Xi Jinping's Anti-Corruption Campaign and the Import of Luxury Goods in China*

(Preliminary Draft)

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Abstract

We conduct an event study to show that Chinese leader Xi Jinping's anti-corruption reform reduced the importation of luxury goods widely known to be vehicles for official corruption by approximately 17%. This implies that the extreme lowerbound of official corruption was 57 million 2014 USD per half year. Results from placebo experiments rule out obvious alternative hypotheses. The findings provide novel evidence that large-scale national policies can affect corruption, at least in the medium run, and are the first quantification of the lower bound of corruption in China.

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1 Introduction

It is widely believed that corruption hinders growth (e.g Fisman and Svensson 2007; Mauro 1995; Murphy, Shleifer, and Vishny 1993), and that the levels of bureaucratic corruption are higher in countries with non-democratic governments because of weaker political competition and public pressure (La Porta, Lopez-de Silanes, Shleifer, and Vishny 1999; Shleifer and Vishny 1993) and when government revenues are high (e.g Brollo, Nannicini, Perotti, and Tabellini 2013). This can be particularly problematic in transition economies where government officials have considerable discretion over determinants of economic activity, like privatization of state assets and access to licenses critical for entrepreneurial ventures (Shleifer 1997).

China, which became the world's fastest growing economy for three decades as it transitioned from a planned to a market economy, fulfills all of these criteria. Official corruption in China is believed to be widespread, while enforcement is believed to be weak.[1] The odds of jail sentence for a corrupt official is less than three percent (Pei 2007).[2] There is a consensus among academics and policymakers that corruption is one of China's largest obstacles to continued

[1]For example, the Central Commission for Discipline Inspection, the Communist Party's anti-corruption group, found that 106,000 officials were guilty of corruption in 2009 (BBC (2010)), and the median bribe amount per case rose from $121,000 in 2000 to $250,000 in 2009 (in constant 2012 U.S. Dollars). Pei (2007) estimated that the total direct costs of corruption in 2007 could total $86 billion.

[2]Prosecutions for corruption are uncommon, although there have been several prominent and well-publicized cases. One prominent example is Bo Xilai, the ex-party chief of the city of Chongqing. He was charged for receiving over twenty million yuan in bribes and embezzling an additional five million yuan, and was sentenced to life in prison in September 2013 (Reuters (2013)). Another example occurred in October 2014. A retired commander of the People's Liberation Army, Gen. Xu Caihou, confessed to taking bribes for favors and promotions (NYT (2014a)).

economic growth, which has slowed down to 7.5 in 2015, the lowest pace since 1990 (e.g., Bloomberg, 2015; Feldstein 2012, Pei 2007).

To combat corruption, Communist Party Secretary Xi Jinping introduced a nationwide campaign one month after he entered office in November of 2012. This campaign, which we describe in detail Section 2, banned officials from purchasing or receiving a number of goods that are known vehicles for trading favors such as jewelry, collectible art, designer leather handbags, and lavish banquets. Thus far, there has been no evaluation of whether this campaign against corruption has been effective. More generally, there is little empirical evidence on whether a large scale campaign against corruption can be effective.[3]

This paper attempts to fill this gap by investigating whether Xi's nationwide campaign was effective. We use an event study to examine the effect of the introduction of the campaign on the import of luxury goods that are known to be important vehicles for corruption. Our analysis uses data from COMTRADE and we focus on the import of goods which are motivated by the anecdotal evidence. To address the concern that imports may vary by season and year, we control for season and time fixed effects. We show that the initiation of the anti-corruption reform significantly reduced the imports of items that were known to be popular gifts for officials: jewelry (e.g., jewelry, watches, etc.), collectible art (e.g., art, stamps, etc.) and leather bags.

To investigate the effect of the reform on banquets, we first identify a luxury

[3]There are numerous studies in many contexts showing that small-scale policies can affect corruption and reveal corrupt conduct. A large number of these studies bare described in literature overviews by Banerjee and Hanna (2012) and Olken and Pande (2012). We also discuss a selection of these studies in greater detail later in the introduction.

food commodity, imported beef, and show that the reform significantly reduced its importation. Interestingly, we also find that the anti-corruption reform increased the import of cheaper foods – poultry and staple grains – which suggests that officials responded to the reform by substituting towards less expensive banquets, possibly in conjunction with reducing the overall number of banquets.

We find that the reform reduced the luxury imports that we examine by approximately 17%, which is equivalent to around 57 million 2014 USD. Note that since corrupt officials were likely to have substituted towards other goods, especially in light of our finding an increase in the import of cheaper foods, we are unable to assess the total effect the reform.

There are several caveats for interpreting the findings as the effect of the reform on reducing the demand of luxury imports. First, in the short run, an alternative explanation is that retailers and vendors perceive that there will be a reduction in demand, even if true demand is unaffected by the reform. However, in this case, we should observe that imports rebound soon after the reform when it becomes apparent that demand has not declined. Thus, to rule this out, we examine a six month window in the main event study and show that the effect persists, which suggest that the reduction in imports is driven by a reduction in demand. Second, we address the concern that the reform coincided with general macro economic downturn or a change in the terms of trade by showing that there is no effect on total imports and by controlling for macro economic factors.

Finally, we address the possibility that the ascension of Xi after the much

publicized scandal of Bo Xilai was interpreted as a sign of political uncertainty and that the demand for luxury goods is more sensitive to such uncertainty than the demand for other goods. We conduct a set of placebo experiments that examine the impact of political unrest on the imports of luxury goods.

Our results make two contributions to the literature. First, the provide novel evidence that a national reform can have large-scale effects on corruption. This builds on the important empirical literature that shows smaller-scale interventions can affect local level corruption (e.g, Olken 2007a; Duflo, Greenstone, Pande, and Ryan 2013; Duflo, Hanna, and Rya 2012; Duflo, Hanna, and Rya 2012; Reinikka and Svensson 2005; Di Tella and Schargrodsky 2003; Bertrand, Djankov, Hanna, and Mullainathan 2007).

Second, we are one of a few recent studies that attempt to quantify corruption in China. Since we only observe what is probably a small part of total corruption (e.g., we do not observe the consumption of domestic goods), our estimates should be interpreted as a very conservative lower bound. Other recent studies include Fisman and Wang (2010), which detects corruption in state asset sales by comparing prices of publicly traded assets to non-publicly traded assets. Fang, Gu, and Zhou (2014) compare bureaucrat and non-bureaucrat purchasers of real estate and find that bureaucrats receive discounts in housing purchases and that the magnitude of the discount is increasing in the seniority of the official. Related to this, Fisman and Wei (2004) investigate tax evasion and find that the gap between reported exports from Hong Kong and reported imports from China is increasing in tariff rates.

Finally, we show that examining import data is a reasonable method for

deducing corruption. In this sense, this study is related to the large literature on measuring corruption (e.g. Fisman and Svensson 2007; Svensson 2003a).[4] To the best of our knowledge, the only other study that has examined imports to back out corruption is the recent working paper by Lan and Li (2013), who find that the import of luxury watches increases during regular political turnovers in China and conclude that these patterns are evidence of corruption. Our study differs in that we examining an event explicitly targeted against corruption, so our results are easier to interpret; a larger set of products, which enriches the analysis; and we use monthly level data instead of annual level data, which allows our event study to be more precise about the timing of the effect.

The paper is organized as follows. Section 2 discusses the background. Section 3 provides a simple model to illustrate how the anti-corruption reform could reduce the importation of luxury goods. Section 4 presents the event study. Section 4.3 presents the regression results. Section 5 concludes.

