convincing peace facts: "The irreversible facts of reconciliation must be the connection between security and peace".	Political system	0.0236	***	0.0448	***	35,921
6	September 13, 2006	Decree 3139, 2006 established the norms regarding the organization and operation of the Integrated Capital Market Information System (Sistema Integral de Información del Mercado de Valores, SIMEV).	Protection to investors	0.0417	***	0.0359	***	35,114
7	November 14, 2007	The Superintendence of Industry and Commerce ratified a fine for four banks that did not deliver information required by this Superintendence. Bancolombia, Santander, BBVA and Davivienda had to pay the fine.	Protection to investors	0.0171	***	0.0105	***	60,255
8	November 7, 2008	After two weeks of meetings with Colombian economic authorities, the International Monetary Fund (IMF) mission indicated that Colombia had resisted the turbulence of international financial markets and praised Colombia's fiscal and monetary policies.	International perception	0.0263	***	0.0254	***	72,485
9	April 24, 2009	The financial Superintendent announced a strategy to protect the banking sector from crisis. Its goal was to increase the protection of the system in case of a deepening of the global crisis. The strategy included adjustments to regulation.	Protection to investors	0.0189	***	0.0167	***	82,078
10	August 24, 2009	The Senate approved the reconciled referendum that would require citizens to vote on whether presidents in Colombia should be able to run for two consecutive re-elections.	Political system	0.0122	***	0.0131	***	1,24,771

Weakening of political institutions			Sub class of event	Raw Return (COP)	SS	Ab. Return (COP)	SS	Market Cap Million USD
1	October 27, 2003	A national referendum promoted during Uribe's campaign was defeated at the polls in October 25th and 26th. At least 25% of the electorate needed to vote on each of the 15 proposals in order for it to be accepted, but overall participation was only 24.8% and only the first proposal ("political death for the corrupt") achieved the threshold of 25%. This referendum was seeking an institutional reform in political and public finance affairs, among others, trying to improve government efficiency.	Government efficiency	−0.0122	***	−0.0140	***	5646
2	September 9, 2004	Paramilitary leaders declared that their group received financial support from government employees who were in charge of money destined for health programs. This event started one of the most important political crises in Colombia: The parapolitics crisis (Scandal involving Colombian politicians and the paramilitary groups).	Political system	−0.0195	***	−0.0169	***	9868
3	March 30, 2006	President Uribe announced that in addition to the structural tax reform, the government planned to submit to the Congress another reform establish a special contribution (tax) to complete the Democratic Security program aimed to modernize the Armed Forces equipment. This tax would be in charge of the higher-income Colombians. Private sector representatives expressed their disagreement in regards to two simultaneous tax reforms.	Tax stability	−0.0495	***	−0.0600	***	40,178
4	May 18, 2006	The opposition branded the reelection campaign of the presidential candidate Alvaro Uribe as the most undemocratic in years due to the adoption of a strategy under which Uribe did not participate in public debates with their rivals.	Political system	−0.0872	***	−0.0886	***	31,956
5	May 30, 2006	The elected President Alvaro Uribe closed his reelection day celebrating his victory. In despite of the majority achieved in polls, opposition claims vicious and illegal actions to approve the bill that allowed Uribe to pursue a second presidential period. In addition, Uribe's congressmen allied announced a bill to allow a second re-election (third period) of presidents in Colombia.	Political system	−0.0435	***	−0.0331	***	33,365
6	June 13, 2006	There were several disagreements between political parties, which could defer the adoption of the reform to the Law 80 or Law of Contracting that sought to prevent the corruption and guarantee that any purchase of the Ministry of Defense were done through the public tender mechanism.	Government efficiency	−0.0892	***	−0.0847	***	24,200
7	September 5, 2006	Colombia was positioned among the group with the highest tax burdens of Latin America, according to Doing Business' World Bank report. The businesses do not only have problems with high levels of taxes, but also with difficulty in paying them, therefore a business dedicates 57 employee workdays to managing the payment of taxes.	Tax stability	−0.0262	***	−0.0165	***	35,548
8	September 12, 2006	The Minister of Defense, Juan Manuel Santos, and senator of the Democratic Polo Gustavo Petro clashed over the 'false positives' scandal during a scheduled meeting at the Congress. Petro claimed by the lack of clarity in the explanations that in recent days the Executive had given on the false positives by the armed forces, but above all, questioned with hardness the Democratic Security Policy "such policy should not kill the people but save their lives". The Minister Santos said that these accusations undermine the legitimacy of the public force and reminded the senator of the Polo achievements over the past four years with the Democratic Security Policy.	Political system	−0.0227	***	−0.0382	***	33,916
9	November 16, 2006	Rumors that members of parliament would have to answer allegations of relationships with paramilitary groups were revealed. The Constitutional Court had recently ordered the capture of three members of parliament.	Political system	−0.0222	***	−0.0187	***	43,423
10	November 27, 2006	Members of Congress admitted having signed a political commitment with paramilitary groups. A senator revealed that liberals, conservatives and ruling party members were among those involved.	Political system	−0.0308	***	−0.0179	***	41,846
11	August 16, 2007	Two opposition parties started a campaign to modify through a referendum the way that resources had to be allocated to the regions to be spent on health, education and basic sanitation. That proposal was looking to grant more resources to the regions and more budget decentralization, but threatened the fiscal targets of the Government.	Government efficiency	−0.0495	***	−0.0317	***	52,343
12	July 30, 2008	The Attorney General of the Nation expressed his fears, concerns and disagreements about the justice system reform that the government was pursuing. According to the Attorney General, the reform did not solve the main problems of the justice system but granted more power to the goverment.	Political system	0.0017	**	−0.0114	***	1,17,440
13	September 16, 2008	The referendum for a second re-election (third period) of presidents in Colombia was experiencing questioning by congresspersons.	Political system	−0.0326	***	−0.0300	***	1,03,542
14	October 10, 2008	Alvaro Uribe, President of Colombia, declared a state of internal commotion. This state allowed the government to suspend some civil rights. The president of Workers' Central Unit trade union (CUT) called president Uribe's decision as "the decision of a dictator".	Political system	−0.0652	***	−0.0579	***	78,105
15	October 22, 2008	The "Polo Democratico" political party expressed its disagreement about illegal monitoring activities carried out by the DAS (Administrative Department of Security). The political party asked who authorized these investigations and what the reasons were.	Political system	−0.0371	***	−0.0254	***	74,901
16	October 23, 2008	María del Pilar Hurtado, the Director of the DAS (Administrative Department of Security), presented her resignation due to the illegal monitoring activities carried out by the DAS to some members of the opposition parties.	Political system	−0.0378	***	−0.0372	***	71,990
17	October 24, 2008	Uribe accepted the resignation of María del Pilar Hurtado, the Director of the DAS (Administrative Department of Security), after the scandal of illegal monitoring activities carried out by the DAS to some members of The "Polo Democratico", the opposition party. This decision was taken after the strong impact in public opinion that these illegal actions caused.	Political system	−0.0411	***	−0.0330	***	68,217

