# The Impact of Xi Jinping's Anti-Corruption Campaign on Luxury Imports in China<sup>\*</sup> (Preliminary Draft)

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#### Abstract

This paper investigates the effects of a national anti-corruption policy in China focused on reducing bribes and luxury consumption of government officials. We document that it reduced the imports of luxury goods that are easily observed by the public by approximately 55%, or 194 million 2012 USD, while having no effect on goods that can be consumed away from public view. **Keywords:** Corruption, Political Economy, Development **JEL:** P15, D73

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## 1 Introduction

It is widely believed that corruption hinders growth (e.g., Fisman and Svensson 2007a; 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 et al. 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). The main policy tool for combatting large-scale corruption is government policy. However, there is little evidence on the effectiveness of such policies.<sup>1</sup>

We address this important question by studying the effectiveness of a national anti-corruption campaign in China. China has been one of the world's fastest growing economy for three decades as it transitioned from a planned to a market economy, and has all of the conditions for high corruption that we described earlier. Official corruption in China is believed to be widespread, while enforcement is believed to be weak.<sup>2</sup> The odds of jail sentence for a corrupt official are estimated to be less than three percent (Pei 2007).<sup>3</sup> There

<sup>&</sup>lt;sup>1</sup>See the conclusion in the literature overview by ?OlkenPande2012).

<sup>&</sup>lt;sup>2</sup>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.

<sup>&</sup>lt;sup>3</sup>Prosecutions for corruption are uncommon, although there have been several prominent

is a consensus among academics and policymakers that corruption is one of China's largest obstacles to continued economic growth, which has slowed to 7.5 in 2015, the lowest pace since 1990 (e.g., Oster, 2014; Feldstein 2012, Pei 2007).

At the end of 2013, Communist Party Secretary Xi Jinping introduced concrete measures for the increased investigation and punishment of corruption. Relative to previous anti-corruption campaigns, which focused on reducing corruption at all levels of government, this effort emphasized reducing corruption at all levels of government. This intensification was viewed as a significant policy shift and as a long-run governmental commitment against corruption. The number of investigations increased by around 30% to 182,000 in just one year. The plan placed special emphasis on the types of corruption most likely to spark public protests, such as bribe-taking, waste and extravagance. This move followed intense press coverage of government officials wearing expensive European luxury brands of items such as jewelry and clothing.<sup>4</sup>

Whether the policy will be successful is unclear *ex ante*. On one hand, unlike many countries with high corruption, China is known for its high state capacity. This makes the threats of investigation and punishment credible and facilitates the implementation of central government policies. On the other hand, detection is costly, and it is difficult for the government to conduct in-

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)).

<sup>&</sup>lt;sup>4</sup>See Section 2 for a detailed background discussion.

depth investigations given the large number of potentially corrupt officials. A modern proverb amongst government officials advises one to "eat quietly, take gently and play secretly" (Jacobs, 2013). This quote suggests that officials may be able to evade detection by reducing only the most conspicuous corruption.

The principal goal of this paper is to examine the effectiveness of the intensification of anti-corruption policies at the end of 2013. Specifically, we examine whether the policy led to a differential reduction in conspicuous consumption. Given the limited availability of consumption data, we proxy for consumption with imports. We classify jewelry as conspicuous and other luxury goods known as common gifts given as bribes, but which can be consumed outside of the public eye as inconspicuous (e.g., expensive foods and alcohol consumed at banquets, art, etc.).<sup>5</sup>

To interpret the empirical results, we provide a simple conceptual framework in which anti-corruption policies are a tax on conspicuous consumption, since consumption of this type is more easily detected. The reform effectively reduces income and the consumption of all goods. The relative tax increase on conspicuous goods also causes corrupt officials to substitute towards other forms of consumption. Thus, both the income and substitution effect will reduce conspicuous consumption. The net effects of the two forces on inconspicuous consumption is ambiguous. However, if inconspicuous consumption does not increase, then total corruption has most likely declined, since inconspicuous consumption, especially inconspicuous luxury goods, are the most

<sup>&</sup>lt;sup>5</sup>Note that other goods such as high-end clothing and handbags are also conspicuous. Unfortunately, the categorization of the COMTRADE data are too crude for us to identify high end times from other imports. See the Background and Data sections for more discussion.

likely substitutes for conspicuous luxury goods.

Our main empirical evidence is descriptive and similar to an event study, where we examine monthly import data before and after the intensification of the anti-corruption campaign. We find that the reform reduced the imports of jewelry. The reduction is immediate and persistent over time. In contrast, we find no change in total imports. To assess the magnitude of these changes, we employ a differences-in-differences strategy and estimate the differential decline of jewelry imports after the policy change. The identification assumes that the only change experienced by jewelry imports relative to other imports was the anti-corruption policy. We control for season effects, commodity fixed effects and year fixed effects. We find that the reform reduced jewelry imports by approximately 55%, which is equivalent to a total reduction of approximately 194 million 2012 USD, over the seven months after the reform for which we have data. These results are consistent with the reform reducing conspicuous consumption and total corruption to the extent that jewelry and other imports are substitutes.

There are two important caveats for interpreting these results as a reduction in total corruption. First, all other imports include goods that are not substitutes for conspicuous consumption, such as industrial inputs. Second, like all studies of corruption, we cannot observe the entire consumption basket, and in particular, the consumption of domestically produced goods. We address both of these concerns by separately examining the imports of inconspicuous luxury goods that are known to be common gifts for bribes. If one believes that these are substitutes for imported jewelry and as good or better substitutes for imported jewelry as domestically produced inconspicuous goods, then finding that the reform had no effect on these imports would provide stronger evidence that the reform reduced corruption. Indeed, we find no effect on inconspicuous imports. We discuss other caveats in the paper after we present the results.

Taken together, the results suggest that Xi's commitment to root out corruption has probably been effective in reducing conspicuous consumption and total corruption. However, there is little effect on less visible corruption and the reduction on total corruption is small in magnitude.

For policymakers, our results provide a mixed message. On the one hand, the stark reduction in conspicuous imports is promising. On the other hand, the Chinese government has higher bureaucratic capacity and better ability to commit to investigations and punishments than most other governments of developing and transitional economies. That one of the most intense anticorruption campaigns its ever undertaken has not spilled over to less conspicuous forms of corruption is consistent with the concern that the detection of corruption is very difficult.