[4]Svensson (2003b)uses a unique firm-level dataset on corruption in Uganda to find that bribes are a common feature. However, most studies in this literature do not have direct measures of corruption. They have have addressed this by inferring corruption from changes in stock prices between firms of varying political connectedness in Indonesia (e.g., Fisman (2001)), comparing asset accumulation of elected politicians against the runner ups in India (e.g., Fisman, Schulz, and Vig (2012)), using data from audits in Brazil (e.g, Ferraz and Finan (2008), (2011)), by comparing administrative records and household survey data on windfalls from India's employment guarantee scheme (Niehaus and Sukhtankar 2013), and conducting field experiments which varied the type of bureaucratic monitoring in Indonesia (e.g., Olken (2007b)). Similarly, Gorodnichenko and Sabirianova Peter (2007) infer official corruption in Ukraine from the fact that public sector workers earn 24-32% than private sector workers, but have similar levels of expenditures and asset holdings.

Also, see Olken and Pande (2012) for an overview of the literature on measuring corruption and Zitzewitz (2012) for a review of the more general literature on detecting bad behavior. See Banerjee and Hanna (2012)for a framework for analyzing corruption of public bureaucrats.

2 Background

2.1 Corruption in China

One major aspect of Chinese corruption is the exchange of favors for establishing personal ties; such favors frequently take the form of gifts and banquets. This practice is used to obtain privileged access to government services, flatter immediate supervisors, maintain contractual relationships, and reinforce loyalty in protégées (Heidenheimer and Johnston 2011a).

The giving and receiving of gifts to government officials has a long historical precedent (e.g., Steidlmeier 1999, NYT (2011), NYT (2014)). Gifts are used to bribe politicians for future favors and to reward them for existing special treatment. Gifts are also frequently purchased with state money (NYT (2009)), and are believed to comprise up to 25 percent of all luxury spending in China (China Daily (2013)). The practice takes place year-round but spikes during specific events, like the National People's Congress. During this event, Communist Party delegates who hope to establish special relationships with peers and superiors will exchange gifts such as "Gucci handbags, Hermes scarves, Montblanc pens, and $30,000 diamond-studded Swiss watches" (NYT (2009)). As this list demonstrates, European luxury brands are popular gift items. Watches are also popular (Lan and Li, 2013, BBC (2013)), and were central to the high-profile case of Yang Dacai, who was convicted of graft after investigators found his extensive luxury watch collection. They were too expensive for his salary, but he could not identify other sources of legal income (Reuters (2013)).

Precious metals and stones are also frequently used as gifts. Gifts of gold often take the form of "solid gold bars, jewelry, and ... images of ancient Chinese figures" (WSJ (2014)). Jewelry, especially, is "a favorite for people sending gifts to government officials" (NYT (2009)). Gems and diamonds can also be disguised in traditional food gifts, like moon cakes and zongzi, a rice dessert (Radio Free Asia (2012), Businessweek (2014)).

Artwork is another medium of Chinese corruption. Works of art are difficult to price, and can therefore be used as efficient vehicles for money laundering (China Daily (2014)). Indeed, the use of art in "bribery of public officials is so widespread that the Chinese have coined a term to describe [it]... 'yahui' or 'elegant bribery"' (NYT (2013)). After Wen Qiang, a former deputy police chief of Chongqing, was arrested for corruption, investigators found over one hundred works of art in his home, including ivory sculptures, a stone Buddha head, and valuable calligraphy scrolls (NYT (2013)).

There are several points to keep in mind from this discussion. First, the popularity of luxury European brands and imported jewelry as gifts suggests that a reduction in corruption may be reflected by a reduction in the import of luxury goods. Second, as the discussion on collectible art shows, a significant proportion of gifts will be domestic items. Thus, luxury imports are likely to represent only a small part of total corruption.[5]

[5]Another example is alcoholic beverages, which are often given as gifts (Chow and Gu 2014) and comprise a significant part of banquet expenditures that we discuss below (Reuters 2012a). The Chinese alcohol market is still dominated by domestic brands (e.g., Wu Liang Ye, Mao Tai). The market share of foreign brands was only nineteen percent in 2014, despite a sevenfold increase in the last six years (Benussi and Ku 2014). In contrast, the share of imports in the Chinese gold market was 73% in 2013 (Chen 2014) and the Chinese luxury watch market was 80% imported in 2014 (Wong 2014).

Lavish banqueting is another well-known form of corruption among Chinese officials (Xinhua (2013), WSJ (2012), BBC (2012)). In 2012, it constituted eighty percent of food waste for all of China, which was estimated to have a value of $32 billion U.S. dollars (WSJ (2013)). This total figure reflects both the extravagance of the banquets and the number of banquets given. A publicized and representative case is that of Wei Mingsheng, who, after promotion to a prominent position in Shanxi province, "attended more than sixty farewell banquets, hosted by 75 work units, within 51 days" (Heidenheimer and Johnston 2011b). Banquets feature expensive seafood dishes like abalone, shark fin, sea cucumber and imported beef steaks (Business Insider (2013), Global Post (2013)). Based on interviews conducted by the authors, it is not uncommon for officials to host dinners which cost up to 500,000 RMB for ten people.

2.2 Anti-Corruption Campaign

Xi Jinping became the highest ranked leader, the Communist Party Secretary General, of China on November 2015. Coming to power in the aftermath of the internationally publicized Bo Xilai scandal, political analysts noted that Xi was politically obligated to take action against corruption (Buckley 2014b). To signal his commitment, Xi Jinping named fighting corruption a top priority in his inaugural speech (Xi 2012). ".. Our party faces many severe challenges, and there are many pressing problems within the party that needs to be resolved, especially problems such as corruption and bribe-taking by some party members...." (BBC, 2012). Within one week of taking office as leader of the Chinese Communist Party, Xi begin to announce policies against corruption.

One major set of these policies was targeted at reducing official's acceptance of bribes in exchange for favors. First, he banned executives in state-owned financial companies from purchasing extravagant houses and cars (Reuters 2012b). Xi announced further bans, including those on alcohol at military functions (Reuters 2012a), state-funded banquets for military officials (News 2012), military license plates for luxury cars (Wan 2013a), and radio and TV advertisements for luxury goods like watches and jewelry (Reuters 2013).

Political analysts consider Xi's anti-corruption drive to be "more far-reaching and lasting than any other" (Economist 2014). According to Harvard Sinologist and Political Scientist Anthony Saichs, "This is the most ambitious anti-corruption campaign since at least Mao's days" (Bloomberg, 2015). Previous efforts have focused on isolated cases in which the target was one official and close associates. Bo Xilai's case follows this pattern. In contrast, the new push by the General Secretary is characterized by a larger scope of investigation and a willingness to prosecute higher-level officials, such as Zhou Yongkang, whose network "is much larger, spans multiple sectors, and reaches across China" (Buckley 2014b).

Teams from the Communist Party's Central Commission for Discipline Inspection have been sent on nation-wide audits are part of the five-year plan against corruption (Bloomberg, 2015). The total number of corruption cases increased significantly under Xi. In 2013, the Party "punished more than 182,000 officials for corruption, 50,000 more than the annual average for the previous five years" (Economy 2014).

The effects of the anti-corruption campaign has reportedly been felt by

officials and luxury goods retailers. For example, delegates to the National Party Committee meeting in Beijing in 2015 report the disappearance of lavish perks from past meetings. Delegates are served alcohol-free, self-served buffets to set a good example for the rest of the nation. At the same time, Bain & Co. report that spending on luxury goods such as Gucci bags and Chinese spirits served at banquets increased only two percent in 2012, the slowest since 2000 (Bloomberg, 2015).

In our study, we interpret all of the announced bans and prosecutions as one set of reforms against corruption and November 2012 as the beginning of the anti-corruption campaign. This was when Xi made his inaugural speech and announced his first anti-corruption policy.

3 Conceptual Framework

3.1 Benchmark

To illustrate how the anti-corruption reform can affect the demand for luxury goods, we outline a simple model.

Suppose that a corrupt official exerts effort e to earn bribes at price w, which she spends on normal consumption x and conspicuous consumption y. Let p be the price of good and let the price of good y be normalized to 1. We assume that her utility function is $U(x) + V(y) - W(e)$, where U, V, W are all increasing; U, V are concave; and W is convex ($U', V', W' > 0$, $U'', V'' < 0$, $W'' > 0$).

