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Travel Channel Meets Discovery Channel or How Tourism Can Encourage Better Export Performance and Diversification in Nepal

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Abstract

Entering and successfully surviving in export markets is a costly process for firms. The process involves learning about the existence of foreign demand, "discovering" production costs of exportable goods, building up reputation, succeeding in product branding to reduce competitive pressures and to be constantly upgrading quality standards to better serve demanding international clients, and remaining competitive vis-à-vis other players in the global marketplace. This paper argues that tourism can help alleviate some of these costs by providing a relatively inexpensive platform for cost-discovery and by acting as a low-cost "in-house" trade fair, accessible to all domestic producers. The analysis combines product-level data on world and Nepal's exports (both for goods that are related and unrelated to tourism) with Nepalese data on tourist inflows and expenditures and macro indicators on relative prices. For tourism-related goods, the analysis reveals a positive association between tourist inflows from given destinations and their expenditures, with future merchandise exports to those destinations. Instead, for goods a priori unrelated to tourism, the data reveal no connection between tourism flows and future exports. The results suggest spillovers from tourism into merchandise export performance and diversification and would imply that there are gains from cooperation between tourism and export promotion agencies.

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Travel channel meets discovery channel or how tourism can encourage better export performance and diversification in Nepal

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Introduction

Two decades ago, European tourists in Nepal discovered the finest cashmere wool, the pashmina: a piece of fabric that "makes cashmere feel like cardboard".[3] Pashmina is the name given to the soft fur found close to the skin around the neck and chest of the Chyangra goat (or the mountain goat from the Himalayas, which lives at altitudes of 12,000 to 14,000 feet). Shawls made out of that wool have been worn for centuries in the region among the royalty and the elites, being a status symbol in the East. In India and Nepal, pashmina blankets were essential components of a wealthy woman's dowry. The 'discovery' by these European tourists was a key contributor to the promotion of the fabric in their origin countries and the rapid increase in exports of pashmina-related products of Nepal to the West, where it soon became fashionable, and even deserving flattering claims in a *Newsweek* headline in 1998 (Chambers and Angell (1998)).[4]

To what extent is the pashmina case representative of the potential effect that tourist inflows may have on foreign demand for these traditional or 'niche' goods produced in an economy? Conceptually, the mechanism would work as follows. High-income tourists exhibit a preference for traditional, cultural or 'niche' goods, which are not typically demanded by local consumers. Thus, producers in the host economy diversify their production structure and may be induced to adapt their quality and technical standards to those demanded by the international tourists. Once in their countries of origin, tourists act as promoters of these niche products abroad, which may induce an increase in foreign demand for these goods.

There are two mechanisms operating within the channel linking tourism with merchandise export performance and diversification, both of which are of foremost importance for a low-income country such as Nepal: tourism facilitates learning and it acts as a springboard for product promotion abroad.

First, tourism facilitates learning. As argued by Hausmann and Rodrik (2003), learning what one is good at producing is an important challenge faced by countries in their path to development. Because self-discovery is costly and the appropriability of the discovery is low once it occurs (other entrepreneurs can imitate the discoveries), there is typically an undersupply of learning what can be produced and successfully marketed.[5] While the inflow of tourists does not eliminate this market failure, it substantially reduces the costs of self-discovery associated with exportable products, as it brings a sample of the international market to the local economy. Tourism provides virtually free information about international demand (one of the greatest uncertainties concerning international trade (Rauch

[3] "Passion for Pashmina: the fabric that makes cashmere feel like cardboard" made it to a Newsweek's headline in 1998 (Chambers and Angell (1998)).

[4] The information on the role that the European tourists had on the pick-up of export orders of Pashminas was mentioned to us by the President of the Association of Pashmina Exporters of Nepal, during a meeting in Kathmandu in March, 2013.

[5] This notion departs from standard neoclassical growth theory where technology is assumed common knowledge, so no cost uncertainty exists, and hence, no costly self-discovery processes either.

and Watson, 2001)), in particular about tastes, quality and the technical standards required, clients' willingness to pay, and niches, both in terms of goods unavailable in foreign countries and in terms of target export markets for particular products. It also facilitates learning about production costs without having to incur expensive experimentation. As argued by Lejarraga and Walkenhorst (2013), new goods channeled through tourism are ones in which the minimum efficient scale is lower than in most other sectors; tourism-led entrepreneurs can test a 'foreign market' without incurring the transaction costs of exporting abroad (no border or administrative barriers, transport costs, etcetera) and the risks associated with the discovery are to some extent offset by the presence of a tourism market, as trial products can be sold to international tourists.