Our results contribute to the literature on corruption in developing countries. Previous work has provided important evidence on how the level of corruption can be influence by increased transparency and monitoring.<sup>6</sup> These

Muralidharan et al. (2014) finds that the introduction of Smartcards reduces graft in

<sup>&</sup>lt;sup>6</sup>Banerjee and Hanna (2012) conducts a randomized experiment and find that increasing information about candidate qualification and past performance to voters reduces vote buying in Indian slums. Ferraz and Finan (2011) find that politicians in Brazil who face re-election incentives steal less than those who do not. Olken (2007) shows that increased auditing of road expenditure data reduces missing funds in Indonesia. Reinikka and Svensson (2005) find that the increase in information due to a newspaper campaign increased spending in schools and school enrollment in Uganda.

studies typically focus on localized or regional interventions. We add to this literature by providing evidence from large scale national reform. In showing that imports can be used to detect corruption, our study also adds to the literature that measures corruption.<sup>7</sup>

We also contribute to studies of corruption in China, a topic which has only recently started to receive attention from researchers. For example, Fisman and Wei (2004) investigates tax evasion and find that the gap between reported exports from Hong Kong and reported imports from China is increasing in tariff rates. Fisman and Wang (2014) detects corruption in state asset sales by comparing prices of publicly traded assets to non-publicly traded assets. Fang et al. (2014) compares bureaucrat and non-bureaucrat purchasers

Indias NREG program. Lewis-Faupel et al. (2014) finds that electronic procurement improves the quality, but has no effect on the prices that governments pay for infrastructure development in India and Indonesia.

Burgess et al. (2012) finds that in Indonesia, when revenues from oil increases, illegal loggin falls. Niehaus and Sukhtankar (2013a) find that an increase in the wages of daily workers reduced theft of piece rate jobs. Bai et al. (2013) finds that economic growth in Vietnam reduces corruption.

Burgess et al. (2012) find that as the number of bureucracies that can facilitate illegal loggin increases, loggin rates increase and prices decline. Olken and Barron (2009) find that in Indonesia, the average price paid by trucks at road check is decreasing in the number of check points.

<sup>&</sup>lt;sup>7</sup>These have observed corruption by comparing changes in stock values of politically connected and unconnected firms (e.g., Fisman, (2001); Fisman and Svensson, 2007b); comparing wages of public and private sector workers ((2007)), by direct observation through audits (e.g., Brollo et al., 2013; Ferraz and Finan, 2008, (2011)), from expert surveys (e.g., Banerjee and Pande, 2007), surveys of bribe payers (e.g., Svensson, 2003), direct observation (e.g., Olken and Barron, 2009; McMillan and Zoido, 2004; Sequeira and Djankov, 2008), by comparing government expenditure before and after corruption has presumably taken place (e.g., Fisman and Wei, 2004; Reinikka and Svensson, 2005), by comparing the same measure of government provision from two different surveys (e.g., Niehaus and Sukhtankar, 2013a; Olken, 2006), and official and market prices for oil (e.g., Hsieh and Moretti, 2006), and by examining whether public officials are more likely to benefit from public transfers (e.g. Besley et al., 2012; Niehaus and Sukhtankar, 2013b; Olken, 2007). 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.

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. In examining luxury consumption, we are closely related to Fisman and Wei (2009), which examines the smuggling of art and cultural property from China. In examining import data, we add to Lan and Li (2013), which examines political cycles in watch imports. Our results are consistent with the growing evidence that there is significant corruption in China. We differ from earlier studies in examining the effectiveness of anti-corruption reforms, and in distinguishing between conspicuous and inconspicuous consumption.<sup>8</sup>

The paper is organized as follows. Section 2 discusses background information. 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 5 presents the regression results. Section 6 concludes.

#### 2 Background

#### 2.1 Anti-Corruption

Xi Jinping became the highest ranked leader of China, the Communist Party Secretary General, in November 2012. As he came 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).

When Xi Jinping entered office, he announced several bans for bureau-

<sup>&</sup>lt;sup>8</sup>Relative to Lan and Li (2013), which also uses COMTRADE data, our study differs in that we examine a policy that explicitly targets corruption and we use monthly level instead of annual level data. The policy we examine has no effect on watches.

crats and employees of state-owned financial companies. These included the banning of extravagant house purchases (Reuters 2012b), alcohol consumption at military functions (Reuters 2012a), state-funded banquets for military officials (BBC (2012)) and radio and TV advertisements for luxury goods like watches and jewelry (Reuters 2013). However, these announcements were not accompanied by any enforcement measures.

Concrete actions for investigation and punishment were not taken until late 2013. We interpret two events as a critical intensification of Xi Jinping's anticorruption reform. On November 15th, 2013, the Third Plenum of the 18th Communist Party of China (CPC) released a new manifesto, which introduced a host of social reforms and promised the Party would "root out corruption" (Denyer, 2013). In his speech during the Third Plenum, Xi Jinping warned that the struggle to contain corruption would be difficult, but the government "must not waver" (Blanchard and Li, 2013). Over a month later, on December 25th, the CPC published a five-year anti-graft plan (Blanchard and Li, 2013, Xinhua, 2013), in which it vowed to continue its fight against corruption by implementing more investigations and greater punishments. The plan placed special emphasis on the types of corruption most likely to spark public protests, including bribe-taking, extravagance, and waste (Blanchard and Li, 2013).

Observers interpreted these two events as an intensification of the anticorruption drive, as well as a signal of the government's long-term commitment to this area. A note released by Goldman Sachs in early 2014 stated that "the anti-corruption language in the Third Plenum is firmer and more comprehensive than previous comments from President Xi Jinping" and that "the recently released anti-corruption five-year plan adds more reform focus areas" (Shaffer, 2014). Ma Huaide, the vice president of China University of Political Science and Law, stated that the five-year plan "showcases the Party's resolution in combating corruption in the next five years" (Blanchard and Li, 2013). And Deutsche Bank reported that "the impact of the government's anti-corruption measures in 2013 [was] longer and bigger in scope than expected" (Dawson, 2014).

Because these two events occurred in quick succession, we interpret the announcements in November and December of 2013 as a substantive intensification of anti-corruption policies. Thus, our analysis will define the post reform period to be January 2014 and afterwards.

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 Saich, "This is the most ambitious anticorruption campaign since at least Mao's days" (Oster, 2014). Previous efforts have focused on isolated cases in which the target was one official and close associates. For example, the well-publicized prosecution of Bo Xilai and his wife prior to Xi's entry to office 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 (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 (Oster, 2014). The total number of corruption cases increased significantly to 182,000, up by 30%, under Xi (Economy 2014). The large increase in the number of investigations is a mixed message with respect to the effectiveness of the campaign. On the one hand, it is consistent with the view that Xi's efforts to root out corruption are sincere. On the other hand, the rapid increase and the sheer number of investigations can make it easy for corrupt officials to evade detection since it is impossible to conduct an in-depth and detailed investigation of each individual. Our analysis investigates this by examining whether the anti-corruption policy caused a relatively larger reduction in conspicuous corruption.