Without the anti-corruption campaign, she solves the following maximiza-

tion problem.

$$\max_{x,y,e} U(x) + V(y) - W(e)$$

s.t.

$$px + y - we = 0.$$

We can solve this problem in two stages. In the first stage, the agent chooses y. In the second, given y, she chooses (x, e).

The second stage problem is thus the following:

$$\Upsilon(y) \equiv \max_{x,e} U(x) - W(e)$$

s.t.

$$px - we + y = 0.$$

The first stage problem is the following:

$$\max_{y} \Upsilon(y) + V(y).$$

We can break the maximization problem into two stages because of this equivalence:

$$\max_{x,y,e} U(x) + V(y) - W(e) = \max_{y} \left\{ V(y) + \max_{x,e:px-we+y=0} (U(x) - W(e)) \right\}.$$

1 *Let $e(y)$ be the solution of the second stage problem as a function of y. Then $e'(y) > 0$. $\Upsilon(y)$ is a concave function.*

Proof. Υ is concave because U and $-W$ are concave. The budget set is thus linear. We can write it as

$$\Upsilon(y) = \max_{e} U\left(\frac{we-y}{p}\right) - W(e).$$

The FOC is:

$$\frac{w}{p}U'\left(\frac{we-y}{p}\right) - W'(e) = 0.$$

To find $e'(y)$, differentiate fully w.r.t e and y :

$$\left[\underbrace{\left(\frac{w}{p}\right)^2 U''\left(\frac{we-y}{p}\right) - W''(e)}_{<0}\right] de - \frac{w}{p^2}\underbrace{U''\left(\frac{we-y}{p}\right)}_{<0} dy = 0$$

or

$$e'(y) = \frac{de}{dy} = \frac{\frac{w}{p^2}U''\left(\frac{we-y}{p}\right)}{\left(\frac{w}{p}\right)^2 U''\left(\frac{we-y}{p}\right) - W''(e)} > 0.$$

■

Intuitively, $e'(y)$ follows from the fact that the bribe recipient wants to equalize her marginal utility of consumption of x and her marginal disutility of effort (i.e., her marginal utility of leisure). If, for whatever reason, y was chosen to be sufficiently large, then it will be equivalent to a lump sum tax in the second stage. Bribe recipients respond to this tax by reducing their consumption of x and their consumption of leisure – i.e., increasing their effort.

Of course, without the corruption campaign, all margins are equalized. By

the envelope theorem, we obtain

$$\Upsilon'(y) = -\frac{1}{p}U'(x) = \frac{1}{w}W'(e),$$

and by optimality in the first stage, we obtain

$$V'(y) = -\Upsilon'(y).$$

Thus, we obtain the usual

$$V'(y) = \frac{1}{p}U'(x) = -\frac{1}{w}W'(w).$$

Let y^* be the consumption of conspicuous goods without anti-corruption campaign. It solves

$$\Upsilon'(y^*) + V'(y^*) = 0.$$

3.2 Anti-corruption

Now, suppose that the anti-corruption campaign is introduced. We assume that the probability of being caught is $p(y)$, where p is increasing in y. If the bribe recipient is caught, the her utility of being punished is U_0, which is a small finite number.

The bribe recipient's problem can again be written in two stages. The second stage is as before. The first stage is

$$\max_y (1 - p(y)) [\Upsilon(y) + V(y)] + p(y) U_0,$$

which gives the optimality condition

$$[\Upsilon'(y) + V'(y)] + \underbrace{\frac{p'(y)}{1-p'(y)}}_{>0 \text{ since } p'>0} \left[\underbrace{\Upsilon(y) + V(y) - U_0}_{>0 \text{ since } U_0 \text{ is low}} \right] = 0,$$

therefore

$$\Upsilon'(y^{**}) + V'(y^{**}) > 0.$$

Let $F(y) = \Upsilon(y) + V(y)$. It is a strictly concave function (see the Lemma 1) with a unique maximum at y^*. Since $F(y^{**}) > 0$, this implies that $y^{**} < y^*$, so that any anti-corruption campaign reduces the consumption of conspicuous good y. By Lemma 1, $e(y^{**}) < e(y^*)$, the anti-corruption campaign also reduces bribes. Note that for simplicity, we keep the bribe price per unit of effort, w, fixed by assumption, since we do not model demand for bribes. So the anti-corruption reduces the total amount paid for bribes and the number. If we additionally model the demand for bribes, then the price of each bribe would be higher, since the supply of illegal activity went down.

The model shows that the anti-corruption campaign can reduce the total amount paid for bribes and increase the consumption of the normal good x. In the empirical analysis, we will investigate this hypothesis by examining whether the campaign reduced the consumption – i.e., import – of luxury goods; while increasing the consumption – i.e., import – of inexpensive food items.

4 Event Study

We use monthly COMTRADE data and focus on the import of luxury items discussed in the anecdotal evidence from Section 2.[6] The main sample begins in January 2011 and ends in July 2014, the last month for which there is complete data. We define the anti-corruption campaign to begin in November of 2012. Thus, we have 22 months of pre-reform data and 21 months of post reform data, which form an almost a symmetric window. Note that the importing countries change over time and comprise a very unbalanced panel. Thus, we organized the data to be the sum of luxury imports from all importing countries for a given month.

The main dependent variable is the value of imported goods. We deflate this so that it is measured in constant 2012 USD.

One advantage of an event study is that it allows us to examine the dynamics of the effect on top of the average post-reform effect. Since retailers and vendors can respond to a reduction in demand for luxury items very quickly by canceling their import orders, we expect the reform to reduce luxury imports immediately. We are agnostic about whether this reduction takes the form of a trend break – i.e., a gradual decline in imports – or a step-function – i.e., a sudden reduction that is relatively constant in the post-reform period.

For our hypothesis, it is important to examine whether the reduction in luxury imports is temporary or whether it persists over time. This is important because a temporary short run reduction can be due to retailers' and vendors' perception of a reduction in demand, even if true demand is unaffected by the

[6]The definition of each category is provided in Appendix Table 1.

reform. However, in this case, we should observe that imports rebound soon after the reform when it becomes apparent that demand has not declined. In contrast, if demand for luxury imports is truly reduced, we should observe that the effects persist.

The main estimating equation for the event study is as follows.

$$y_{mqt} = \alpha + \sum_{\tau=-6}^{7} \beta_\tau (R_{mqt} = \tau) + \gamma_q + \delta_y + \varepsilon_{mqt}, \tag{1}$$

where the logarithm of the value of luxury imports in month m quarter q and year t is a function of the number of months since the reform, R_{mqt}; quarter fixed effects, γ_q; year fixed effects, δ_y; and and error term. We estimate robust standard errors. For this regression, we group all months that are more than seven months prior (after) the reform into one group. Seven or more months prior to the reform is the reference group. Thus, the dummy variables for the number of months since the reform are not collinear with the quarter or year fixed effects. The quarter fixed effects control for seasonal effects. The year fixed effects control for general changes over time such as changes in the terms of trade or Chinese macro economic growth.

4.1 Luxury Gifts

We begin by examining the import of luxury goods commonly given as gifts: jewelry, art and leather bags. Figure 2a shows the effect on jewelry imports. It plots the coefficients of $\hat{\beta}_\tau$ from equation 1 and their 95% confidence intervals for when the logarithm of the value of jewelry imports is the dependent

variable. The vertical red lines indicate the month that the announcement of the first ban in the anti-corruption campaign, November 2012, and one month later, when we would realistically expect imports to first respond. If the reform reduced the luxury imports, then we expect to see the coefficients start to become more and more negative around one month after the announcement reform. We see that this is the case. The coefficients are relatively constant in the months leading up to the reform such that there is no evidence of a pre-trend. Moreover, the decline persists for six months after the reform such that it is unlikely to reflect the misperception of retailers and vendors absent a true decline in demand.

