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AUDIENCES AND MARKET RETURNS

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ABSTRACT[1]

In this paper we study the relationship between abnormal market returns of publicly traded companies in the Buenos Aires Stock Exchange and audiences held between the companies and officials of the National Executive Power. Audiences might provide relevant information to financial agents or can reflect that an external event is taking place. We detect a robust correlation between audiences held with some ministries and abnormal returns, mainly before the audiences take place. From a financial standpoint of view, this result indicates the presence of efficient markets, at least to some degree. Given that we do not find robust abnormal returns after audiences, these meetings are probably not a relevant policymaking arena.

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1. INTRODUCTION

In this paper we study if formal interviews between firm representatives and ranking government officials (from now on, audiences) are associated with abnormal stock returns for that firm. Our database includes 351 audiences involving 19 publicly traded companies.

As a result of the decree 1172/03 (Presidencia de la Nación Argentina 2003), the officials of the Argentine National Executive Power (President, Vice-President, Chief of Cabinet, Ministers, Secretaries and Sub-secretaries of every ministry and Federal Controllers) are obliged to report all the audiences that have as an end to influence in the decisions or functions of any entity that operates under the jurisdiction on the National Executive Power.

We are addressing questions from two usually disparate literatures. First, we study market efficiency. In efficient markets, stock prices fully reflect all available information. There is no obvious answer to the question about the Argentine stock market efficiency. Argentina has been historically characterized by a small capital and financial market in comparison to other countries of similar levels of development, a reduced number of securities that are also illiquid. In contexts like this, arbitrage conditions may not be corrected, and agents could strategically use monopolistic access to information to obtain abnormally high returns.

Second, we study audiences as a political technology. It is not straightforward that in a country with low levels of political institutionalization such as Argentina, a formal mechanism will matter at all.

If audiences have an (either positive or negative) effect on abnormal returns we can say two things. In the first place, markets are at least partially efficient, as prices are changing reflecting new pieces of information (a government contract, a labor dispute, favorable or unfavorable legislation). Nevertheless, it should be noticed that a null

result would not provide evidence in the other direction, since this could be caused either by an illiquid market or a boring meeting.

In the second place, an effect on abnormal returns tells us that audiences are either relevant in themselves or at least associated with relevant events. We distinguish between these two scenarios. Consider a meeting during which a firm executive is able to sell its product or to discourage unfavorable regulation. This sort of audience is relevant in itself. The firm representative, by her oratorical skills or by enlightening the politician with new data, increased the market value of her employer. In this cases, we say the formal political technology is actually in use.

On the other hand, audiences may not be relevant in themselves but proxies of informal political events. For example, audiences with the Minister of Labor are most likely associated with labor disputes (strikes, push for wage increases, layoffs). Also, a meeting could be just the formalization of a sealed deal. If a firm got to bribe a government minister in exchange for a public contract, they would eventually need to get together in an official manner, at least to sign the contract.

We distinguish among these alternative scenarios by taking advantage of the fact that the National Executive Office publishes the dates of both actual audiences and announcements of future audiences. If an audience is relevant in itself, we expect to find evidence of abnormal returns in the days following the meeting. If, on the other hand, the abnormal returns are occasioned by a prior event or by an undergoing situation, we expect abnormal returns in the days preceding the meeting's announcement.

Our results indicates that there exist a robust correlation for audiences held with some ministries and the presence of abnormal returns, mainly before the audience takes place. This finding is in line with the hypothesis of efficient markets, at least at some degree. The results also leads us to believe that the meetings are not important in themselves, but they do reflect information.

The paper is organized as follows: In Section 2 we survey the literature on market efficiency, explaining how abnormal returns shed light on the efficiency of the Argentine market. In Section 3 we survey the political economy literature on business politics. In Section 4 we present the data and the methodology used to calculate normal returns (abnormal returns are defined as the difference between normal and actual returns). Section 5 presents results, Section 6 shows some robustness checks and Section 7 concludes.

2. RELATED LITERATURE ON MARKET EFFICIENCY

The primary role of stock and capital markets is the efficient allocation of ownership of the economy's capital stock. In general terms, the ideal market is one in which securities prices fully reflect all available information. Thus, prices act as accurate signals for resource allocation by investors and firms. Then, a market is called *efficient* if it provides economic agents with prices that always fully reflect available information. A vast theoretical and empirical literature has emerged on the efficiency of capital markets. These papers defined different subsets of relevant information which capital markets prices should reflect.

The literature faces the question of which is the relevant subset of information to be analyzed and the possible impact on financial markets. A first strand of literature deals with *weak form tests* of market efficiency, in which the information set is just historical security prices. Under this definition of information subset, markets are efficient if a security's returns are impossible to predict in the sense of "*fair game"* coined by Samuelson (1965). A second strand of literature deals with *semi-strong tests* of market efficiency, in which the concern is whether prices efficiently adjust to other information that is obviously publicly available. Lastly, the literature that perform *strong tests* of market efficiency is concerned with whether prices reflect the information held by agents with privileged monopolistic access to private sources concerning the price formation. This papers relates to the last two strands of literature described above.

The literature focused on testing semi-strong market efficiency is concerned with whether current prices *fully reflect* all obviously publicly available information. Each of these studies generally is concerned with the adjustment of a security price to one kind of information generating event (earning announcements, financial or economic reports by firms or public institutions, stock splits, new securities issues, etc.) Thus, as (Fama 1973) states, these tests only bring supporting evidence for the model with the

idea that by accumulating such evidence the validity of the model will be "established".

The literature focuses on *events* as sources of new information, defined as fundamentally important information that's not available from studying the securities past performance. The basic analytical framework is based on the concept of the *abnormal returns* or *abnormal behavior* of a security developed in Fama and Blume (1968). A standard OLS regression is run for returns controlling for the market's average return, risk-free interest rate and past returns of the studied security. Expected returns are the predicted values of that regression. *Abnormal returns* are defined as the difference between expected returns with the realized returns. Thus, *abnormal returns* can be interpreted as the average deviation of the returns of stocks involved in a specific event from their normal relationship with the market.

There are several other examples of literature on events. For example, (Ball and Brown 1968) apply the methodology described before to study the effects of annual earnings announcements for 261 major firms for the period 1946-1966, finding that only between 10% and 15% of the information on the announcements have not been anticipated by the month of the announcement. (Waud 1970) find evidence that *markets* anticipate announcements of discount rate changes by the Federal Reserve on daily the daily returns on the Standard and Poor's 500 index from the average daily return.