Second, tourism acts as a springboard for promotion of domestic 'niche' goods in foreign markets. It operates as a low-cost 'in-house' trade fair, accessible to all domestic producers. Exporting firms often participate in trade fairs in order to increase awareness and interest among foreign traders of their exportable products, who will later be more likely to place import orders. In fact, in in the USA, for example, trade show expenditures are the second largest item in the business marketing communications budget after advertising (Gopalkrishna et al, 1995). Instead, for firms in a remote, low-income context such as Nepal, costs associated with participation in trade fairs, or more generally, expenditure in product promotion, can be a binding constraint to export growth. Anecdotal evidence suggests that for a Nepalese firm to participate in a trade fair, costs are around 11,500 USD. For example, for the case of producers of organic essential oils, the German cooperation agency (GIZ) encouraged participation in an organic trade fair in Germany by providing a cost-sharing scheme. Six Nepalese firms were invited, of which three agreed to participate. Even if, according to firms' sources, export revenues more than doubled after participation and they managed to diversify destinations, firms stopped participating when GIZ withdrew financial support. This anecdote suggests that even if standard product promotion strategies are considered as 'promising' and 'profitable', liquidity or other constraints impede domestic firms from taking advantage of them. Tourist inflows help alleviating these constraints by bringing the 'fair' to the local marketplace.

These two mechanisms will likely affect exports both on the intensive and extensive margins. They will improve export performance of firms already exporting tourist products through the promotion effect, and they will facilitate entry of new firms into export markets of existing and of new 'touristic' products, by reducing both the fixed and variable costs of exporting, and thus, making export activities more accessible to relatively less productive firms.

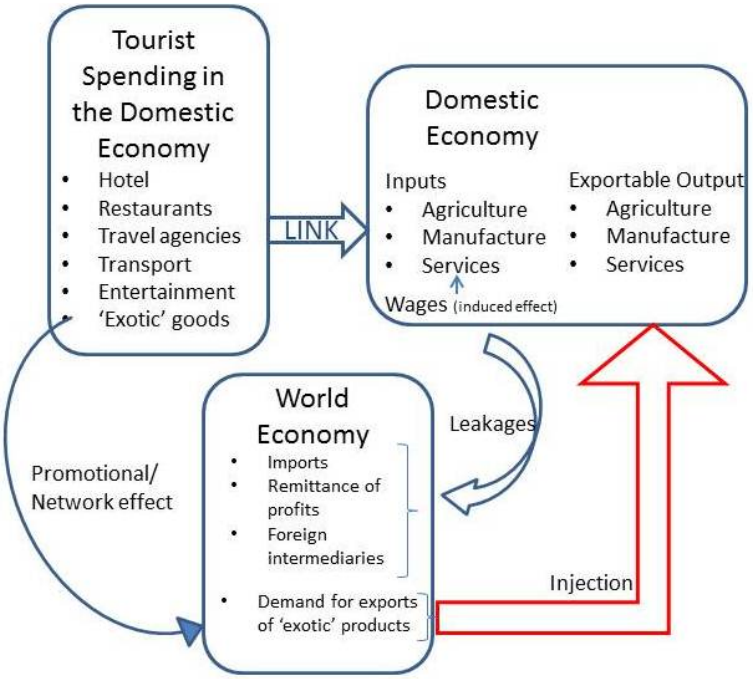
The literature on the economics of tourism has typically focused on the direct and indirect effects that tourist expenditure has on economic growth via increased expenditure in hotels, restaurants, entertainment, etcetera, and its associated multiplier effects, which involve a subset of the links between tourist spending and domestic performance (those described at the top of Figure 1, including the leakages) (see for example, Kweka et al (2003) for Tanzania, or Durbarry (2004) and Cattaneo (2009) for Mauritius). The literature has been relatively silent on the injection that tourist spending can exert through promotional, network and learning effects on export performance and diversification, which is the contribution of our paper. To the best of our knowledge, the only exception is the work of Lejarraga and Walkenhorst (2013). In line with this paper, these authors argue that tourism-related activities help

diversification by reducing self-discovery costs. They provide positive cross-country correlations between tourist receipts as a portion of GDP and export diversification. Further to this, the authors argue that the ability with which countries can leverage tourism to discover new products and exports depends on the strength of the linkages of tourism with the rest of the economy. They provide some evidence of factors that may influence the extent of these linkages, such as the entrepreneurial capital of the host economy, the level of economic and social development, as well as the absence of violent crime, and more generally, safety and stability.