The subsequent figures present analogous statistics for different imports. Figure 2b shows the effect on gold and silver imports. Figure 2c shows the effect on precious metals imports. Figure 2d shows the effects on pearl and gems imports. Figure 2e shows the effects on watch imports. Finally, Figure 2f shows the effects on the imports of the sum of the value of those shown in Figures 2a-2e. They all exhibit a similar pattern. There is no pre-trend leading up to the reform, and a sudden decline around one month after the first announcement.

The coefficients and standard errors for these estimates are presented in Table 2. At the bottom of the table, we also present the p-values for whether the post-reform coefficients are jointly different from zero.

Next, we examine art imports. Figure 2a presents the estimates for sculpture imports. Figure 2b presents the estimates for the import of collectible art. Figure 2c presents the estimates for the sum of the two categories. As

with jewelry imports, the estimates show a similar pattern. There is little change in the months leading up to the reform, and then a sudden decline in imports that persists over the following six months. The coefficients and their standard errors are shown in Table 3.

Figure 3 shows the reduction on leather bags. The pattern is similar to art and jewelry imports. The coefficients are shown in Table 3 column (4).

Figure 4 shows the reduction on the aggregate of all of the goods in this section. The pattern is clear. There is little change in the months leading up to the event and a sudden decline in imports that persists for twelve months. The coefficients and their standard errors are shown in Table 3 column (5).

4.2 Banquets

As we discussed in Section 2.1, a common form of corruption is banqueting. Since we are unable to examine banquets directly, we examine the import of a luxury food item known to be common in banquets: beef. Figure 5 shows that the reform significantly reduced the imports of beef.

Since a reduction in the consumption of expensive protein imports could reflect a reduction in the number banquets or the value of banquets – i.e., banquets can substitute towards less expensive foods, we also examine the import of cheaper proteins. In the simple model that we present in Section 3, this is captured by an increase in the consumption of the normal good, x. Specifically, we examine whether the reform increased the import of cheaper proteins such as poultry, pork and soy.[7]

[7]For example, the average prices of beef according to the median price per kilogram

Figures 6a, 6b and 6c plot the estimates for poultry, pork and soy imports. They show that poultry and pork imports dramatically increase one month after the first anti-corruption announcement. Soy imports increase two months after the announcement. Figure 6d examines the sum of these relatively cheap protein imports. The pattern clearly shows that there is no pre-trend leading up to the announcement and a striking increase one month afterwards.

The results for the two types of protein imports together suggest that the anti-corruption reform reduced the value of banquets by inducing a substitution to less expensive foods.

Finally, we examine a placebo food import, for which we don't expect any change: wheat. Unlike rice, for which most of the importes are bimodal in quality (either very high quality or very low quality), wheat imports are similarly priced to domestically produced wheat. It is a common staple and should not respond to a reduction in lavish banqueting. Figure 7 shows that this is indeed the case. We see a temporary decrease the month of the announcement, but it rebounds immediately afterwards and returns to pre-announcement levels.

The coefficients and standard errors for the estimates for food imports are all shown in Table 4.

Recall that a common item at banquets is expensive alcohol. However, since most of this is the consumption of domestic luxury brands, we are unable to examine this with our data.

reported in the COMTRADE sample is 8.61 2012 U.S. dollars per kilogram, much higher than the median prices for poultry and pork, which are 2.25 and 1.96 2012 U.S. dollars per kilogram.

4.3 Average Effect

To quantify the average reduction in luxury imports caused by the anti-corruption campaign, we estimate the following equation.

$$y_{mqt} = \alpha + \beta Post_{mqt} + \gamma_q + \varepsilon_{mqt}, \tag{2}$$

where the logarithm of the value of luxury imports in month m quarter q and year t is a function of a dummy variable which equals one for November 2012 and afterwards; quarter fixed effects, γ_q; and and error term. We estimate robust standard errors. As with the main event study regression, the quarter fixed effects control for seasonal effects. However, unlike that regression, we cannot control for year fixed effects because they are almost perfectly collinear with the post dummy and absorbs most of the treatment effect. Instead, we will later directly control for macro changes over time.

Table 5 presents the results. Column (1) is the baseline estimate. It shows that luxury imports were 17.4% lower after the announcement of the anti-corruption campaign. The estimate is statistically significant at the 5% level.

4.4 Controlling for Macro Economic Variables

Table 5 column (2) adds a control for lagged total net imports for China, which controls for factors such as terms of trade and general Chinese demand for imports. We control for a lagged value to avoid the potential concern that total net imports is an outcome of the campaign. The estimate is similar in sign and magnitude and significant at the 5% level. Column (3) controls for

lagged Chinese GDP. The coefficient for post-reform is similarly unchanged. In column (4), we control for both macro economic variables. The post coefficient is similar to the baseline estimate. Thus, it is unlikely to be confounded with macro economic changes.

4.5 Placebo Experiments

An alternative explanation for our results is that Xi's entry into office or his announcement of the anti-corruption campaign in the wake of the highly publicized Bo Xilai scandal was viewed as a sign of political instability. If demand for luxury items are more sensitive to political uncertainty than demand for other items, then we would also observe a reduction in luxury imports. Of course, given that Xi's government has proved to be as stable as previous governments, this would not explain why the effect we find persists over time. Nevertheless, we can investigate this possibility further by conducting event studies with other political events that may have been interpreted as a sign of uncertainty.

We examine three such events after January 2010, when COMTRADE data became available at the monthly level. First, we examine the conflict between the Uyghur minority and the Chinese government in Xinjiang. This conflict is a series of ongoing clashes between Uighur separatists and the Chinese government with at least several hundred fatalities. For several years, Islamist militants have been fighting for the establishment of an independent state called East Turkestan, and the Chinese government has responded with military force (Reuters (2014)). The violence since 2009 has occurred in three

distinct waves: June 2009, July 2011, and April 2013 (Reuters (2014)). We use the latter two of these waves to test whether the effect of our treatment is due to the targeted nature of the anti-corruption campaign or merely general political unrest. We omit the June 2009 wave due to the start date of the monthly Comtrade data.

We re-estimate equation 1 with the logarithm of total luxury imports (same as in Figure 4) as the dependent variable. The only difference is that the time period for the second wave includes only 19 pre-event months due to the monthly Comtrade start date. However, we use the standard 21 post-event months. For the third wave of Xinjiang violence, we include 22 months prior to the event month and 16 months after the event in the dataset, due to limitations in the recently released monthly data. This period is June 2011 to July 2014. Figures 9a and 9b show that neither events affected luxury imports.

Next, we examine the suicide bombing in Tiananmen square. This was also a well-publicized event. This attack was considered especially shocking because suicide bombers are extremely rare in China. In October of 2013, a vehicle drove through Tiananmen Square, crashed, and burst into flames, killing five people and injuring forty (Reuters (2013)). Beijing police later announced that the crash was a "rigorously planned, organized, premeditated violent terrorist attack" (WP (2013b)). The suspects were members of the Uighur ethnic minority, and the crashed vehicle has Xinjiang license plates. However, unlike most of the violence related to the Uighur separatist movement in Xinjiang, this attack took place in the nation's capital. Just as in the previous placebo tests, we re-estimate 1 for the suicide bombing event. The

data used for this span December 2011 to July 2014, which is equivalent to 22 months before and 21 months after the event month.

Figure 9c shows that there is no effect.

Finally, we consider the mass protests in Hong Kong during July 2012. This was in response to the Chinese government's announcement that it would implement Chinese civic education in Hong Kong in July of 2012 (NYT (2012)). Concurrently, the National Education Service Center released a booklet outlining potential curriculum changes, including statements about the progressive and selfless nature of the ruling party. The booklet also omitted major events including the 1989 Tiananmen Square massacre (CNN (2012)). Many interpreted the release as a guideline for the future national education curriculum, which would be implemented in primary schools in September 2012 and secondary schools September 2013. As a response, 90,000 people marched in a protest in Hong Kong on July 29th, 2012. This is one of the largest protests in Communist China and it was highly publicized domestically and internationally.