Finally, strong form tests of the efficiency markets model are concerned with whether all available information is fully reflected in prices in the sense that no individual has higher expected trading profits than others because he has monopolistic access to information. This hypothesis clearly is not expected to be an exact description of reality. Moreover, Niederhoffer and Osborne (1966) have pointed out that specialists on the N.Y.S.E. apparently use their monopolistic access to information concerning unfilled limit orders to generate monopoly profits. Although there is evidence to determine that this stricter hypothesis is not a fully valid representation of financial

markets, we can focus on specific questions regarding the expense of resources by the average investor on information of costly access or scarcely known widely by the public. Jensen (1968) and Jensen (1969) focus on whether mutual funds managements have any special insights or information which allows them to earn returns above the norm. The former, attacks this topic through several levels for the ten year period of 1955-1964. The author concludes that given the limited information provided, mutual funds managers in general do not seem to have access to information not already fully reflected in prices.

Our paper sheds new light on the efficiency of the stock and security financial market of Argentina. Argentina's financial markets have been characterized by a small quantities of traded securities, small transaction volume, lowly capitalized firms that fund investment through accumulated profits or credits with foreign institutions, and market momentum determined by political and macroeconomic events beyond the particular financial dynamics of firms.

We study the dynamics of securities prices on the eve of specific events in which the these firms' management publicly met with authorities of the executive power. Although the occurrence of these reunions are public record, usually they are not public information fully available for the average investor and the subject and topics discussed are not fully informed, before or after the event is carried away. Thus, our findings stand in between the semi-strong and strong hypothesis of market efficiency.

3. RELATED LITERATURE ON POLITICAL ECONOMY

The study of business government relations has been prominent in both political science and political economy (Haggard, Maxfield and Schneider 1997; Schneider 2004, 2005, 2008, 2009, 2014; Teichman 2001; Freytes 2013; Post 2014; Fisman et al. 2012; Boas et al. 2014; Claessens et al. 2008).

It is obvious that whenever profits depend on policy, we should expect businesses to make their best to influence political decision making. It is not that clear how they will do so, as several political technologies are available, such as threat of violence, roadblocks (*piquetes*), bribes, press releases, campaign donations and lobbying.

As described, audiences are a formal mechanism of access to power. Previous literature argues that Argentina is in a low institutionalization equilibrium, where formal arenas such as Congress are not relevant in the policy making process (Tommasi 2010, Scartascini and Tommasi 2012). In this light, it is not surprising that we do not find robust abnormal returns after audiences.

We do find positive abnormal returns before audiences with the President's Office (including meetings with the President herself) and before audiences with the Chief of Cabinet's Office. This is consistent with the arguably centralized and executive-driven Argentine policy making process (Tommasi 2010)

Market returns were heavily used in the literature to estimate the value of political connections. Acemoglu et. al. (2013) show the announcement of Timothy Geithner as nominee for Treasury Secretary in November 2008 produced abnormal returns for financial firms with which he had a personal connection. Johnson and Mitton (2002) show that the onset of capital controls in Malaysia resulted in huge market value gains to firms with close ties to the Prime Minister. Fisman et. al. (2012) and Fisman (2001) respectively estimate the value of connections to Vice President Cheney and to President Suharto of Indonesia using news about their health. They find zero effect for

Cheney and a large effect for Suharto. Finally, using close elections as a quasi random assignment, Do et. al. (2013) and Do et. al. (2012) respectively estimate the market returns to a connection to a governor and to a congressman. These papers measure connections is several ways: former classmates, service in corporate and nonprofit boards, business connections. Dube et. al. (2011) estimate the impact of coups and secret coup authorizations on asset prices of partially nationalized multinational companies that stood to benefit from US-backed coups. They show that stock returns of highly exposed firms reacted to coup authorizations classified as top-secret.

As far as we know, there is no previous work on the impact of the use of a specific channel of access to power (in our case, audiences) on the market value of a firm.

4. DATA AND METHODOLOGY

DATA SOURCES AND CLEANING PROCESS.

We relied on two datasets. First, daily stocks prices from 2004 to 2015 of 19 companies listed on the Buenos Aires Stock Exchange. This dataset was extracted from the *Reuters* platform. Then all the daily logarithmic returns were calculated, assuming a constant growth rate to interpolate the missing values.[2]

The second dataset contains all reported audiences held by members of the National Executive Power, from 2004 to 2015. We designed an algorithm to scrape this data from a government website (Jefatura de Gabinetes de Ministros 2015)[3]. As this database was not composed of regular expressions, it was necessary to impose a cleaning and regularization process. Once the major issues regarding disparities in data format were solved, we developed a second algorithm to search for all the audiences that had one of a listed company as a participating party. This part of the process proved to be particularly tricky because of the different names used to reference a company. To solve this problem, we generated as many generic search keys as possible, to minimize errors by omission. Then we checked each audience manually to rule out errors by inclusion. We excluded the audiences that were booked but not held from the sample.

As a result, we generated a database of 351 audiences involving 19 different companies, with the date in which the audience was booked, the date the audience took place and the ministry and company involved. Given that the name of some ministries changed during the time lapse captured by this database, we have grouped

[2] We have interpolated up to five daily returns in a row under the constant growth rate assumption. If there were more than five missing values in a row for a given company, those observations were treated as a missing value.
[3] This database was later made publicly available by the new administration in office.

different ministries in categories. Also, we have grouped some ministries in a category named *others,* due to the low amount of held audiences.[4]

Table 4.1: Number of identified audiences

Ministry: / Company	Chief of Cabinet	Ministry of Economy	Ministry of Planification	President's office	Ministry of Labor	Other	Total
Acindar			6				**6**
Arcos Dorados					1		**1**
Autopistas del Sol			12				**12**
Banco Hipotecario	1	14	6		4	1	**26**
Banco Macro		7		1		1	**9**
Banco Patagonia	4	2		2	1		**9**
BBVA		3	2			1	**6**
Capex			4				**4**
Galicia			1				**1**
Gas del Sur		7	43				**50**
Grimoldi			1				**1**
Ledesma		1		1	1	1	**4**
Metrogas		6	58				**64**
Molinos_Rio		2	2	1			**5**
Petrobras	2	1	21	3	1		**28**
Sacif		1					**1**
Santander	2	13	1	1	1		**18**
Telecom	6	9	6	9	5	6	**41**
Transener		4	29		2		**35**
YPF	1	10	8	7	1	3	**30**
Total	**16**	**80**	**200**	**25**	**17**	**13**	**351**

METHODOLOGY

We define abnormal returns as the difference between realized returns and expected returns, just like Fama and Blume (1968). As for the expected returns we differ from their formulation.