#### 2.2 Luxury Goods

A 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 2011).

The giving and receiving of gifts to government officials has a long historical precedent (e.g., Steidlmeier 1999, Tatlow, 2011, Asma, 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 (Barboza, 2009), and are believed to comprise up to 25 percent of all luxury spending in China (Wen, 2013). The practice takes place year-round but spikes during specific events, like the National People's Congress, when Communist Party delegates who hope to establish special relationships with peers and superiors will exchange gifts (Barboza, 2009).

Precious metals and stones are frequently used as gifts. XX But we don't treat precious metals and stones as conspicuous. Maybe we should clarify that our measure of these categories are more like intermediate goods? XX Gifts of gold often take the form of jewelry (Mukherji and Wang, 2014). It has been observed that jewelry is "a favorite for people sending gifts to government officials" (Barboza, 2009). The fact that jewelry is easily observed and hence conspicuous is important for our study. Other conspicuous gifts include expensive handbags, watches and clothing. However, because the data is too crude for us to measure these imports, we will not examine them as outcome variables.

Other valuable items known to be given to officials as bribes are less observable. For example, artwork is another medium of Chinese corruption. 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"' (Barboza et al., 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 (Barboza et al., 2013).

Similarly, lavish banqueting, another well-known form of corruption among Chinese officials (Shaoting and Yunjie, 2013, Spegele, 2012, BBC, 2012), is difficult for the public to observe since it mostly takes place behind closed doors (Chow and Gu 2014). 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 (Burkitt and Chin, 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 2009). Banquets feature expensive seafood dishes like abalone, shark fin, sea cucumber and imported beef steaks (Ge, 2013, Carlson, 2013) and imported alcohol such as wine and champagne (Reuters 2012a). Based on interviews conducted by the authors, it is not uncommon for officials to host dinners which cost up to 500,000 RMB (XX approximately 81,000 USD at current exchange rates XX) for ten people.

In summary, the popularity of luxury European imports suggests that a reduction in corruption may be reflected by a reduction in the import of luxury goods. Moreover, the difference in observability between jewelry and other luxury goods such as art and banquets (i.e., expensive foods) means that we can compare the imports of these two types of commodities to examine whether the anti-corruption policy had differential effects according to the visibility of the consumption.

Note that the luxury imports mentioned in the press correspond closely with the items banned by the government (e.g., jewelry, alcohol, banquets). This is important for motivating our focus on these goods in the next section.

Also note that the anecdotal evidence typically reports luxury items being given as bribes. It is also possible that bribes are given in the form of cash or kickbacks and conspicuous consumption reflects bureaucrats purchasing luxury imports. This does not affect the interpretation of our analysis.

## **3** Conceptual Framework

We provide a simple model to help motivate and interpret the empirical analysis. The goal of the model is to understand how changes in total corruption relate to changes in the imports of conspicuous and inconspicuous goods. Consider the general case below, where the bureaucrat maximizes his utility subject to a budget constraint

$$\max_{x,y,e} U\left(x,y,e\right)$$

s.t.

qx - we + y = 0.

x represents non-conspicuous goods, y represents conspicuous goods and e represents effort towards corruption. Let U be strictly concave, so that the maximum is unique. Let  $x^*, y^*, e^*$  be the optimal choices. q is the price of non-conspicuous goods and w is the wage of corrupt behavior (e.g., bribe), the price of the conspicuous good, y, is normalized to 1.

Consider the introduction of the anti-corruption campaign. We assume that the probability of corruption being detected is p(y), where p is increasing in y. If the corruption is detected, the bureaucrat's utility with punishment is  $U_0$ , which we assume to be a small and finite number.

Now, the bureaucrat solves

$$\max_{x,y,e} (1 - p(y)) U(x, y, e) + p(y) U_{0}$$

s.t.

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

Let  $(x^{**}, y^{**}, e^{**})$  be the new equilibrium.

**Lemma** 1:  $y^{**} \leq y^*$  with strict inequality if  $(x^{**}, y^{**}, e^{**}) \neq (x^*, y^*, e^*)$ .

At this level of generality, nothing can be said about behavior of x and e. The reason is as follows. Since y decreases with corruption, holding everything constant, the bureaucrat will have higher income. Therefore, she would like to increase both the consumption of x and consumption of leisure (i.e., decrease e) due to the income effect. On the other hand, the reduction of y may either increase or decrease the marginal utility of consuming x, depending on whether x and y are substitutes or complements (the same comment applies to leisure). This substitution effect thus causes the net effect of the reform to be ambiguous.

However, if consumption of x does not change, then we infer that effort, i.e., corruption, decreases.

<sup>9</sup>**Proof.** Optimality implies

$$U(x^*, y^*, e^*) \geq U(x^{**}, y^{**}, e^{**})$$
  
(1 - p(y^{\*\*}))  $U(x^{**}, y^{**}, e^{**}) + p(y^{**}) U_0 \geq (1 - p(y^*)) U(x^*, y^*, e^*) + p(y^*) U_0$ 

Therefore

$$(1 - p(y^{**})) U(x^{**}, y^{**}, e^{**}) + p(y^{**}) U_0 \geq (1 - p(y^{*})) U(x^{**}, y^{**}, e^{**}) + p(y^{*}) U_0 p(y^{**}) [U_0 - U(x^{**}, y^{**}, e^{**})] \geq p(y^{*}) [U_0 - U(x^{**}, y^{**}, e^{**})] (p(y^{*}) - p(y^{**})) [U(x^{**}, y^{**}, e^{**}) - U_0] \geq 0$$

Since  $U_0$  is low,  $[U(x^{**}, y^{**}, e^{**}) - U_0] > 0$  and  $p(y^*) \ge p(y^{**})$ . If  $(x^{**}, y^{**}, e^{**}) \ne (x^*, y^*, e^*)$ , then by the fact that there is a unique maximum,  $U(x^*, y^*, e^*) > U(x^{**}, y^{**}, e^{**})$ , and therefore all of the inequalities above become strict.

**Lemma** 2: If  $x^* = x^{**}$  then  $e^{**} < e^*$ .<sup>10</sup>

This model shows that an intensification of anti-corruption policy will have income and substitution effects. The reform acts as a tax on corruption, and thus reduces the income of the bureaucrat, which in turn reduces consumption of all goods. If conspicuous and inconspicuous goods are substitutes, then the substitution effect will further reduce the consumption of conspicuous goods and increase the consumption of inconspicuous goods. Thus, both forces reduces the consumption of conspicuous goods. Furthermore, we can infer the effect of the policy on corruption from the consumption of inconspicuous goods. If it does not increase, then we know that the policy reduced corruption (assuming that the two types of goods are substitutes).