Strengthening of economic institutions			Sub class of event	Raw Return (COP)	SS	Ab. Return (COP)	SS	Market Cap Million USD
1	April 7, 2005	During President Alvaro Uribe's visit to China, trade agreements between the two countries were made to promote cooperation in agriculture and telecommunications.	Trade	0.0219	***	0.0187	***	14,612

2	April 14, 2005	Over 150 Colombian businesspeople participated in rounds of business in Beijing and Shangai. In the first of these rounds installed by the Colombian President, 270 Chinese businesspeople took part in interviews with Colombian businesspeople.	Trade	0.0075	***	0.0126	***	15,157
3	February 10, 2006	President Alvaro Uribe announced an unexpected trip to US to participate in the negotiation meetings between Colombia and the US to establish their FTA. The principal aim was to try to finish the negotiation on time.	Trade	0.0429	***	0.0369	***	37,865
4	May 25, 2006	Venezuelan President in a new conciliatory attitude committed himself to explore ways to protect and reactivate the trade between Colombia and Venezuela during the potencial second presidential period of Uribe.	Trade	0.0551	***	0.0434	***	31,868
5	May 26, 2006	After a meeting with the Ambassador of Guatemala, the Ministry of Commerce of Colombia announced the beginning of negotiations between Colombia and some Central American countries to setting up FTAs. In addition, there was announced an improvement in the commercial relations between Colombia and Venezuela.	Trade	0.0900	***	0.0793	***	34,218
6	June 14, 2006	The US Colombia TLC was among the key issues for the first meeting between Colombia and the United States presidents, since President Uribe re-election in May 2006. On February 27, 2006, the United States and Colombia concluded the U.S.-Colombia FTA negotiations. However, President Bush had not notified Congress of his intention to sign the U.S.-Colombia FTA due to some difference in issues related with agriculture. There were favorable expectations regarding this meeting to achieve the FTA.	Trade	0.0752	***	0.0680	***	25,125
7	June 15, 2006	The Colombian stock market saw the highest profits in its history in a single day. The General Index of the Market of Colombia (Igbc) rose 15.82 percent. The elimination of the restrictions to the arrival of hot money helped to stimulate the purchases.	Capital market openness	0.1342	***	0.1282	***	28,224
8	July 10, 2006	Venezuela and Colombia began work on an ambitious $335 US million dollars pipeline project to take Venezuelan gas and oil to Colombia, Ecuador and Central America.	Trade	0.0277	***	0.0391	***	32,167
9	October 26, 2007	Decree 4051, 2007 established the possibility of granting a permanent free trade zone status to firms which make more than a certain amount of investments (at least 32.200.000 dollars taking 2007 as the base year) and hire more than 150 new employees.	Internal competition	0.0248	***	0.0210	***	57,736
10	January 24, 2008	The United States Secretary of State, Condoleezza Rice, arrived in Colombia with ten democratic congresspersons. The main goal of this visit was to boost the Free Trade Agreement between Colombia and US.	Trade	0.0411	***	0.0300	***	89,294
11	February 14, 2008	The Andean commercial preferences were extended for a period of 10 months by the United States. The norm (known as ATPDEA) benefits Colombian exporters who can export products to American market without paying tariffs.	Trade	0.0101	***	0.0140	***	95,429
12	September 1, 2008	The Colombian government eliminated the requirement of minimum continuance of two years for Foreign Direct Investment. The elimination of these controls was received by the market immediately, causing an increase of 3.56 percent in the index market.	Capital market openness	0.0202	***	0.0220	***	1,16,867
13	October 14, 2008	After meetings with some US congressmen, President Uribe continued gaining support to get the approval in the US Congress of the U.S.-Colombia FTA. In press releases these congressmen expressed total support to the approval of this FTA.	Trade	0.0614	***	0.0512	***	81,739
14	May 8, 2009	Chile and Colombia signed their Free Trade Agreement. The FTA between Colombia and Chile was the most important agreement signed by Chile with a South American country, according to Chilean Government representatives.	Trade	0.0147	***	0.0121	***	92,479