We re-estimate equation 1 with the logarithm of total luxury imports (same as in Figure 4) as the dependent variable. [8] Figure 9d shows that there is no effect at the time of the protest. There is a decline four months later, which coincides with the anti-corruption reform in November 2012.

The results in this section go against the alternative that our main results reflect general political uncertainty. The coefficients and standard errors for

[8]The data we use are at the monthly level and cover a window of 22 months before and 21 months after the event month. Hence, the timespan covered is September 2010 to March 2014.

the estimates in this section are shown in Appendix Table A.1.

5 Conclusion

Corruption is seen as one of the major hinderances to economic growth in many developing and transitioning economies such as China. Our results show that the nation-wide anti-corruption campaign introduced by recent Party Secretary and President Xi Jinping significantly reduced the import of luxury items, known to be popular as gifts exchanged for official favors, by approximately 17%. We also see a decline in the import of beef, an expensive food item often served at official banquets. At the same time, the reform caused a stark increase in the import of less expensive proteins such as pork, chicken and soy. Our results show that these reductions persist for at least six months after the announcement of the campaign. Thus, one interpretation for these results is that the anti-corruption campaign reduced corruption in the medium run.

As such, the results show that a large scale campaign can be somewhat effective, at least in the medium run. We are in the progress of examining longer run effects.

If we interpret the reduction in luxury imports as a reduction in corruption, we can conduct a back-of-envelope calculation on the lower-bound of the amount of corruption in China. 12% of imports is approximately 57 million 2014 USD. This estimate is an extreme lower bound for several reasons. First, the campaign may not have completely removed luxury consumption by corrupt bureaucrats. Second and more importantly, luxury imports are poten-

tially only a small part of total corruption. Our inability to observe the latter also means that our results cannot speak to the effect of the campaign on total corruption. It is important to note that our results are silent on welfare since corruption can, in principle, be efficient.

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Table 1: Descriptive Statistics

	COMTRADE			Millions of 2012 USD		Log 2012 USD	
	ID	Description	Obs.	Mean	Std. Dev.	Mean	Std. Dev.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
All Imports			43	54200	5158	24.71	0.10
Luxury Imports			43	454	78	19.92	0.19
Non-Luxury Imports			43	53700	5105	24.70	0.10
Jewelry Category			43	88	37	18.12	0.72
Jewelry	7113	Articles of jewellery and parts thereof.	43	44	19	17.41	0.78
Gold and Silver Goods	7114	Articles of goldsmiths' or silversmiths' wares and parts thereof.	43	1	2	12.63	1.11
Precious Metal Goods	7115	Other articles of precious metal or of metal clad with precious metal.	43	8	4	15.85	0.39
Goods with Pearls and Gems	7116	Articles of natural or cultured pearls, precious or semi-precious stones.	43	1	1	12.76	0.76
Watches	9101	Watches with case of precious metal or of metal clad with precious metal.	43	34	19	16.95	1.18
Art Category			43	6	17	14.49	1.18
Paintings and Drawings	9701	Paintings, drawings and pastels, executed entirely by hand.	43	3	5	14.35	0.96
Sculptures	9703	Original sculptures and statuary, in any material.	43	2	4	13.59	1.02
Collections	9705	Collections and collectors' pieces of zoological, botanical, mineralogical, anatomical, historical, archaeological, palaeontological, ethnographic or numismatic interest.	43	5	17	13.35	1.44
Leather Bags	420211	Trunks, suit-cases, vanity-cases, executive-cases, brief-cases, school satchels and similar containers with outer surface of leather or of composition leather.	43	2	1	14.40	0.31
Beef	0201, 0202	Meat of bovine animals, fresh or chilled; Meat of bovine animals, frozen.	43	3	3	14.46	0.92
Cheap Proteins			43	1630	1140	20.79	1.13
Pork	0203	Meat of swine, fresh, chilled or frozen.	43	48	16	17.60	0.46
Poultry	0207	Meat, edible offal of domestic poultry.	43	47	7	17.65	0.14
Soy	1201	Soya beans, whether or not broken.	43	1530	1138	20.64	1.38
Wheat	1001	Wheat and meslin.	43	47	35	17.25	1.18

Notes: Observations are at the monthly level, from January 2011 to July 2014.

Table 2: The Effect of the Reform on the Import of Jewelry

	Dependent Variable: Log Imports					
	(1)	(2)	(3)	(4)	(5)	(6)
	Jewelry Category	Jewelry	Gold and Silver Goods	Precious Metal Goods	Goods with Pearls and Gems	Watches
Ban -6 Months	0.238	0.169	-0.143	0.0754	0.742	0.405
	(0.428)	(0.471)	(1.166)	(0.331)	(0.909)	(0.791)
Ban -5 Months	0.229	0.371	-1.389	0.110	0.834	0.185
	(0.428)	(0.471)	(1.166)	(0.331)	(0.909)	(0.791)
Ban -4 Months	0.0348	0.148	-0.853	0.0834	1.022	-0.0713
	(0.450)	(0.495)	(1.227)	(0.348)	(0.957)	(0.833)
Ban -3 Months	-0.0433	-0.0386	-2.029	0.461	2.143	-0.136
	(0.450)	(0.495)	(1.227)	(0.348)	(0.957)	(0.833)
Ban -2 Months	0.0136	0.0351	-0.0797	-0.221	0.705	0.0428
	(0.450)	(0.495)	(1.227)	(0.348)	(0.957)	(0.833)
Ban -1 Months	0.191	0.121	-1.118	0.525	0.633	0.446
	(0.459)	(0.505)	(1.250)	(0.355)	(0.976)	(0.848)
Ban	0.366	0.183	1.070	1.756	0.190	0.432
	(0.459)	(0.505)	(1.250)	(0.355)	(0.976)	(0.848)
Ban +1 Month	0.123	0.209	0.581	0.490	1.229	0.163
	(0.459)	(0.505)	(1.250)	(0.355)	(0.976)	(0.848)
Ban +2 Months	-1.943	-2.091	-1.818	-0.860	-1.735	-2.665
	(0.488)	(0.537)	(1.329)	(0.377)	(1.037)	(0.902)
Ban +3 Months	-1.907	-2.024	-2.461	-0.430	-1.163	-2.824
	(0.488)	(0.537)	(1.329)	(0.377)	(1.037)	(0.902)
Ban +4 Months	-2.022	-2.160	-3.940	-1.208	-1.462	-2.699
	(0.488)	(0.537)	(1.329)	(0.377)	(1.037)	(0.902)
Ban +5 Months	-1.912	-2.079	-2.829	-1.178	-1.572	-2.398
	(0.475)	(0.523)	(1.294)	(0.368)	(1.010)	(0.878)
Ban +6 Months	-1.590	-1.552	-4.118	-1.277	-1.162	-2.320
	(0.475)	(0.523)	(1.294)	(0.368)	(1.010)	(0.878)
Ban >7 Months	-1.815	-1.806	-1.066	-0.621	-1.216	-2.969
	(0.184)	(0.202)	(0.501)	(0.142)	(0.391)	(0.340)
Observations	43	43	43	43	43	43
R-squared	0.862	0.857	0.567	0.714	0.443	0.824
Post Ban Months Jointly = 0 p-value	0.000	0.000	0.122	0.000	0.247	0.000

Notes: All regressions control for quarter and year fixed effects. Robust standard errors are presented in parentheses. The observations are at the monthly level from January 2011 to July 2014.