To define what a normal return is we take as a starting point the premise that the stock price of a given company is affected by two main factors. On the one hand, the

[4] The grouped ministries are those who held five or less audiences with one of the companies. More information about the ministries can be found in the appendix.

market effect, which is the variation in the price of a company as a result of events that are external to that company. On the other hand, firm specific events, which are the variation in the price of a company because of an event exclusive to that company.

As an example we can think of an oil company. It is clear that this company would be affected by a change in the international oil price, this would be considered as a market effect. It is just as clear that this company's price would be altered if they were to find a new high quality oil source, this would be considered a firm specific effect.

We define the expected returns as the return estimated from the historical relationship between the returns of a company and the rest of the companies in the market, or the already defined market effect. Therefore, our methodology aims to isolate the firm specific effect from the whole stock price variation or to identify the market effect for each company at any given point in time, which is the same under the proposed terms. An easy way out to solve this problem would be to calculate how a market index, such as MERVAL, affects the return of a firm. Nevertheless, we consider this strategy to be unreliable, mainly because of the fact that not all the events that affect the index's price affects an industry or company in the same fashion over time. For this reason, we built a customized index for each company.

The customized index is generated using rolling regressions method. We run an OLS regression over a time window (the last *n* numbers of observations for a given date), then the predicted value is assumed to be the date specific expected return. In other words, we calculate the expected return for each day for a given firm by calculating the linear combination of all the returns of the others companies present in the same market, where the weights for each company are those which best explain the firm behavior over the selected time window. By applying this technique we are generating the portfolio that best explains each firm's stock price in a flexible manner, as we are allowing the model to change the composition of the portfolio over time.

Being aware of the sensibility of OLS regressions to outliers and the flexibility endowed to the model, we decided to apply a winsorization process. This process calculates the rolling standard deviation over the time window and establishes an upper and lower bound, at the level of the mean more or less three standard deviations respectively. If a given observation is within the boundaries, the data point is left unaltered. But if an observation exceeds the boundaries, it is replaced for the value of the upper or lower bound depending on the case. This process reduces the volatility of the estimators over time and increases their robustness.

To sum up, the rolling regression model is defined as:

$$R_{Realized;i;T} = \sum_{\forall j \neq i} \beta_{j:T} \, R_{Winsorization;j;T} + u$$

Where:

$R_{Realized;i;T}$ is the return of the company *i* in the day *T.*

$R_{Winsorization;j;T}$ is the winsorizated return of the company j in the day T.

u is the error term.

It is worth reminding that the daily coefficients of this model will be estimated taking into account all observations in the time window, which is established at 300 market days (days when the stock exchange was open to business). In other words, the model for the day T will be estimated taking as input the daily returns of the companies for all the $t \in [T - 300, T]$. It should be pointed out that there is no intercept included in the model, because of the lack of an economic meaning of such constant.

Then the market effect, or the expected return, is computed as:

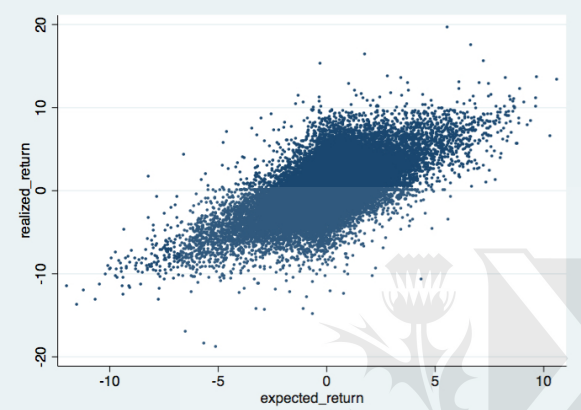
$$R_{Expected;i;T} = \sum_{\forall j \neq i} \beta_{j:T} \, R_{Winsorization;j;T}$$

Once the expected return is calculated, the abnormal return is defined as:

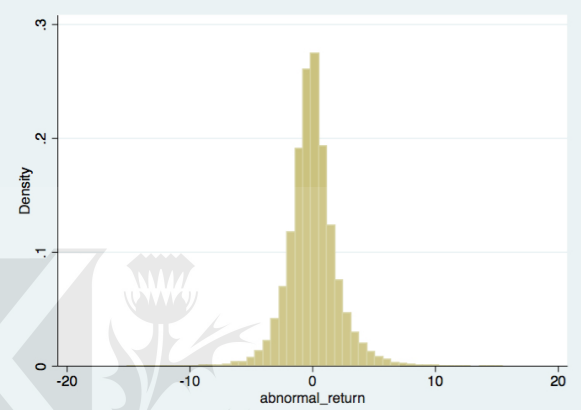
$$R_{Abnormal;i;T} = R_{Realized;i;T} - R_{Expected;i;T}$$

The results of the implementation of this methodology can be seen in the following graphs. Throughout all the paper the returns will be presented as percentages.

Graph 4.1: scatter plot realized and expected returns



Graph 4.2: histogram abnormal results



Momentarily leaving returns aside, let's focus on the mathematical treatment of the audiences. We will define arbitrary windows of time over which one would expect to see the short term impact of an audience. As we may expect abnormal returns both before and after the audience, we create two different sets of dummies:

$$Before\ Audience_t = \begin{cases} 1\,, if\ t\ \in [t_{\ M} - C, t_{\ M}] \cap [t_{\ A},\ t_{\ M}] \\ 0\,, otherwise \end{cases}$$

$$After\ Audience_t = \begin{cases} 1\,, if\ t\ \in [t_{\ M}, t_{\ M} + C] \\ 0\,, otherwise \end{cases}$$

Where:

- $t_{\ A}$ is the date on which the meeting has been booked or announced.
- $t_{\ M}$ is the date on which the meeting took place.
- C is the arbitrary time horizon.