15	October 19, 2009	Alvaro Uribe, President of Colombia and Luiz Inácio Lula da Silva, president of Brazil, announced an agreement which would duplicate bilateral commerce between these nations in less than two years. That was the result of the largest Colombian trade mission sent to Brazil to stimulate mutual business.	Trade	0.0133	***	0.0097	***	1,42,818
16	September 1, 2010	Colombia's Superintendent for Commercial Societies announced a reform to the Insolvency Law. The official explained that the Insolvency Law needed to be more agile and flexible.	Internal competition	0.0270	***	0.0218	***	1,92,200
Weakening of economic institutions			**Sub class of event**	**Raw Return (COP)**	**SS**	**Ab. Return (COP)**	**SS**	**Market Cap Million USD**
1	December 2, 2004	Due to the need for more rounds of negotiation on the FTAs between the United States and Colombia, Ecuador and Perú a delay in the schedules of these bilateral trade agreements was announced.	Trade	−0.0250	***	−0.0222	***	12,022
2	August 29, 2005	China expressed its disagreement in regards to the trade protections to some products and threatened Colombian government with low levels of direct investment for the next years.	Trade	−0.0429	***	−0.0444	***	21,938
3	January 31, 2006	The Minister of Commerce, Jorge Humberto Botero, stated that it was not clear the possibility to come to an end in the U.S.-Colombia FTA negotiations. The obstacles were related to the agricultural sector. According to Colombian producers, the aids offered by the Government were not warranty to face the competition of the U.S. subsidies.	Trade	−0.0271	***	−0.0315	***	37,638
4	February 6, 2006	Five sectors of the Colombian field (rice, corn, milk, bovine and porcine animals) were obstructing the U.S.-Colombia FTA negotiations to be considered sensitive products because of the employment generated (1.8 million jobs). The closure of the process was postponed while making internal consultations in each country.	Trade	−0.0402	***	−0.0482	***	36,855
5	May 16, 2006	Three issues remain unresolved from the revision of texts of the FTA with the United States, which once clarified would lead to the signing of the Agreement: 1) The description of the poultry tariff heading to prevent country enter products without pay tariff which can affect the industry, 2) the administration of the contingent for sugar exports to the United States and 3) the statements that would accompany the export licenses for beef from the United States to Colombia and the sanitary requirements that must satisfy.	Trade	−0.0307	***	−0.0410	***	35,561
6	May 2, 2007	Uribe mentioned that there were still serious obstacles threatening the adoption of the U.S.-Colombia FTA and the financing of the Plan Colombia (the United States military and diplomatic aid initiative to combat Colombian drug cartels and left-wing insurgent groups in Colombian territory). Earl Pomeroy, member of the US Chamber made it clear that violence against trade unionists in the country located Colombia in a "particular dimension" that separated it from the rest of the Treaties for consideration.	Trade	−0.0319	***	−0.0338	***	50,109

7	June 19, 2008	Morgan Stanley investment bank announced that it was studying the possibility of removing Colombia from their emerging countries stock index, unless improvements were made in restrictions imposed on foreign capital. If that happened, Colombia would not be considered as an emerging group economy, but in the border markets group. These economies are less developed countries with smaller liquidity in their investments.	Capital market openness	−0.0236	***	−0.0193	***	1,23,489
8	October 6, 2008	A financial analysis raised concerns about the impact of the FTAS in tax revenues, in particular of the FTA with the United States.	Trade	−0.0409	***	−0.0318	***	92,676
9	November 6, 2008	Some analysts argued that if the Free Trade Agreement (FTA) with United States was not discussed in the United States' Congress in the extraordinary sessions of November 2008, it could be expected to take one or two years more.	Trade	−0.0337	***	−0.0230	***	70,558

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