Since we only observe imports and cannot observe the entire consumption bundle, inference about total corruption will depend on the relative substitutability of inconspicuous imports and conspicuous imports with respect to the substitutability of domestically produced goods and conspicuous imports. If inconspicuous goods are not less substitutable, then there will be no reason to think that the consumption of domestic goods respond to the reform when the consumption of inconspicuous goods does not. Thus, in that case, not observing and increase in inconspicuous imports will imply that the reform reduced corruption.

The simple model provides two testable hypothesis. First, if it is easier to detect conspicuous consumption, then the intensification of the anti-corruption campaign will reduce conspicuous imports. Second, if conspicuous and in-

<sup>&</sup>lt;sup>10</sup>**Proof.** Follows directly from the budget constraint.  $\blacksquare$ 

conspicuous imports are substitutes, and inconspicuous imports are not less substitutable for conspicuous imports than domestically produced goods, then a reduction in corruption effort will mean that the import of inconspicuous imports does not decline.

## 4 Descriptive Evidence

The main evidence for our study is descriptive and similar to an event study. We will simply examine the flow of conspicuous and inconspicuous imports into China before and after the policy change at the end of 2013.

We use monthly COMTRADE data that are available at the monthly level. The main sample begins in January 2011 and ends in July 2014, the last month for which there are complete data. We define the start of the anti-corruption campaign as January 2014. Thus, we have 36 months of pre-reform data and six months of post reform data. The composition of importing countries change over time. Thus, we organized the data to a commodity-level panel.

The main dependent variable is the value of imported goods. We deflate this flow so that it is measured in constant 2012 USD. Table 1 shows the mean import values for the categories that we examine, as well as for their subcategories.

To test the first hypothesis, we plot the import of conspicuous goods over time. Our conspicuous good is four-digit COMTRADE category of jewelry, "Jewelry and parts, containing precious gems". As we discussed earlier in Section 2, jewelry is a common gift for bribing officials, officials can also purchase jewelry with income from cash bribes, and expensive jewelry is easily noticeable by the public and the media.

Figure 1 plots log imports of jewelry over time. The x-axis is log imports. The y-axis is the calendar time. The vertical line indicates the policy shift. This figure shows several important facts. First, it shows that there is little change over time until the policy shift, at which point imports decline permanently. Second, it shows that there are not pre-trends leading up to the reform. The patterns are consistent with the hypothesis that the reform reduced imports of conspicuous goods.

Note that examining imports over time allows us to observe the dynamics of the effect. This capability is important because one alternative explanation is that the reduction in imports is due to retailers' perception of reduced demand rather than actual demand. However, in this case, we would expect imports to decline at the time of the reform (i.e., retailers cancel their imports), but a quick rebound to trend once retailers realize that actual demand remains the same. The fact that the effect persists goes against this alternative hypothesis.

To test the second hypothesis, we plot the import of other goods over time. This variable is the sum of imports across all four-digit categories except for jewelry. Figure 2 reports this series, and demonstrates that it changes little over time. This pattern suggests that the anti-corruption reform may have reduced corruption effort.

The main caveat for interpreting this result arises from the crudeness of the data. All other imports includes products like industrial inputs that are not part of the bureaucrats' consumption bundle. Related to this, many items in this group (e.g., soybeans) will be less substitutable for jewelry than, for example, domestically produced inconspicuous luxury goods.

To address this, we narrow the imports to other luxury goods that are identified in the anecdotal evidence as popular gifts for bribing officials. These are presumably equal or better substitutes for imported jewelry than most domestic goods. These are the sum of imports for the four digit categories related to items known to be given as gifts for corruption except for jewelry. They are listed in Appendix Table A.1.

Figure 3 plots the sum of all four-digit commodities in this group. We observe strong seasonality in inconspicuous luxury imports. But there is no systematic decline after the reform. This supports our interpretation.

#### 5 Differences-in-Differences

To be more rigorous and to assess the statistical significance of the difference between the effect of the policy shift on jewelry and other luxury imports, we estimate the following equation, which is similar to a differences-in-differences estimate.

$$y_{ijk} = \alpha + \beta (R_t \times J_i) + \gamma (R_t \times L_i) + \eta_j + \theta_k + \vartheta_i + \varepsilon_{ijk}, \tag{1}$$

where the logarithm of the value of import of type i in month j year k is a function of: the interaction of a dummy that equals one if the policy has been announced,  $R_t$ , and a dummy variable that equals one if the commodity is jewelry; the interaction of the post-policy dummy variable and a dummy variable that equals one if the commodity is one of the other luxury goods,  $L_i$ ; month fixed effects,  $\eta_j$ ; year fixed effects,  $\theta_k$ ; and commodity fixed effects,  $\vartheta_i$ . The reference group in this regression comprises of all imports that are not included in the jewelry and other luxury good categories. We cluster standard errors at the commodity level.

The comparison across commodities controls for macro economic and policy changes over time as long as they affect all imports similarly (e.g. terms of trade, economic growth). The comparison over time controls for differences across commodities that do not vary over time – i.e., the average level of imports. The inclusion of month and year fixed effects control for seasonality and time effects. Note that we do not include an uninteracted post dummy variable since it is collinear with the 2014 year fixed effect.

If the reform reduced jewelry imports more than other imports, then we expect  $\beta$  to be negative.

Table 2 presents the results. We gradually introduce the controls to illustrate their influence. Column (1) shows the results where we only include the interaction of the post-policy dummy variable and the jewelry dummy variable, and the uninteracted dummy variables. Column (2) adds month fixed effects. Column (3) adds year fixed effects. Column (4) adds the interaction of the policy dummy variable and the inconspicuous luxury good dummy variable.

The results show that the reform reduced jewelry imports by approximately 55%. The interaction effects are statistically significant for all specifications.

To assess the magnitude of the result, note that since the descriptive evidence showed that there was no change in other imports, the DD estimates imply that the absolute level of jewelry imports declined by approximately 55%. Average monthly imports of jewelry prior to the reform was approximately 50 million 2012 USD. Thus, the reform reduced average monthly imports to be approximately 27.7 million 2012 USD. This results in a total reduction of approximately 194 million 2012 USD over a period of seven months.

The interaction of inconspicuous luxury goods and the reform is in small in magnitude and statistically insignificant.

To illustrate the differential impact of the reform on conspicuous and inconspicuous luxury imports, we estimate the following equation.

$$y_{ijk} = \alpha + \sum_{\tau=-6}^{5} \beta_{\tau} J_i \times (R_{jk} = \tau) + \theta_k + \vartheta_i + \varepsilon_{ijk}.$$
 (2)

This equation is similar to equation (1), except that we interact the dummy variables for jewelry with dummy variables for each month before and after the policy announcement; and we restrict the sample to only the two types of luxury imports. Thus, the vector of  $\beta_{\tau}$  compare the effect of the reform on jewelry with the effect on other luxury imports. We group all months that are more than six months prior (after) the reform into one group. Six 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 month or year fixed effects. The reference group comprises of all non-luxury imports.