The first set indicates that a audience has happened or will happen within the time window. The second set only focuses on previous dates to an audience, while the third set denote that a audience has taken place.

The logic of the second and third set has been applied to generate one binary variable per ministry. This will be later used to calculate the abnormal returns associated with each ministry.

5. RESULTS

Table 5.1: General regression model

Time Horizon	7	14	21	30
VARIABLES	Abnormal Return			
Before Audience	0.0228	-0.0197	-0.0315	-0.0212
	(0.0755)	(0.0648)	(0.0620)	(0.0605)
After Audience	-0.194***	-0.0592	-0.0815**	-0.0712**
	(0.0498)	(0.0385)	(0.0333)	(0.0289)
Constant	0.0151*	0.0128	0.0163*	0.0172*
	(0.00910)	(0.00923)	(0.00934)	(0.00949)
Observations	48,244	48,244	48,244	48,244
R-squared	0.000	0.000	0.000	0.000
Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1				

Table 5.1 presents our first piece of evidence. Here we present coefficients estimated for a regression of the abnormal returns controlling only for dummy variables that indicate whether the date is previous or subsequent to an announced audience. This econometric exercise is realized for different windows of periods centered in the audiences. The results presented for different time windows show that abnormal returns are not statistically different from zero before the meetings but are statistically negative after the audience for most time windows considered. *A priori*, this results is ambiguous about whether the market is truly efficient. One possible interpretation of the results is that audiences do not provide new information or at least, not information that has been already contemplated and provided by the market before the audience takes place. Another possible interpretation is that audience as a whole are not homogenous. In other words, an audiences with different officials of the executive power act as sources of different information. Thus, we could be dealing with an aggregation problem. In consequence, so far we have no evidence supporting our hypothesis that audiences are relevant sources of new information, and our hypothesis that markets can accurately incorporate said information.

Table 5.2: Regression model per ministry

Time Horizon	7	14	21	30
VARIABLES	Abnormal Return			
Before Others	-0.00134	-0.160	-0.0903	-0.107
	(0.256)	(0.195)	(0.201)	(0.196)
Before Planification	-0.0495	-0.0878	-0.0973	-0.0689
	(0.108)	(0.0925)	(0.0878)	(0.0857)
Before Labor	-0.611**	-0.621***	-0.572***	-0.573***
	(0.238)	(0.184)	(0.176)	(0.176)
Before President's office	0.547**	0.540***	0.490**	0.456**
	(0.230)	(0.206)	(0.200)	(0.200)
Before Chief of Cabinet	0.556**	0.558**	0.556**	0.555**
	(0.268)	(0.270)	(0.271)	(0.272)
Before Economy	0.291*	0.279**	0.241*	0.238*
	(0.150)	(0.137)	(0.133)	(0.129)
After Others	-0.258	-0.0163	0.0352	-0.0182
	(0.229)	(0.168)	(0.134)	(0.118)
After Planification	-0.216***	-0.0681	-0.0904**	-0.0811**
	(0.0668)	(0.0521)	(0.0456)	(0.0403)
After Labor	-0.154	-0.0573	-0.0669	-0.0508
	(0.230)	(0.167)	(0.130)	(0.105)
After President's office	0.0956	0.142	0.0524	0.0563
	(0.143)	(0.115)	(0.0983)	(0.0855)
After Chief of Cabinet	0.200	0.304**	0.0681	0.0701
	(0.170)	(0.151)	(0.140)	(0.118)
After Economy	-0.231**	-0.110	-0.0950	-0.110*
	(0.107)	(0.0838)	(0.0709)	(0.0608)
Constant	-0.176***	-0.176***	-0.176***	-0.176***
	(0.0659)	(0.0659)	(0.0659)	(0.0659)
Observations	48,244	48,244	48,244	48,244
R-squared	0.001	0.001	0.001	0.001
Robust standard errors in parentheses. Fixed effects by firms. *** p<0.01, ** p<0.05, * p<0.1				

The most important empirical results of this paper are summarized in Table 5.2. The table presents the regression coefficients estimated for the average residuals controlling by a set of dummy variables consisting of interactions between each specific executive power officials and whether the date corresponds to a date previous or subsequent to the audience. Furthermore, we control for firm specific effects by introducing fixed effects. It is straightforward to think audiences with different policymakers or executive branch officials would imply different sources of information concerning the firm's current financial status. For example, Argentina's government is characterized for actively participating in negotiations concerning wage determinations in different industries and acting as an intermediate between unions and managers when firms face financial distress. Therefore, if a firm has an audience with the ministry of labor, it is probable that the topic discussed involves a delicate financial situation and the possibility that the firm is willing to reduce its staff. On the other hand, if the firm has an audience with the Chief of Cabinet or the President's Office, it is probable that the audience concerns an event such as the announcement of a substantial investment project. Hence, we have reasons to suspect the results in Table 5.1 are not statistically different from zero because of an aggregation problem between heterogeneous events.

First, we find that in periods previous to audiences with the Chief of Cabinet or the President's office the firm's returns are abnormally high by a substantial margin. The coefficients estimated for both categories are positive and statistically different from zero for the period before the audience for all four windows of time considered. Furthermore, the coefficients estimated grow in absolute value as the audience gets closer. This results is consistent with the view that with time, the news of the audience is gradually being incorporated by more investors and is accordingly reflected by the market. However, once the audience has taken place, for both categories concerning dummy variables, the abnormal returns are not statistically different from zero for any window of time considered. Thus, we are inclined to think that these type of audiences provide a distinct source of new information over the firm's future performance not incorporated, at least completely, by the market. Even more, this

source of new information is completely reflected by the securities' prices before the audience takes place.

Second, we analyze the audiences concerning the firm's managers and the Ministry of Labor. Table 5.2 presents negative coefficients for the abnormal returns for all the time windows considered. The estimated coefficients are all statistically significantly different from zero at the 99%, and, furthermore, the coefficients grow in absolute value as the window gets shorter and closer to the audience. Regarding what happens with the stock price after the audience, the coefficients estimated are not statistically significantly different from zero for all windows of time considered. These results contribute to our hypothesis that audiences are sources of new information that is completely absorbed by the market before the audience actually takes place. Just, that these type of audiences represent sources of differently (opposite) type of information.