Table 3: The Effect of the Reform on the Import of Art, Leather Handbags and All Luxury Items

	Dependent Variable: Log Imports				
	(1)	(2)	(3)	(4)	(5)
	Art Category	Sculptures	Collections	Leather Bags	Total Luxury Imports
Ban -6 Months	-0.752	-1.451	-0.142	0.533	0.115
	(1.463)	(1.184)	(1.640)	(0.396)	(0.101)
Ban -5 Months	0.114	-0.542	0.647	0.546	0.131
	(1.463)	(1.184)	(1.640)	(0.396)	(0.101)
Ban -4 Months	1.657	1.367	0.354	0.669	0.0332
	(1.540)	(1.246)	(1.727)	(0.417)	(0.106)
Ban -3 Months	2.520	2.008	1.984	0.358	-0.0411
	(1.540)	(1.246)	(1.727)	(0.417)	(0.106)
Ban -2 Months	1.601	1.286	0.431	0.262	0.00193
	(1.540)	(1.246)	(1.727)	(0.417)	(0.106)
Ban -1 Months	1.186	1.019	0.284	0.613	0.0836
	(1.569)	(1.270)	(1.760)	(0.425)	(0.108)
Ban	1.082	0.564	0.710	0.562	0.125
	(1.569)	(1.270)	(1.760)	(0.425)	(0.108)
Ban +1 Month	1.336	1.390	-0.450	0.178	0.0424
	(1.569)	(1.270)	(1.760)	(0.425)	(0.108)
Ban +2 Months	-4.509	-2.084	-3.966	-0.253	-0.416
	(1.668)	(1.350)	(1.870)	(0.452)	(0.115)
Ban +3 Months	-4.204	-1.270	-4.411	-0.699	-0.463
	(1.668)	(1.350)	(1.870)	(0.452)	(0.115)
Ban +4 Months	-3.283	-0.502	-3.155	-0.522	-0.415
	(1.668)	(1.350)	(1.870)	(0.452)	(0.115)
Ban +5 Months	-2.587	-1.645	-1.228	-0.105	-0.417
	(1.624)	(1.314)	(1.821)	(0.440)	(0.112)
Ban +6 Months	-1.640	-2.070	0.159	0.102	-0.265
	(1.624)	(1.314)	(1.821)	(0.440)	(0.112)
Ban >7 Months	-1.266	0.434	-2.006	0.0337	-0.378
	(0.628)	(0.508)	(0.704)	(0.170)	(0.0434)
Observations	43	43	43	43	43
R-squared	0.400	0.466	0.488	0.373	0.885
Post Ban Months Jointly = 0					
p-value	0.314	0.225	0.119	0.655	0.000

Notes: All regressions control for quarter and year fixed effects. Robust standard errors are presented in parentheses. The observations are at the monthly level from January 2011 to July 2014. In column (5), total luxury imports is the sum of all jewelry, art and leather hand bag imports.

Table 4: The Effect of the Reform on the Import of Food

	Dependent Variables: Ln Imports					
	(1)	(2)	(3)	(4)	(5)	(6)
	Beef	Pork	Poultry	Soy	All Cheap Proteins	Wheat
Ban -6 Months	0.108	-0.0818	0.130	0.176	0.0861	0.185
	(0.676)	(0.357)	(0.101)	(1.183)	(0.979)	(1.390)
Ban -5 Months	0.148	-0.0344	-0.0760	-0.234	-0.314	0.0174
	(0.676)	(0.357)	(0.101)	(1.183)	(0.979)	(1.390)
Ban -4 Months	0.0502	-0.479	-0.132	-0.289	-0.431	0.318
	(0.711)	(0.375)	(0.107)	(1.250)	(1.030)	(1.463)
Ban -3 Months	-0.0634	-0.481	-0.137	-0.589	-0.716	0.340
	(0.711)	(0.375)	(0.107)	(1.250)	(1.030)	(1.463)
Ban -2 Months	0.318	-0.534	-0.106	-1.325	-1.390	0.0592
	(0.711)	(0.375)	(0.107)	(1.250)	(1.030)	(1.463)
Ban -1 Months	1.024	-0.513	-0.0157	0.226	-0.121	0.165
	(0.725)	(0.383)	(0.109)	(1.276)	(1.050)	(1.491)
Ban	1.137	-0.479	-0.208	-1.406	-1.351	-3.017
	(0.725)	(0.383)	(0.109)	(1.276)	(1.050)	(1.491)
Ban 1 Month	1.780	-0.528	-0.265	-2.238	-1.782	0.443
	(0.725)	(0.383)	(0.109)	(1.276)	(1.050)	(1.491)
Ban 2 Months	-1.243	1.688	0.470	-2.545	-0.261	0.888
	(0.771)	(0.407)	(0.116)	(1.387)	(1.116)	(1.584)
Ban 3 Months	-0.0332	1.622	0.458	0.506	1.040	1.094
	(0.771)	(0.407)	(0.116)	(1.387)	(1.116)	(1.584)
Ban 4 Months	-0.0655	1.573	0.252	1.788	2.135	0.543
	(0.771)	(0.407)	(0.116)	(1.387)	(1.116)	(1.584)
Ban 5 Months	-0.330	1.184	0.226	0.811	1.142	1.181
	(0.750)	(0.396)	(0.113)	(1.321)	(1.087)	(1.543)
Ban 6 Months	-0.392	1.397	0.135	1.028	1.356	1.682
	(0.750)	(0.396)	(0.113)	(1.321)	(1.087)	(1.543)
Ban >7 Months	-1.270	0.820	-0.0302	0.176	0.524	0.612
	(0.290)	(0.153)	(0.0435)	(0.525)	(0.420)	(0.597)
Observations	43	43	43	42	43	43
R-squared	0.790	0.767	0.799	0.721	0.704	0.451
Post Ban Months Jointly = 0 p-value	0.002	0.003	0.001	0.125	0.400	0.582

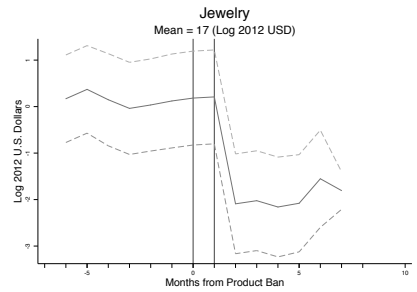
Notes: All regressions control for quarter and year fixed effects. Robust standard errors are presented in parentheses. The observations are at the monthly level from January 2011 to July 2014.

Table 5: The Average Effect of the Reform on Luxury Imports – Robustness to Controls

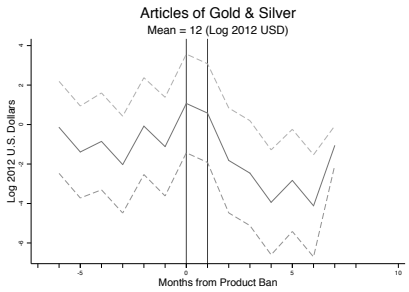
	Dependent Variable: Log Luxury Imports			
	(1)	(2)	(3)	(4)
Post-Reform	-0.118	-0.123	-0.122	-0.125
	(0.0460)	(0.0486)	(0.0507)	(0.0514)
Quarter 2	0.0408	0.0399	0.0428	0.0417
	(0.0336)	(0.0343)	(0.0338)	(0.0353)
Quarter 3	0.0428	0.0388	0.0406	0.0384
	(0.0191)	(0.0226)	(0.0203)	(0.0229)
Quarter 4	0.0800	0.0778	0.0749	0.0747
	(0.0119)	(0.0135)	(0.0152)	(0.0154)
Observations	43	43	43	43
R-squared	0.463	0.466	0.466	0.467
GDP	N	N	Y	Y
Net Exports	N	Y	N	Y

Notes: All regressions control for quarter and year fixed effects. Robust standard errors are presented in parentheses. The observations are at the monthly level from January 2011 to July 2014.