Figure 4 plots the estimates of the vector of coefficients,  $\beta_{\tau}$ , with their 95% confidence intervals. It shows clearly that the anti-corruption policy reduced the imports of conspicuous relative to inconspicuous luxury goods. There is no pre-trend and the effects persist over time. The coefficients and standard

errors are reported in Table 3.

There are several points to consider for the interpretation. First, one may be concerned that the reform coincided with a general macro economic downturn or a change in the terms of trade. However, this is unlikely given that macro trends which affect all luxury imports similarly are differenced out in the estimate. Second, 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. The data show that this is not the case. The effect persists for at least six months.

Finally, since we do not observe the consumption of goods by bureaucrats, the reduction in jewelry imports can, in principle, be driven by a reduction in consumer demand that is unrelated to corruption. We have little reason to believe that this is the case. Moreover, our interpretation that the anticorruption policy has had limited effectiveness is made stronger if the reduction in jewelry import due to a reduction in corruption is less than what we observe in the data.

#### 5.1 Rolling Estimates

To provide statistical evidence that the break in the trend of jewelry imports occurs at the time of reform, we re-estimate our baseline equation for several different 12-month windows. For each window, we define post to equal one for the last six months of the sample. Table 4 shows the results for five windows that roll through time. This exercise is similar to testing for a structural break in the data.

The estimates in columns (1) -(4) are statistically zero. In column (5), XX this is not actually the intervention window - (6) is the intervention window. This column appears significant and positive. Should I change this? XX the window relevant for our policy intervention, we find a negative and statistically significant interaction effect. These results provide formal statistical evidence that our DD estimates do not capture spurious trends.

#### 6 Conclusion

Corruption is seen as one of the major hindrances to economic growth in many developing and transitioning economies such as China. Recently, Party Secretary and President Xi Jinping undertook one of the largest and most forceful anti-corruption campaigns in the post-1978 reform era. This policy specifically aimed to reduce bribes, waste and extravagance. We find that it significantly reduced conspicuous imports by approximately 55%, but had little effect on inconspicuous imports.

The main challenge in extrapolating our results to understand the effect of the reform on total corruption is that we do not observe the whole consumption basket of corrupt officials – i.e., domestically produced goods. This difficulty is not unique to our study, but shared by all studies on corruption. Nevertheless, our results provide some helpful insights, which we discuss here.

The implication of our results on how the reform affected total corruption

in China therefore depends on two factors. First, it depends on the relative substitutability of imported luxury goods and domestically produced luxury goods. If we believe that the former are equal or better substitutes for imported conspicuous luxury goods than the latter, then not finding an increase in imported luxury goods implies a reduction in total corruption. Second, the effect on the magnitude of the reduction in overall corruption depends on the amount conspicuous consumption by corrupt bureaucrats prior to the reform. First, recall that our study focused on imports for practical reasons, because of data availability; there is nothing conceptually different between imported conspicuous luxury goods and domestically-produced conspicuous luxury goods. In other words, the important distinction is between the effect of the reform on conspicuous and inconspicuous goods rather than between that the reform had a similar impact on domestically produced conspicuous goods.

The results suggest several questions for future research. First, it prompts the question of how best to implement large scale corruption crackdown, where the central government must tradeoff the number of people being investigated with the level of detail in each investigation.<sup>11</sup> Second, the results show that it is important to measure the amount of total corruption in China. For example, if the majority of corruption is in real estate or foreign bank accounts, then our results imply that the reform had little effect and confirms the fear

<sup>&</sup>lt;sup>11</sup>This is similar the question of tax audits. For a recent study on the effectiveness of audits, see Pomeranz (2013). The difference is that bureaucrats are not required to file annual personal financial reports.

that reducing widespread corruption is too costly, even for a country with high bureaucratic capacity such as China. On the other hand, if conspicuous consumption constitute a large proportion of total corruption, then our results suggests that the national campaign has been very effective in reducing total corruption.<sup>12</sup>

<sup>&</sup>lt;sup>12</sup>See the studies cited in the Introduction, which attempt to measure corruption in China in various ways.

#### References

- Asma, Stephen, "From China, With Pragmatism," The New York Times, 6 2014.
- Bai, Jie, Seema Jayachandran, Edmund J. Malesky, and Benjamin A. Olken, "Does Economic Growth Reduce Corruption? Theory and Evidence from Vietnam," NBER Working Papers 19483, National Bureau of Economic Research, Inc September 2013.
- Banerjee, Abhijit and Rema Hanna, Corruption, The Handbook of Organizational Economics Introductory Chapters, Princeton University Press, 2012.
- Banerjee, Abhijit V and Rohini Pande, "Parochial politics: Ethnic preferences and politician corruption," *Vol*, 2007.
- **Barboza, David**, "For Bribing Officials, Chinese Give the Best," *The New York Times*, 3 2009.
- \_, Graham Bowley, and Amanda Cox, "Forging an Art Market in China," The New York Times, 10 2013.
- **BBC**, "Banquet ban' for China military," BBC News 2012.
- Besley, Timothy J, Konrad B Burchardi, and Maitreesh Ghatak, "Incentives and the de Soto effect," *The Quarterly Journal of Economics*, 2012, p. qjr056.
- Blanchard, Ben and Hui Li, "The party's new blueprint," *The Economist*, 11 2013.
- Brollo, Fernanda, Tommaso Nannicini, Roberto Perotti, and Guido Tabellini, "The Political Resource Curse," American Economic Review, 2013, 103 (5), 1759–96.
- Buckley, Chris, "ExAGeneral in China Admits He Took Bribes, Report Says," *The New York Times*, 10 2014.
- \_\_\_\_, "Q. and A.: Andrew Wedeman on the Fight Against Corruption in China," The New York Times, 11 2014.