Third, we now focus on the audiences concerning the firm's managers with the Ministry of Economy. Table 5.2 presents estimates that abnormal returns are statistically significantly different from zero for all time windows before the audience at a 90% level. As in the previous type of audiences analyzed, the magnitude of the coefficient estimated increases as the time windows gets closer to the audience. Unlike the previously described results, the coefficients estimated for the time windows after the audience we arrived to heterogeneous results. For the time windows of 7 and 30 days after the audience the coefficients estimated are negative and significantly different from zero, while for time windows of 14 and 21 days after the audience the coefficients are not significantly different from zero to a 90% level. In principle, the lack of robust estimations statistically significantly different from zero for all time windows considered could be saying that the audience is not a robust source of new information not already considered. Even more, the absolute value of the coefficients estimated for the time windows after the audience are smaller than those estimated for the time windows before the audience. Combining these two results, the sum of the abnormal returns accumulated before the audience are greater

and those after the audience. Consequently, the amount of information provided by the audience is mostly incorporated before the audience and this event just acts as a minor correction rapidly incorporated to the securities' prices. One possible explanation to this market behavior is that audiences with the Ministry of Economy brings a mixed and not completely accurate signal over the future performance of the firm. If the audiences represent a probability distribution function with a positive average but skewed to the right, this could mean that there is a possibility that the audience means a substantially positive return. Facing this type of return distribution, investors could be inclined to *overbet* on these securities with the prospect that the extreme good case materializes. Once these improbable case is not carried away, the price only partially corrects its positive abnormal returns. A similar behavior has been documented for IPOs (Rudd 1993), not as a violation of market efficiency but as an incomplete or inaccurate understanding the distribution function of returns by the average investors. Nevertheless, the correction displayed by the abnormal returns after the audience is not sufficient to compensate the information incorporated before it. Therefore, this findings still corroborate our hypothesis of market efficiency.

Lastly, we focus on the analysis of the audience between the firm's managers with the Ministry of Planification. Table 5.2 present estimates that abnormal returns are not statistically significantly different from zero for all time windows before the audience to a 90% level of significance, whereas the estimates for the period after the audience are statistically significantly negative for some of time windows considered. *A priori*, this evidence suggest that the audience act as a source of information but, unlike the case given by the other ministries analyzed, all the information is reflected by prices on the audience takes place. This results might be explained by the fact that this ministry dealt with a wide range of objectives and politics under its orbit of influence: housing policy, the tendering and implementation of plans for public investment in infrastructure, the regulation of sectors that generations of energy and supply of utilities, and transport regulation. Therefore, we could be again dealing with an aggregation problem, this time within a ministry.

6. ROBUSTNESS CHECKS

As you may have noticed in the methodology section, we made two key assumptions with respect to the formulation of the model. On the one hand, we applied a winsorization process to the data. On the other hand, we computed a window of 300 market days for the rolling regression. The purpose of this section is to conduct a sensibility analysis and stress test the obtained results.[5]

As we have already mentioned, the main goal of implementing a winsorization process is to avoid an overreaction from the model to some extreme outliers, while still taking into account the fact that on a given observation an extraordinary return took place. In other words, under volatile market conditions we implement this strategy to reduce the level of noise. Even though the reasons for the implementation of this process are clear, one could argue that this is an unfair treatment of data. That is why we have recalculated the same model without this process. Under this case, the standard deviation of the data increases. Therefore, the volatility of the estimators increase as well. This provides less reliable estimators. Even though the expected returns are more volatile if the winsorization process is not applied, our results are not altered significantly. There is one clear exception to be made, the correlation identified in the time lapse before the audiences with the Chief of Cabinet does not hold to this test.

Let's focus on the effect that the selected window for the rolling regression has on the expected return. Naturally, as the window size increases, the ability of the model to adjust to sudden changes is reduced. But, if the window is too little the result would be meaningless given that the model would over fit the sample. In other words, if the window is too narrow the estimators would be too volatile to argue that there is a logical connection between the companies. With this in mind, we estimated the same model for windows of 200 and 100 days. As expected, the p-value of the exposed

[5] The results described in this section can be found in the appendix.

results increase and the absolute value of the estimators decrease as the window becomes smaller, but this variation is small. The only ministry affected by this variation is the Ministry of Economy, where the detected correlation gradually wears off as the window size decreases. Apart from that case, our results hold this robustness check.

Most of our results have passed the implemented robustness checks with flying colors. As for the two ministries affected by the changes in the parameters of the model, it is up to the reader to decide if the assumptions on which the parameters' selection were based are credible or not.

7. CONCLUDING REMARKS

Audiences are a formal mechanism of access of power. They may provide new information to the market because they are relevant in themselves or they might indicate that a relevant external event is taking place.

We address questions from two different literatures. In the first place, market efficiency. If the markets are efficient, we expect them to react to every new piece of information that becomes available. In the second place, we focus on audiences as a political technology. If there exist a relationship and it is previous to the audience, it would not be seen as a relevant policymaking arena. Under this terms, audiences would be considered as the formalization of pre-existing arrangement between the firms and politicians.

In order to study if audiences between firm representatives and ranking government officials are related to extraordinary market returns, we estimated expected returns for each firm using rolling regressions with winsorizated data. Then abnormal returns were computed as the difference between realized returns and expected returns.

The model to identify the relationship between abnormal results and audiences consisted of a set of dummies per ministry indicating whether an audience was booked or recently took place and fixed effects per firm.

The result indicates the existence of a relationship before the audience takes place for several ministries: Chief of Cabinet, Ministry of Economy, President's office and Ministry of Labor. It also identifies a relationship after the audience for the Ministry of Planification, but this correlation is somewhat inconsistent.

As the markets react on the new information that the audiences reflect or provide, we argue that this is a strong signal of market efficiency. Due to the fact that markets react to the new information mainly before the audience takes place, there is no evidence to support that audiences are a relevant policymaking arena.

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9. APPENDIX

9.1 MINISTRIES RELATED:

Table 9.1: Full list of audiences of companies and ministries.