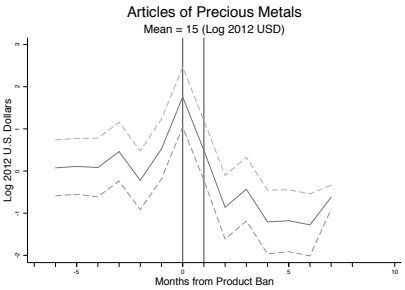
Figure 1: Import of Jewelry



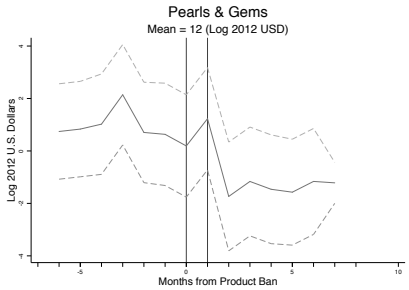
(a) Jewelry



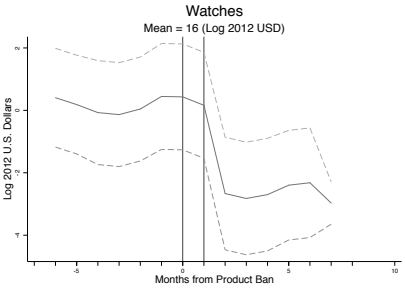
(b) Gold and Silver



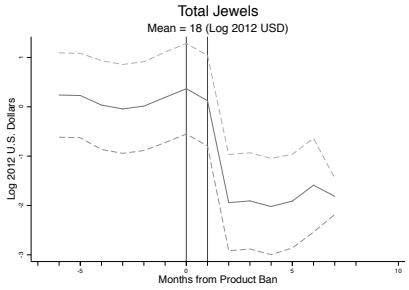
(c) Precious Metals



(d) Pearls and Gems



(e) Watches

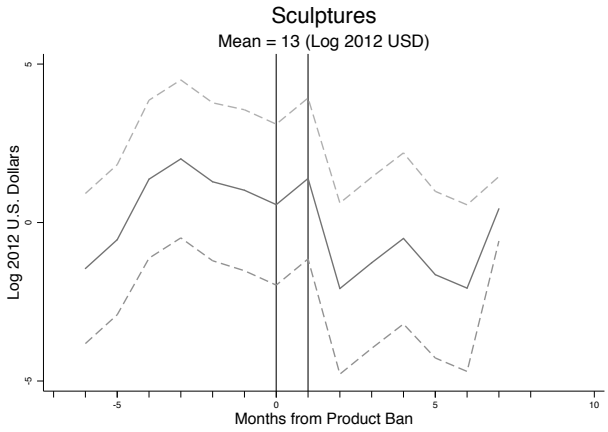


(f) All

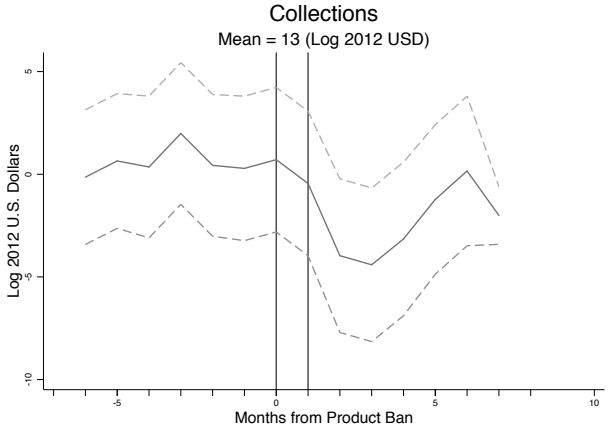
Notes: The figures plot the coefficients and 95% confidence intervals for the number of months since the announcement of the anti-corruption campaign. See Table 2 for the estimates. The solid lines indicate the month of the announcement and one months afterwards.

Figure 2: Import of Collectible Art

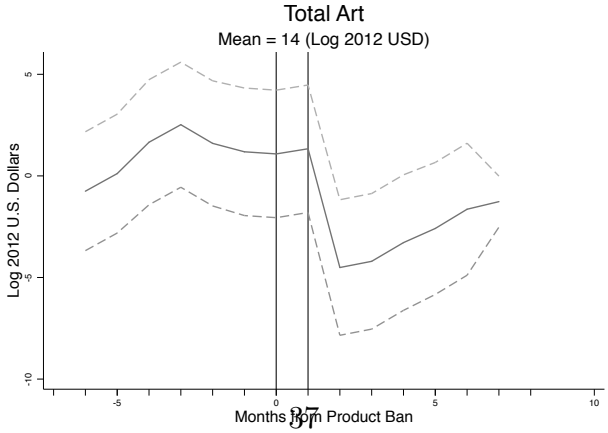
(a) Sculptures



(b) Collections



(c) All



Notes: The figures plot the coefficients and 95% confidence intervals for the number of months since the announcement of the anti-corruption campaign. See Table 3 for the estimates. The solid lines indicate the month of the announcement and one months afterwards.

Figure 3: Leather Handbags

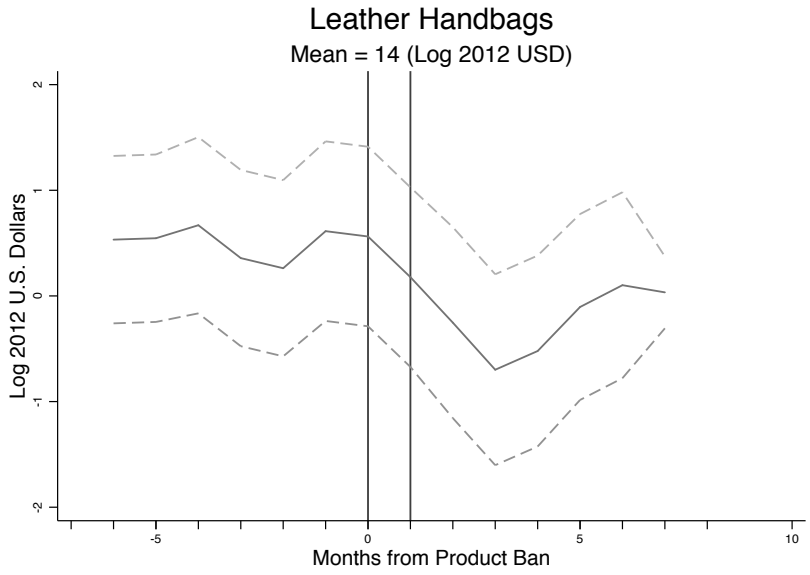
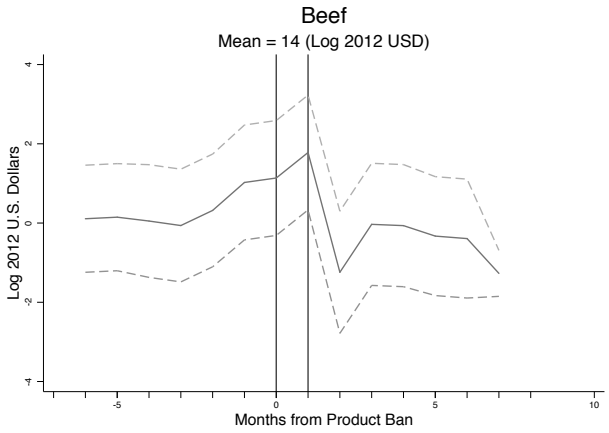


Figure 4: Total Luxury Imports



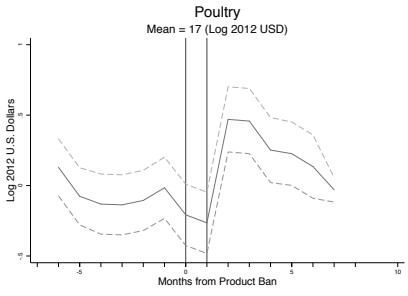
Figure 5: The Effect of the Reform on the Import of Beef



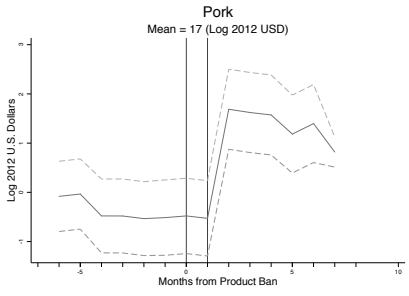
Notes: The figures plot the coefficients and 95% confidence intervals for the number of months since the announcement of the anti-corruption campaign. See Table 4 for the estimates. The solid lines indicate the month of the announcement and one months afterwards.