- Burgess, Robin, Matthew Hansen, Benjamin A. Olken, Peter Potapov, and Stefanie Sieber, "The Political Economy of Deforestation in the Tropics," *The Quarterly Journal of Economics*, 2012, 127 (4), 1707–1754.
- Burkitt, Laurie and Josh Chin, "New Bureaucratic Diet Takes Bite Out of Restaurants, Hotels," *The Wall Street Journal*, 2 2013.
- Carlson, Benjamin, "The incredible waste of Chinese banquets," Global Post, 2 2013. China's ousted politician Bo Xilai gets life in jail
- China's ousted politician Bo Xilai gets life in jail, Reuters 2013.
- Chow, Jason and Wei Gu, "Cognac Makers are Feeling the Hangover from China's Corruption Crackdown," The Wall Street Journal, 8 2014. Corruption up among China government officials
- Corruption up among China government officials, BBC News 2010.
- **Dawson, Kelly Chung**, "Women are now taking over luxury shopping in China," *China Daily*, 2 2014.
- **Denyer, Simon**, "Reform from the Third Plenum," *NYT*, 11 2013.
- Economist, The, "No ordinary Zhou," The Economist, 8 2014.
- Economy, Elizabeth, "China's Imperial President," Foreign Affairs, 11 2014.
- Fang, Hanming, Quanlin Gu, and Li-An Zhou, "The Gradients of Power: Evidence from the Chinese Housing Market," NBER Working Papers 20317, National Bureau of Economic Research, Inc July 2014.
- Feldstein, Martin, "China's Biggest Problems Are Political, Not Economic," The Wall Street Journal, 8 2012.
- Ferraz, Claudio and Frederico Finan, "Exposing Corrupt Politicians: The Effects of Brazil's Publicly Released Audits on Electoral Outcomes," *The Quarterly Journal of Economics*, 05 2008, *123* (2), 703–745.
- and \_ , "Electoral Accountability and Corruption: Evidence from the Audits of Local Governments," American Economic Review, June 2011, 101 (4), 1274–1311.

- Fisman, Raymond, "Estimating the value of political connections," American Economic Review, 2001, pp. 1095–1102.
- and Jakob Svensson, "Are corruption and taxation really harmful to growth? Firm level evidence," *Journal of Development Economics*, 2007, 83 (1), 63–75.
- and \_\_, "Are corruption and taxation really harmful to growth? Firm level evidence," Journal of Development Economics, May 2007, 83 (1), 63–75.
- and Shang-Jin Wei, "Tax Rates and Tax Evasion: Evidence from "Missing Imports" in China," Journal of Political Economy, April 2004, 112 (2), 471–500.
- and \_ , "The Smuggling of Art, and the Art of Smuggling: Uncovering the Illicit Trade in Cultural Property and Antiques," *American Economic Journal: Applied Economics*, July 2009, 1 (3), 82–96.
- and Yongxiang Wang, "Corruption in Chinese Privatizations," NBER Working Papers 20090, National Bureau of Economic Research, Inc May 2014.
- Ge, Celine, "Sales Of Chinese Seafood Delicacies Are Plummeting Amid Government's Anti-Corruption Drive," *Business Insider*, 12 2013.
- Gorodnichenko, Yuriy and Klara Sabirianova Peter, "Public sector pay and corruption: Measuring bribery from micro data," *Journal of Public* economics, 2007, 91 (5), 963–991.
- Heidenheimer, A.J. and M. Johnston, *Political Corruption: Concepts* and Contexts, Gale Asia, 2009.
- and \_ , Political Corruption: Concepts and Contexts Political Change in Development, Transaction Publishers, 2011.
- Hsieh, Chang-Tai and Enrico Moretti, "Did Iraq Cheat the United Nations? Underpricing, Bribes, and the Oil for Food Program," *The Quarterly Journal of Economics*, 2006, 121 (4), 1211–1248.
- Jacobs, Andrew, "Elite in China Face Austerity Under Xi's Rule," *NYT*, 3 2013.

- Lan, Xiaohuan and Wei Li, "Swiss Watch Cycles: Evidence of Corruption during Leadership Transition in China," Technical Report, Working Paper, Cheung Kong Graduate School of Business, Shanghai 2013.
- Lewis-Faupel, Sean, Yusuf Neggers, Benjamin A. Olken, and Rohini Pande, "Can Electronic Procurement Improve Infrastructure Provision? Evidence From Public Works in India and Indonesia," NBER Working Papers 20344, National Bureau of Economic Research, Inc July 2014.
- Mauro, Paolo, "Corruption and growth," The quarterly journal of economics, 1995, pp. 681–712.
- McMillan, John and Pablo Zoido, "How to subvert democracy: Montesinos in Peru," 2004.
- Mukherji, Biman and Joyu Wang, "Hong Kong Gold Sales Fall as China Tackles Corruption," *The Wall Street Journal*, 12 2014.
- Muralidharan, Karthik, Paul Niehaus, and Sandip Sukhtankar, "Building State Capacity: Evidence from Biometric Smartcards in India," NBER Working Papers 19999, National Bureau of Economic Research, Inc March 2014.
- Murphy, Kevin M, Andrei Shleifer, and Robert W Vishny, "Why is rent-seeking so costly to growth?," *The American Economic Review*, 1993, pp. 409–414.
- News, BBC, "Banquet ban' for China military," BBC News, 12 2012.
- Niehaus, Paul and Sandip Sukhtankar, "Corruption Dynamics: The Golden Goose Effect," American Economic Journal: Economic Policy, November 2013, 5 (4), 230–69.
- and \_ , "Corruption Dynamics: The Golden Goose Effect," American Economic Journal: Economic Policy, 2013, 5 (4), 230–269.
- **Olken, Benjamin A**, "Corruption and the costs of redistribution: Micro evidence from Indonesia," *Journal of public economics*, 2006, *90* (4), 853–870.
- Olken, Benjamin A., "Monitoring Corruption: Evidence from a Field Experiment in Indonesia," *Journal of Political Economy*, 2007, 115, 200–249.

- and Patrick Barron, "The Simple Economics of Extortion: Evidence from Trucking in Aceh," *Journal of Political Economy*, 06 2009, 117 (3), 417–452.
- Olken, Benjamin and Rohini Pande, "Corruption in Developing Countries," Annual Review of Economics, 07 2012, 4 (1), 479–509.
- Oster, Shai, "President Xi's Anti-Corruption Campaign Biggest Since Mao," Bloomberg, 3 2014.
- **Pei, Minxin**, *Corruption threatens China's future*, Carnegie Endowment for International Peace, 2007.
- Pomeranz, Dina, "No Taxation without Information: Deterrence and Self-Enforcement in the Value Added Tax," NBER Working Papers 19199, National Bureau of Economic Research, Inc July 2013.
- Porta, Rafael La, Florencio Lopez de Silanes, Andrei Shleifer, and Robert Vishny, "The quality of government," *Journal of Law, Economics,* and organization, 1999, 15 (1), 222–279.
- Reinikka, Ritva and Jakob Svensson, "Fighting Corruption to Improve Schooling: Evidence from a Newspaper Campaign in Uganda," *Journal of* the European Economic Association, 2005, 3 (2-3), 259–267.
- **Reuters**, "China bans alcohol in military banquets to curb graft," *Reuters*, 12 2012.
- \_\_\_\_, "China targets bank executives' perks in anti-corruption drive," *Reuters*, 11 2012.
- \_, "A New Government Ban Is Going To Hit China's Growing Luxury Retailers Hard," Business Insider, 2 2013.
- Sequeira, Sandra and Simeon Djankov, "On the waterfront: an empirical study of corruption in ports," *Mimeograph, Harvard University*, 2008.
- Shaffer, Leslie, "Don't bet on China's luxury spenders: Goldman," CNBC, 1 2014.
- Shaoting, Ji and Cheng Yunjie, "Xinhua Insight: Secretive government receptions defy China's central authority," *Xinhua News*, 1 2013.