This paper contributes to the literature by focusing on a case study of Nepal, a landlocked, low-income country that combines high potential of both tourism and exports of niche goods, and by examining empirically the spillover effects that tourist inflows and their associated expenditures have had on future export flows of traditional or niche goods over the period 1990-2011. To identify the spillover effects of tourism inflows on export diversification, it exploits three sources of variation in the data: time, export products, and origin of tourist inflows/destination of export products. Given the level of aggregation of the data available, the spillover effects of tourist inflows on exports of traditional or 'touristic' goods operating through both extensive and intensive margins are to be observed in an increase in the level of exports of specific 'touristic' products. In this paper, traditional goods should not be understood as in opposition to 'modern' goods (that opposition is typically used in the Development Economics literature). Instead, the label 'traditional' will be used interchangeably with 'niche' or 'cultural' goods, and refers to goods that for their uniqueness or characteristics are associated to the particular country in which they are produced.

The remainder of the paper is structured as follows. Section 2 presents the data to be used in the empirical analysis along with descriptive statistics. The empirical strategy is described in Section 3. Section 4 discusses the results. Finally, Section 5 presents the conclusions and the policy implications that emerge from the analysis.

Figure 1: How Can Tourism Affect Domestic Economic Performance?



Source: Authors' adaptation based on Cattaneo (2009).

The Data

We use export data at the product level (HS classification at 6 digit disaggregation) over the period 1990-2011 both for Nepalese exports and world imports from the Comtrade database. For the same period, we use data on tourist inflows in Nepal and total tourists' dollar expenditure as well as duration of stay, obtained from Nepal's Tourism Board, and the real exchange rate, calculated as the quotient of the consumer price index (CPI) and the official exchange rate, obtained from the World Development Indicators (WDI) database.

Table 1 shows the evolution of tourism indicators as well as of the real exchange rate. It shows an upward trend in total inflow of tourists, as well as in the tourist expenditure per day, which, measured in current dollars, more than doubled in the last 20 years. In real terms, after controlling for the loss of purchasing power of the dollar over that period - of about 50 percent - tourist expenditure per day increased roughly by 50 percent over the last two decades.[6] Instead, the length of stay seems stable over the period, just above 10 days, on average. On the other hand, the real exchange rate depreciated substantially during the 1990s, while it has displayed the opposite trend during the past decade, which implies that Nepal is becoming more expensive in dollars – with likely negative implications on exports, both of tourist services, and of merchandise in general.

Table 1: Evolution of Macro Indicators on Tourism and Relative Prices

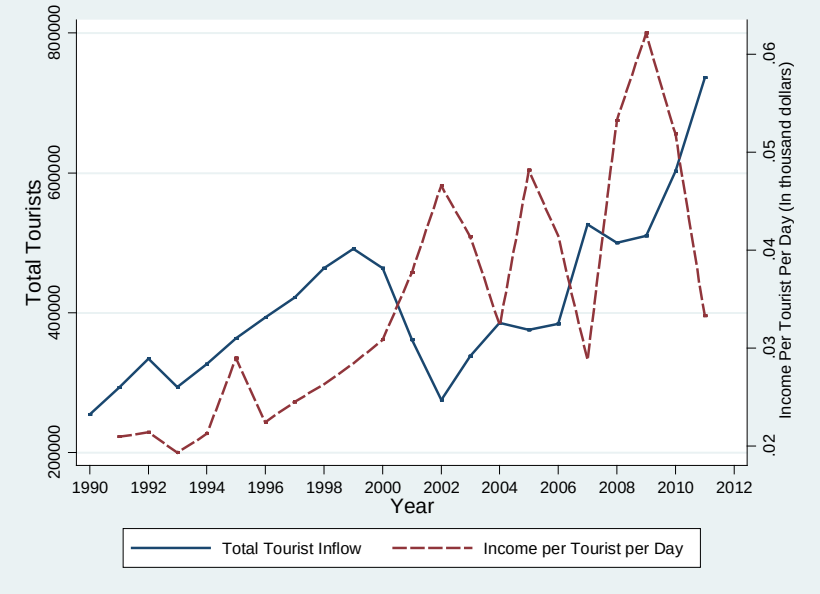
[6] The loss of purchasing power of the dollar is measured as the GDP deflator inflation of the US over the period, which is slightly above 51 percent (source: WDI).

Period	Total Tourists (year averages)	Expenditure per Tourist Per Day (USD)	Length of Stay (in days)	RER (ratio of CPI/Nom. Exch.Rate)
1990-1994	300466	20.7135	10.666	0.284609
1995-1999	426811	26.1087	11.66	0.1316595
2000-2004	364756	37.7579	10.968	0.0446322
2005-2011	519335	45.5672	11.4486	0.1232776

Source: Nepal Tourism Board and World Development Indicators (WDI).