Company vs Ministries	Jefatura De Gabinete De Ministros	Ministerio De Ciencia, Tecnologia E Innovacion Productiva	Ministerio De Economia Y Produccion	Ministerio De Educacion	Ministerio De Justicia Y Derechos Humanos	Ministerio De Planificacion Federal, Inversion Publica Y Servicios	Ministerio De Relaciones Exteriores, Comercio Internacional Y Culto	Ministerio De Salud Y Ambiente	Ministerio De Trabajo, Empleo Y Seguridad Social	Ministerio Del Interior	Presidencia De La Nacion	Total
Acindar						6						**6**
Arcos Dorados									1			**1**
Autopistas del Sol						12						**12**
Banco Hipotecario	1		14			6	1		4			**26**
Banco Macro			7		1						1	**9**
Banco Patagonia	4		2						1		2	**9**
BBVA			3	1		2						**6**
Capex						4						**4**
Galicia						1						**1**
Gas del Sur			7			43						**50**
Grimoldi						1						**1**
Ledesma			1					1	1		1	**4**
Metrogas			6			58						**64**
Molinos Rio			2			2					1	**5**
Petrobras	2		1			21			1		3	**28**
Sacif			1									**1**
Santander	2		13			1			1		1	**18**
Telecom	6	1	9	1		6		2	5	2	9	**41**
Transener			4			29			2			**35**
YPF	1		10	3		8			1		7	**30**
Total	**16**	**1**	**80**	**5**	**1**	**200**	**1**	**3**	**17**	**2**	**25**	**351**

Table 9.2: ministries category.

Reported Ministry	Computed Category
Jefatura De Gabinete De Ministros	Chief of Cabinet
Jefatura De Gabinete De Ministrossecretaria De Ambiente Y Desarrollo Sustentable	Chief of Cabinet
Jefatura De Gabinete De Ministrossecretaria De Evaluaciin Presupuestariasubsecretaria De Evaluaciin De Proyectos Con Financiamiento Externo	Chief of Cabinet
Jefatura De Gabinete De Ministrossecretaria De Gabinete Y Relaciones Parlamentarias	Chief of Cabinet
Jefatura De Gabinete De Ministrossecretaria De Medios De Comunicaciin	Chief of Cabinet
Jefatura De Gabinete De Ministrossistema Nacional De Medios Publicos S.E.Coordinacion De Administracion Finanzas Y Recursos Humanos Sistema Nacional De Medios S.E.Gerencia De Administracion Y Finanzas Unidad De Negocios Radio Nacional	Chief of Cabinet
Jefatura De Gabinete De Ministrossistema Nacional De Medios Publicos S.E.Coordinacion Generaldireccion Ejecutiva Canal 7 Argentinagerencia De Administracion Y Finanzas	Chief of Cabinet
Jefatura De Gabinete De Ministrossistema Nacional De Medios Publicos S.E.Coordinacion Generaldireccion Ejecutiva Radio Nacionalgerencia De Administracion Y Finanzas	Chief of Cabinet
Jefatura De Gabinete De Ministrossubsecretaria De Coordinaciin Y Evaluaciin Presupuestariadireccion General Tecnico Administrativa	Chief of Cabinet
Ministerio De Economia Y Finanzas Publicas	Ministry of Economy
Ministerio De Economia Y Finanzas Publicassecretaria De Comercio Interiorcomision Nacional De Defensa De La Competencia	Ministry of Economy
Ministerio De Economia Y Finanzas Publicassecretaria De Finanzas	Ministry of Economy
Ministerio De Economia Y Finanzas Publicassecretaria De Finanzascomision Nacional De Valores (Cnv)	Ministry of Economy
Ministerio De Economia Y Finanzas Publicassecretaria De Finanzascomision Nacional De Valores (Cnv)Gerencia Generalgerencia De Emisorassubgerencia De Emisoras C	Ministry of Economy
Ministerio De Economia Y Finanzas Publicassecretaria De Finanzassubsecretaria De Financiamiento	Ministry of Economy
Ministerio De Economia Y Finanzas Publicassecretaria De Finanzassubsecretaria De Servicios Financieros	Ministry of Economy
Ministerio De Economia Y Finanzas Publicassecretaria De Politica Economica Y Planificacion Del Desarrollo	Ministry of Economy
Ministerio De Economia Y Finanzas Publicasunidad Ministrounidad De Renegociacion Y Analisis De Contratos De Servicios Publicos	Ministry of Economy
Ministerio De Economia Y Produccion	Ministry of Economy
Ministerio De Economia Y Produccionsecretaria De Finanzas	Ministry of Economy
Ministerio De Economia Y Produccionsecretaria De Finanzascomision Nacional De Valores (Cnv)	Ministry of Economy
Ministerio De Economia Y Produccionsecretaria De Finanzassubsecretaria De Servicios Financieros	Ministry of Economy
Ministerio De Economia Y Produccionsecretaria De Politica Economicasubsecretaria De Programacion Economica	Ministry of Economy
Ministerio De Economia Y Produccionunidad Ministrobanco De Inversion Y Comercio Exterior S.A.	Ministry of Economy
Ministerio De Economia Y Produccionunidad Ministrounidad De Renegociacion Y Analisis De Contratos De Servicios Publicos	Ministry of Economy
Ministerio De Trabajo, Empleo Y Seguridad Socialanses - Administracion Nacional De La Seguridad Social	Ministry of labor
Ministerio De Trabajo, Empleo Y Seguridad Socialsafjp - Superintendencia De Afjp	Ministry of labor
Ministerio De Trabajo, Empleo Y Seguridad Socialsrt - Superintendencia De Riesgos Del Trabajo	Ministry of labor
Ministerio De Trabajo, Empleo Y Seguridad Socialsrt - Superintendencia De Riesgos Del Trabajogerencia Generalsubgerencia De Administracion	Ministry of labor
Ministerio De Trabajo, Empleo Y Seguridad Socialunidad Ministrojefatura De Gabinete	Ministry of labor
Ministerio De Trabajo, Empleo Y Seguridad Socialunidad Ministrosecretaria De Empleo	Ministry of labor
Ministerio De Trabajo, Empleo Y Seguridad Socialunidad Ministrosecretaria De Trabajo	Ministry of labor
Ministerio De Trabajo, Empleo Y Seguridad Socialunidad Ministrosecretaria De Trabajosubsecretaria De Fiscalizacion Del Trabajo Y De La Seguridad Social	Ministry of labor
Ministerio De Planificacion Federal, Inversion Publica Y Servicios	Ministry of Planification
Ministerio De Planificacion Federal, Inversion Publica Y Serviciossecretaria De Comunicacionescomision Nacional De Comunicaciones (Cnc)	Ministry of Planification
Ministerio De Planificacion Federal, Inversion Publica Y Serviciossecretaria De Energiaente Nacional Regulador De La Electricidad (Enre)	Ministry of Planification
Ministerio De Planificacion Federal, Inversion Publica Y Serviciossecretaria De Energiaente Nacional Regulador Del Gas (Enargas)	Ministry of Planification
Ministerio De Planificacion Federal, Inversion Publica Y Serviciossecretaria De Energiasubsecretaria De Energia Electrica	Ministry of Planification
Ministerio De Planificacion Federal, Inversion Publica Y Serviciossecretaria De Obras Publicasfondo Fiduciario Federal De Infraestructura Regional	Ministry of Planification
Ministerio De Planificacion Federal, Inversion Publica Y Serviciossecretaria De Obras Publicasorgano De Control De Concesiones Viales (Occovi)	Ministry of Planification
Ministerio De Planificacion Federal, Inversion Publica Y Serviciossecretaria De Obras Publicassubsecretaria De Recursos Hidricosdireccion Nacional De Proyectos Y Obras Hidricasinstituto Nacional Del Agua (Ina)	Ministry of Planification
Ministerio De Planificacion Federal, Inversion Publica Y Serviciossecretaria De Transporteorganismo Regulador Del Sistema Nacional De Aeropuertos (Orsna)	Ministry of Planification
Ministerio De Planificacion Federal, Inversion Publica Y Serviciossecretaria De Transportesubsecretaria De Puertos Y Vias Navegables	Ministry of Planification
Ministerio De Planificacion Federal, Inversion Publica Y Serviciossubsecretaria De Coordinacion Y Control De Gestion	Ministry of Planification
Ministerio De Ciencia, Tecnologia E Innovacion Productivasecretaria De Articulacion Cientifico Tecnologica	Other
Ministerio De Defensa	Other
Ministerio De Educacion	Other
Ministerio De Educacion, Ciencia Y Tecnologia	Other
Ministerio De Educacion, Ciencia Y Tecnologiasecretaria De Educaciin	Other
Ministerio De Educacionsecretaria De Educaciin	Other
Ministerio De Industria	Other