- Shleifer, Andrei, "Schumpeter Lecture: Government in Transition," European Economic Review, 1997, 4, 385–410. Reprinted in Peter J. Boettke and Peter T. Leeson, eds., The Legacy Of Ludwig Von Mises, Edward Elgar Publishing Company, 2006..
- and Robert W. Vishny, "Corruption," The Quarterly Journal of Economics, 1993, 108 (3), pp. 599–617.
- Spegele, Brian, "Xi Eats Plainly Amid Focus on Official Waistlines," The Wall Street Journal, 12 2012.
- Steidlmeier, Paul, "Gift giving, bribery and corruption: Ethical management of business relationships in China," *Journal of Business Ethics*, 1999, 20 (2), 121–132.
- Svensson, Jakob, "Who Must Pay Bribes And How Much? Evidence From A Cross Section Of Firms," *The Quarterly Journal of Economics*, February 2003, 118 (1), 207–230.
- Tatlow, Didi Kirsten, "An Investor's Guide to Buying Influence in China," The New York Times, 8 2011.
- Wen, Wang, "Corruption curbs crimp luxury market," China Daily, 1 2013.
- Xinhua, "China Focus: China maintains pressure with 5-year anticorruption plan," Xinhua, 12 2013.
- **Zitzewitz, Eric**, "Forensic Economics," Journal of Economic Literature, September 2012, 50 (3), 731–69.

	Obs	Mean	Std. Deviation
Jewelry	43	17.63	0.34
Luxury Imports	43	20.28	0.14
Alcohol	43	19.01	0.25
Art	43	16.13	0.70
Beauty	43	17.63	0.34
Food	43	19.32	0.29
Leather Goods	43	17.44	0.28
Prec. Metals & Gems	43	19.32	0.29
Tobacco	43	13.33	0.56
All other imports	43	24.70	0.0
Notes: Log values are reported. Observations are at the 4-digit commodity and month level Food is comprised of heef fish crustareans and mollusks	rted. Observatio	ns are at the 4-c f fish crustacea	ligit commodity

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Notes: Log values are reported. Observations are at the 4-digit commodity and month level. Food is comprised of beef, fish, crustaceans and mollusks Alcohol is comprised of wine and hard liquor above and below 80% alcohol; and art is comprised of paintings and drawings, sculptures, collections and antiques. All other imports include all other 4-digit categories.

	Dep	Dependent Variable: Log Imports (2012 USD)	og Imports (2012 L	JSD)
	(1)	(2)	(3)	(4)
Jewelry*Post	-0.560 (0.0200)	-0.643 (0.00471)	-0.559 (0.0200)	-0.562 (0.0203)
Luxury*Post				-0.104
				(0.113)
Controls:				
Post Dummy Variable	~	z	z	z
Month FE	z	7	7	۲
Year FE	z	z	7	۲
Luxury Dummy Var	z	z	Z	7
Observations	49,892	49,892	49,892	49,892
R-squared	0.898	0.898	0.898	0.898

Table 2: The Effect of Anti-Corruption Intensification on Imports

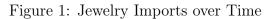
Dependent Variable: Lo	g Imports (2012 USD)
Jewelry*Post -5	0.0634
	(0.208)
Jewelry*Post -4	-0.119
	(0.170)
Jewelry*Post -3	0.0528
	(0.140)
Jewelry*Post -2	0.0365
	(0.174)
Jewelry*Post -1	0.115
	(0.183)
Jewelry*Post 0	-0.147
	(0.151)
Jewelry*Post 1	-0.164
	(0.151)
Jewelry*Post 2	-0.491
	(0.170)
Jewelry*Post 3	-0.615
	(0.172)
Jewelry*Post 4	-0.859
	(0.158)
Jewelry*Post 5	-0.449
	(0.130)
Observations	1075
R-squared	0.890

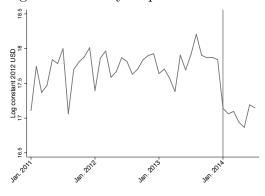
Table 3: The Effect of Anti-Corruption Intensification on Imports

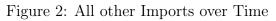
Notes: The regression controls for dummy variables for each month since the reform, and month and year FE. Robust standard errors are presented in the parentheses.

			Dependent Variable:	Dependent Variable: Log Imports (2012 USD)		
	(1)	(2)	(3)	(4)	(5)	(9)
	Jan 2011 - Dec 2011	Jan 2011 - Dec 2011 July 2011 - June 2012		Jan 2012 - Dec 2012 July 2012 - June 2013 Jan 2013 - Dec 2013	Jan 2013 - Dec 2013	July 2013 - June 2014
	Post = Jun 2011+	Post = Dec 2011 +	Post = Jun 2012+	Post = Dec 2012+	Post = June 2013+	Post = Dec 2013+
Dep. Var Mean	14.91	14.91	14.90	14.88	14.88	14.86
			A. Does not control f	A. Does not control for other Luxury Goods		
Jewelry*Post	0.078	0.019	-0.020	-0.071	0.261	-0.775
	(0.019)	(0.020)	(0.020)	(0.023)	(0.020)	(0.022)
Observations	12,723	12,747	12,785	12,802	12,777	12,764
R-squared	0.926	0.924	0.914	0.912	0.928	0.923
			B. Control for ot	B. Control for other Luxury Goods		
Jewelry*Post	0.078	0.017	-0.015	-0.074	0.263	-0.781
	(0.019)	(0.020)	(0.021)	(0.023)	(0.020)	(0.022)
Luxury*Post	0.002	-0.065	0.255	-0.104	0.123	-0.269
	(0.116)	(0.099)	(0.094)	(0.134)	(0.119)	(0.109)
Observations	12,723	12,747	12,785	12,802	12,777	12,764
R-squared	0.926	0.924	0.914	0.912	0.928	0.923
Notes: All regree	ssions control for mon	Notes: All regressions control for month and year, and commodity fixed effects. Standard errors are clustered at the commodity level	odity fixed effects. Sta	andard errors are cluste	ered at the commodity	/ level.