Figure 6: The Effect of the Reform on the Imports of Cheap Protein

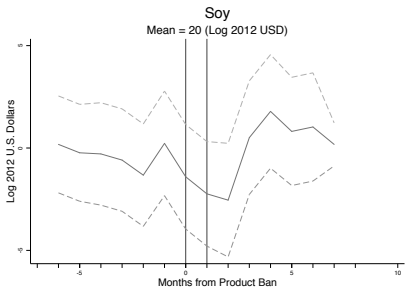
(a) Poultry



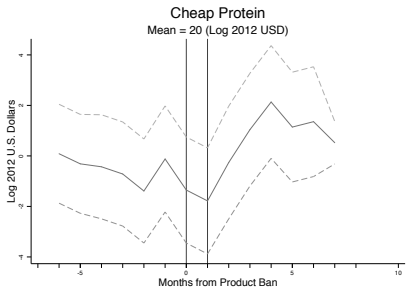
(b) Pork



(c) Soy

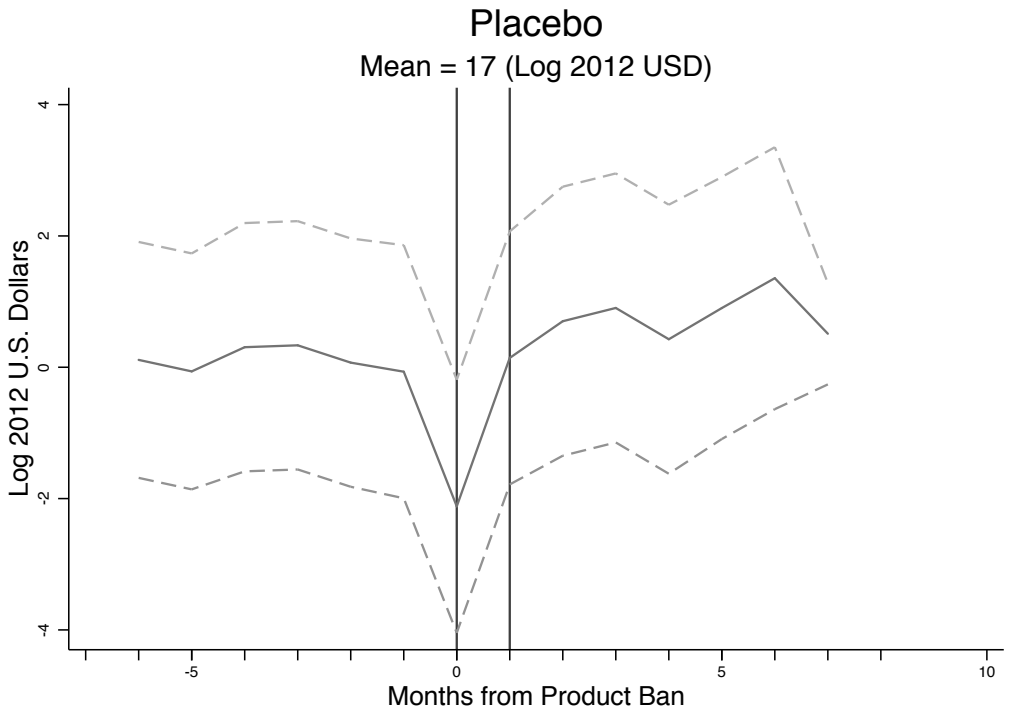


(d) Total Non-Luxury Proteins



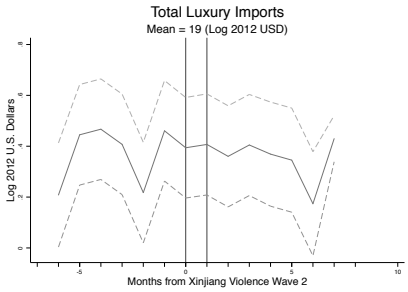
Notes: The figures plot the coefficients and 95% confidence intervals for the number of months since the announcement of the anti-corruption campaign. See Table 4 for the estimates. The solid lines indicate the month of the announcement and one months afterwards.

Figure 7: The Effect of the Reform on the Import of Wheat



Notes: The figures plot the coefficients and 95% confidence intervals for the number of months since the announcement of the anti-corruption campaign. See Table 4 for the estimates. The solid lines indicate the month of the announcement and one months afterwards.

Figure 8: The Effect of Political Instability on Luxury Imports



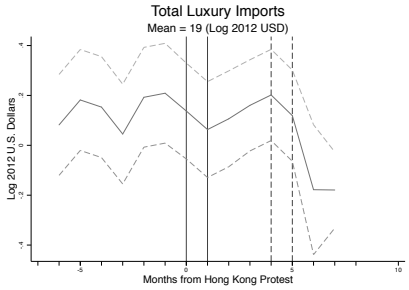
(a) Uyghur Protests – Second Wave, July 2011



(b) Uyghur Protests – Third Wave, April 2013



(c) Uyghur Suicide Bomber in Tiananmen Square, October 2013



(d) Hong Kong Protests, July 2012

Notes: The figures plot the coefficients and 95% confidence intervals for the number of months since the event as stated in the figure titles. See Appendix Table A.1 for the estimates. The solid lines indicate the month of the event and one months afterwards. The dashed lines in Figures 9b and 9d indicate the announcement of the anti-corruption campaign and one month afterwards.

Table A.1: The Effect of the Political Instability on the Total Luxury Imports

	Dependent Variable: Log Imports			
	(1)	(2)	(3)	(4)
	Xinjiang Violence Wave 2, July 2011	Xinjiang Violence Wave 3, April 2013	Tiananmen Bombing, October 2013	Hong Kong Curriculum Protest, July 2012
Ban -6 Months	0.208	0.0271	-0.0543	0.0819
	(0.102)	(0.104)	(0.0704)	(0.101)
Ban -5 Months	0.445	0.0688	0.0978	0.182
	(0.0988)	(0.104)	(0.0704)	(0.101)
Ban -4 Months	0.467	-0.0141	0.0853	0.153
	(0.0988)	(0.104)	(0.0704)	(0.101)
Ban -3 Months	0.407	-0.316	0.162	0.0452
	(0.0988)	(0.151)	(0.0704)	(0.100)
Ban -2 Months	0.218	-0.363	0.0495	0.193
	(0.0988)	(0.151)	(0.0704)	(0.100)
Ban -1 Months	0.461	-0.315	0.0383	0.209
	(0.0988)	(0.151)	(0.0704)	(0.100)
Ban	0.394	-0.342	0.0271	0.138
	(0.0988)	(0.146)	(0.0713)	(0.0961)
Ban +1 Month	0.407	-0.190	-0.0798	0.0631
	(0.0994)	(0.146)	(0.0713)	(0.0961)
Ban +2 Months	0.360	-0.203	-0.135	0.106
	(0.0994)	(0.146)	(0.0713)	(0.0961)
Ban +3 Months	0.405	-0.171	-0.156	0.160
	(0.0994)	(0.136)	(0.0823)	(0.0914)
Ban +4 Months	0.369	-0.283	-0.282	0.202
	(0.102)	(0.136)	(0.0823)	(0.0914)
Ban +5 Months	0.345	-0.295	-0.222	0.119
	(0.102)	(0.136)	(0.0823)	(0.0914)
Ban +6 Months	0.174	-0.263	-0.469	-0.178
	(0.102)	(0.111)	(0.0816)	(0.130)
Ban >7 Months	0.430	-0.397	-0.212	-0.179
	(0.0455)	(0.0557)	(0.0685)	(0.0764)
Observations	43	38	32	43
R-squared	0.900	0.923	0.975	0.848
Post Ban Months Jointly = 0				
p-value	0.000	0.000	0.003	0.024

Notes: All regressions control for quarter and year fixed effects. Robust standard errors are presented in parentheses. The observations are at the monthly level from 22 months prior to the event to 20 months post the event, except for columns (2) and (4), which have fewer observations due to the start and end dates of available monthly Comtrade data.