Ministerio De Justicia Y Derechos Humanossecretaria De Justiciasubsecretaria De Asuntos Registralesdireccion Nacional Del Registro Nacional De La Propiedad Del Automotor Y Creditos Prendarios	Other
Ministerio De Relaciones Exteriores, Comercio Internacional Y Culto	Other
Ministerio De Salud Y Ambientesuperintendencia De Servicios De Salud	Other
Ministerio De Saludsecretaria De Politicas, Regulacion E Institutosadministracion Nacional De Medicamentos, Alimentos Y Tecnologia Medica - A.N.M.A.T	Other
Ministerio Del Interiorsecretaria Del Interiordireccion Nacional De Migraciones	Other
Presidencia De La Nacion	Presidency
Presidencia De La Nacionvicepresidencia De La Nacion	Presidency
Secretaria De Cultura De La Nacion - Presidencia De La Nacionunidad Secretario	Presidency
Secretaria De Turismo - Presidencia De La Nacion	Presidency
Secretaria General - Presidencia De La Nacionsubsecretaria De Coordinacion	Presidency
Secretaria General - Presidencia De La Nacionsubsecretaria De Coordinaciondireccion General De Administracion De Recursos Humanos Y Organizacion	Presidency

9.2. ROBUSTNESS CHECKS RELATED

Table 9.2.1: Winsorization process

Time Horizon	7		14		21		30	
Winsorization	**OFF**	**ON**	**OFF**	**ON**	**OFF**	**ON**	**OFF**	**ON**
VARIABLES	Abnormal Return							
Before Others	-0.00239	-0.00134	-0.169	-0.160	-0.0987	-0.0903	-0.112	-0.107
	(0.257)	(0.256)	(0.196)	(0.195)	(0.203)	(0.201)	(0.202)	(0.196)
Before Planification	-0.0439	-0.0495	-0.0941	-0.0878	-0.0927	-0.0973	-0.0679	-0.0689
	(0.112)	(0.108)	(0.0962)	(0.0925)	(0.0926)	(0.0878)	(0.0903)	(0.0857)
Before Labor	-0.561**	-0.611**	-0.563***	-0.621***	-0.541***	-0.572***	-0.540***	-0.573***
	(0.239)	(0.238)	(0.183)	(0.184)	(0.174)	(0.176)	(0.174)	(0.176)
Before President's office	0.589**	0.547**	0.575***	0.540***	0.520**	0.490**	0.485**	0.456**
	(0.234)	(0.230)	(0.208)	(0.206)	(0.204)	(0.200)	(0.204)	(0.200)
Before Chief of Cabinet	0.406	0.556**	0.407	0.558**	0.405	0.556**	0.405	0.555**
	(0.261)	(0.268)	(0.264)	(0.270)	(0.265)	(0.271)	(0.267)	(0.272)
Before Economy	0.273*	0.291*	0.252*	0.279**	0.216	0.241*	0.212*	0.238*
	(0.149)	(0.150)	(0.136)	(0.137)	(0.132)	(0.133)	(0.128)	(0.129)
After Others	-0.239	-0.258	-0.0254	-0.0163	0.0294	0.0352	-0.0394	-0.0182
	(0.231)	(0.229)	(0.173)	(0.168)	(0.136)	(0.134)	(0.121)	(0.118)
After Planification	-0.238***	-0.216***	-0.0818	-0.0681	-0.0935*	-0.0904**	-0.0692	-0.0811**
	(0.0708)	(0.0668)	(0.0550)	(0.0521)	(0.0486)	(0.0456)	(0.0437)	(0.0403)
After Labor	-0.150	-0.154	-0.0346	-0.0573	-0.0533	-0.0669	-0.0533	-0.0508
	(0.262)	(0.230)	(0.183)	(0.167)	(0.141)	(0.130)	(0.113)	(0.105)
After President's office	0.141	0.0956	0.172	0.142	0.0752	0.0524	0.0708	0.0563
	(0.146)	(0.143)	(0.117)	(0.115)	(0.101)	(0.0983)	(0.0870)	(0.0855)
After Chief of Cabinet	0.251	0.200	0.322**	0.304**	0.0896	0.0681	0.0822	0.0701
	(0.167)	(0.170)	(0.152)	(0.151)	(0.145)	(0.140)	(0.122)	(0.118)
After Economy	-0.214*	-0.231**	-0.107	-0.110	-0.0952	-0.0950	-0.108*	-0.110*
	(0.114)	(0.107)	(0.0883)	(0.0838)	(0.0741)	(0.0709)	(0.0632)	(0.0608)
Constant	-0.184**	-0.176***	-0.185**	-0.176***	-0.184**	-0.176***	-0.184**	-0.176***
	(0.0746)	(0.0659)	(0.0746)	(0.0659)	(0.0746)	(0.0659)	(0.0747)	(0.0659)
Observations	48,244	48,244	48,244	48,244	48,244	48,244	48,244	48,244
R-squared	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Robust standard errors in parentheses. Fixed effects by firms. *** p<0.01, ** p<0.05, * p<0.1								