– Structural Break	
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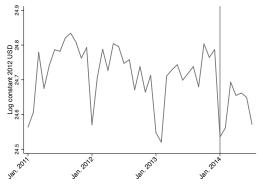


Figure 3: Inconspicuous Luxury Imports over Time

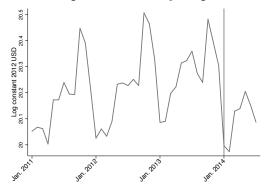
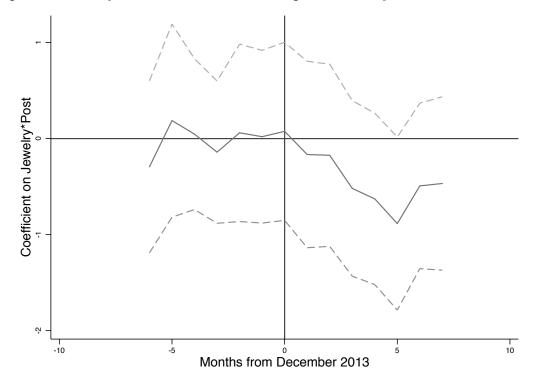


Figure 4: The Effect of Anti-Corruption Intensification on Imports of Conspicuous Luxury Goods Relative to Inconspicous Luxury Goods



## Table A.1: COMTRADE Categories

Category	Code	Name	Obs	Mean	Std. Deviation	Description 1	Description 2
							Articles of jewellery and parts thereof, of
Jewelry	7113	Jewelry	43	17.63	0.34	Jewellery and parts, containing precious metal	precious metal or of metal clad with precious metal.
Food	0201	Fresh Beef	43	14.46	0.92	Meat of bovine animals, fresh or chilled	Meat of bovine animals, fresh or chilled.
						Meat of bovine animals, frozen	Meat of bovine animals, frozen.
Food		Frozen Beef		16.87	1.07		
Food	0301	Live Fish	43	14.32	0.58	Live fish	Live fish.
Food	0302	Fresh Fish	43	15.49	0.40	Fish, fresh or chilled, whole	Fish, fresh or chilled, excluding fish fillets and other fish meat of heading No. 03.04.
Food	0303	Frozen Fish	43	18.31	0.28	Fish, frozen, whole	Fish, frozen, excluding fish fillets and other fish meat of heading No. 03.04. Fish fillets and other fish meat (whether or not
Food	0304	Fish Fillets	43	15.06	0.50	Fish fillets, fish meat, mince except liver, roe	minced), fresh, chilled or frozen. Fish, dried, salted or in brine; smoked fish,
Food	0305	Cured Fish	43	14.72	0.87	Fish,cured, smoked, fish meal for human consumption	whether or not cooked before or during the smoking process; flours, meals and pellets of fish, fit for human consumption. Crustaceans, whether in shell or not, live, fresh chilled, frozen, dried, salted or in brine; crustaceans, in shell, cooked by steaming or by
Food	0306	Crustaceans	43	17.70	0.40	Crustaceans	boiling in water, whether or not chilled, frozen, dried, salted or in brine; flours, meals and Molluscs, whether in shell or not, live, fresh, chilled, frozen, dried, salted or in brine; aquatic invertebrates other than crustaceans and molluscs, live, fresh, chilled, frozen, dried, salted
Food	0307	Mollusks	43	17.01	0.27	Molluscs	or in brine; flours, meals and pellets of
Alcohol	2204	Grape Wine	43	18.48	0.23	Grape wines(including fortified), alcoholic grape must	Wine of fresh grapes, including fortified wines; grape must other than that of heading No. 20.09. Undenatured ethyl alcohol of an alcoholic strength by volume of 80 % vol or higher; ethyl
Alcohol	2207	Hard Alcohol	43	12.45	1.28	Ethyl alcohol, undenatured and > 80%, or denatured	alcohol and other spirits, denatured, of any strength. Undenatured ethyl alcohol of an alcoholic
Alcohol	2208	Alcohol Less80	43	18.09	0.37	Liqueur, spirits and undenatured ethyl alcohol <80%	strength by volume of less than 80 % vol; spirits, liqueurs and other spirituous beverages.
		Cigars				Cigars, cigarettes etc, tobacco or tobacco	Cigars, cheroots, cigarillos and cigarettes, of
Tobacco	2402	Cigarettes		13.33	0.56	substitute	tobacco or of tobacco substitutes.
Beauty	3303	Perfumes	43	15.95	0.29	Perfumes and toilet waters	Perfumes and toilet waters.
Beauty	3304	Beauty Products	43	18.22	0.14	Beauty, make-up and skin care preparations	Beauty or make-up preparations and preparations for the care of the skin (other than medicaments), including sunscreen or sun tan preparations; manicure or pedicure preparations.
Leather Goods	4202	Leather Goods	43	17.44	0.28	goods	Trunks, suit-cases, vanity-cases, executive- cases, brief-cases, school satchels, spectacle cases, briocular cases, camera cases, musical instrument cases, gun cases, holsters and similar containers; travelling-bags, toilet bags, rucksac Articles of goldsmiths' or silversmiths' wares and
rec. Metals & Ge	17114	Gold Silver Precious	43	12.66	1.09	Gold, silversmith wares of or clad with precious metal	parts thereof, of precious metal or of metal clad with precious metal. Other articles of precious metal or of metal clad
rec. Metals & Ge	17115	Metals	43	15.86	0.38	Articles of, or clad with, precious metal nes	with precious metal. Articles of natural or cultured pearls, precious or
rec. Metals & Ge	17116	Pearls Gems	43	12.80	0.73	Articles of pearls, precious or semi-precious stones	semi-precious stones (natural, synthetic or reconstructed). Wrist-watches, pocket-watches and other
rec. Metals & Ge	9101	Watches	43	17.41	0.34	Watches with case of, or clad with, precious metal	watches, including stop-watches, with case of precious metal or of metal clad with precious metal. Paintings, drawings and pastels, executed entirely by hand, other than drawings of heading
Art	9701	Paintings Drawings	43	14.38	0.97	Paintings, drawings, pastels, collages etc, hand made	No. 49.06 and other than hand-painted or hand- decorated manufactured articles; collages and similar decorative plaques.
Art	9703	Sculptures	43	13.60	1.02	Original sculptures and statuary, in any material	Original sculptures and statuary, in any material. Collections and collectors' pieces of zoological,
Art	9705	Collections	43	13.36	1.44	Collections and collectors pieces	botanical, mineralogical, anatomical, historical, archaeological, palaeontological, ethnographic or numismatic interest.
-							Anti-
Art	9706	Antiques	43	15.00	0.66	Antiques older than one hundred years	Antiques of an age exceeding one hundred years.