TABLE 9.2.2: ROLLING REGRESSION TIME WINDOW

Window (rolling reg)	100				200				300			
Time Horizon	7	14	21	30	7	14	21	30	7	14	21	30
VARIABLES	Abnormal Return											
Before Others	0.115	-0.0681	-0.0263	-0.0300	0.0387	-0.138	-0.0689	-0.0977	-0.00134	-0.160	-0.0903	-0.107
	(0.210)	(0.168)	(0.172)	(0.165)	(0.245)	(0.188)	(0.196)	(0.190)	(0.256)	(0.195)	(0.201)	(0.196)
Before Planification	-0.0173	-0.0558	-0.0673	-0.0430	-0.0297	-0.0646	-0.0735	-0.0472	-0.0495	-0.0878	-0.0973	-0.0689
	(0.0986)	(0.0847)	(0.0801)	(0.0783)	(0.105)	(0.0899)	(0.0852)	(0.0832)	(0.108)	(0.0925)	(0.0878)	(0.0857)
Before Labor	-0.390*	-0.401**	-0.397***	-0.398***	-0.581**	-0.613***	-0.559***	-0.560***	-0.611**	-0.621***	-0.572***	-0.573***
	(0.204)	(0.163)	(0.153)	(0.153)	(0.232)	(0.179)	(0.171)	(0.172)	(0.238)	(0.184)	(0.176)	(0.176)
Before President's office	0.457**	0.472**	0.438**	0.393**	0.483**	0.472**	0.441**	0.407**	0.547**	0.540***	0.490**	0.456**
	(0.223)	(0.196)	(0.191)	(0.192)	(0.238)	(0.209)	(0.203)	(0.202)	(0.230)	(0.206)	(0.200)	(0.200)
Before Chief of Cabinet	0.498**	0.497**	0.496**	0.494**	0.590**	0.590**	0.587**	0.584**	0.556**	0.558**	0.556**	0.555**
	(0.226)	(0.227)	(0.226)	(0.228)	(0.250)	(0.252)	(0.253)	(0.254)	(0.268)	(0.270)	(0.271)	(0.272)
Before Economy	0.254*	0.193	0.162	0.161	0.271*	0.243*	0.199	0.194	0.291*	0.279**	0.241*	0.238*
	(0.134)	(0.121)	(0.118)	(0.115)	(0.146)	(0.133)	(0.129)	(0.126)	(0.150)	(0.137)	(0.133)	(0.129)
After Others	-0.112	0.0735	0.0874	0.0173	-0.222	-0.00265	0.0454	0.00909	-0.258	-0.0163	0.0352	-0.0182
	(0.194)	(0.152)	(0.121)	(0.104)	(0.226)	(0.164)	(0.129)	(0.114)	(0.229)	(0.168)	(0.134)	(0.118)
After Planification	-0.202***	-0.0698	-0.0746*	-0.0681*	-0.195***	-0.0609	-0.0850*	-0.0791**	-0.216***	-0.0681	-0.0904**	-0.0811**
	(0.0616)	(0.0474)	(0.0415)	(0.0367)	(0.0636)	(0.0496)	(0.0436)	(0.0386)	(0.0668)	(0.0521)	(0.0456)	(0.0403)
After Labor	-0.133	-0.0610	-0.0884	-0.0926	-0.203	-0.0771	-0.0816	-0.0756	-0.154	-0.0573	-0.0669	-0.0508
	(0.192)	(0.145)	(0.117)	(0.0963)	(0.218)	(0.160)	(0.124)	(0.102)	(0.230)	(0.167)	(0.130)	(0.105)
After President's office	0.0560	0.110	0.00974	0.0396	0.0755	0.125	0.0420	0.0615	0.0956	0.142	0.0524	0.0563
	(0.139)	(0.108)	(0.0917)	(0.0795)	(0.141)	(0.115)	(0.0968)	(0.0839)	(0.143)	(0.115)	(0.0983)	(0.0855)
After Chief of Cabinet	0.102	0.223	-0.00308	0.0294	0.218	0.303**	0.0504	0.0554	0.200	0.304**	0.0681	0.0701
	(0.170)	(0.153)	(0.137)	(0.114)	(0.160)	(0.147)	(0.137)	(0.115)	(0.170)	(0.151)	(0.140)	(0.118)
After Economy	-0.145	-0.0803	-0.101	-0.104*	-0.209**	-0.116	-0.111	-0.117**	-0.231**	-0.110	-0.0950	-0.110*
	(0.100)	(0.0780)	(0.0661)	(0.0567)	(0.104)	(0.0821)	(0.0697)	(0.0596)	(0.107)	(0.0838)	(0.0709)	(0.0608)
Constant	-0.141**	-0.141**	-0.140**	-0.140**	-0.0388	-0.0388	-0.0388	-0.0388	-0.176***	-0.176***	-0.176***	-0.176***
	(0.0631)	(0.0631)	(0.0631)	(0.0631)	(0.0658)	(0.0658)	(0.0658)	(0.0658)	(0.0659)	(0.0659)	(0.0659)	(0.0659)
Observations	51,231	51,231	51,231	51,231	49,744	49,744	49,744	49,744	48,244	48,244	48,244	48,244
R-squared	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001

Robust standard errors in parentheses. Fixed effects by firms. *** p<0.01, ** p<0.05, * p<0.1