Figure 2plots the inflow of tourists and the income per tourist per day (in thousands of dollars), over the period 1990-2011. It reveals, first, that tourist inflows fell toward the peak of the turmoil in the country (around 2000), while they picked up toward the end of the conflict (around 2006), and second, that income per tourist per day has fluctuated substantially during the 2000s.

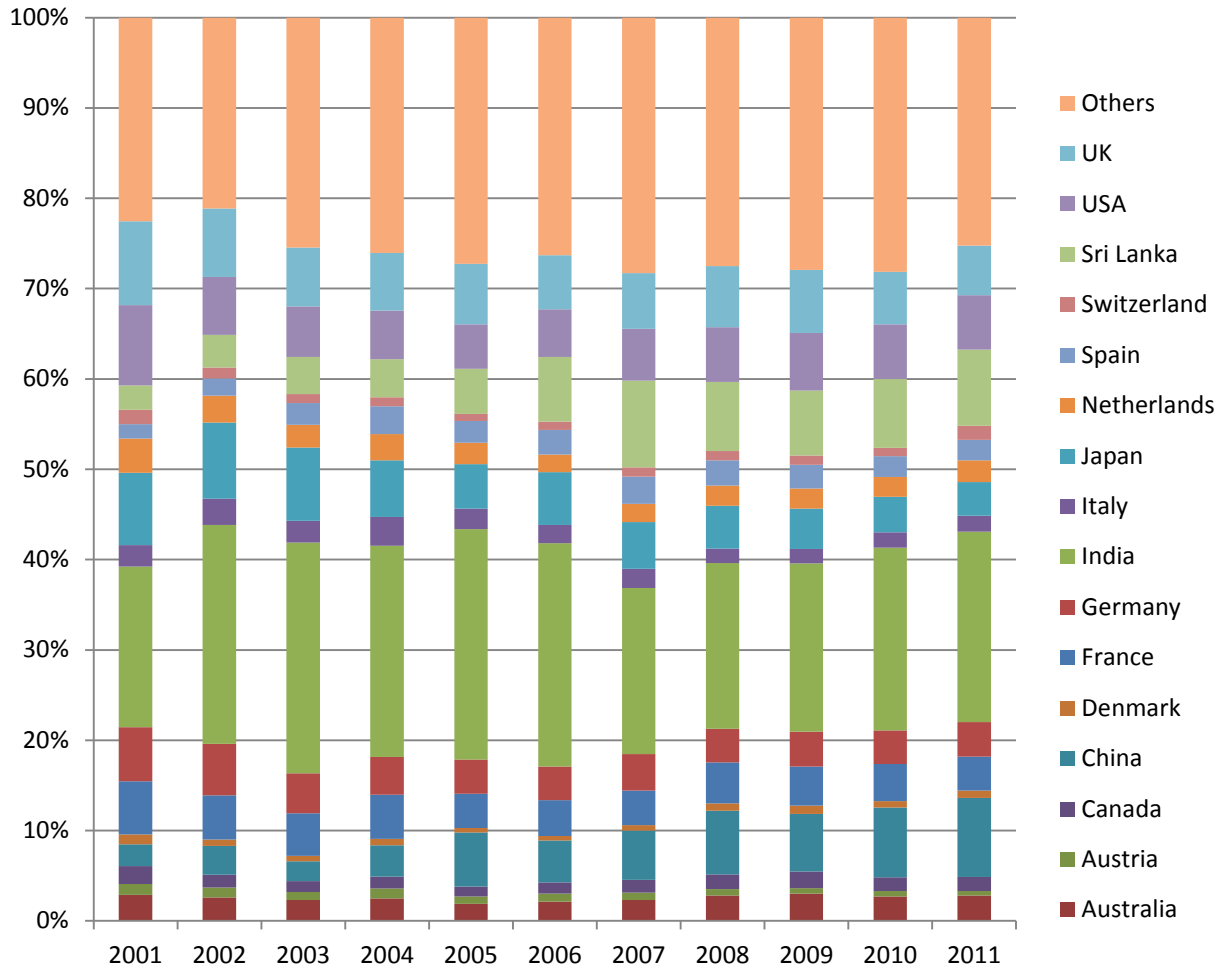
Figure 2: Tourists Inflows and Expenditure (Income) per Day



Source: Nepal Tourism Board.

The composition of tourist inflows by origin has changed over the last decade, reflecting the international changes in the distribution of income per capita. While inflows from high-income countries represented about 55 percent of the total in the early 2000s, they accounted for 35 percent of total inflows in 2011. During the same period, Chinese inflows increased from 2.4 percent to 8.4 percent, Indian inflows increased from 17.8 to 20.3 percent, and inflows from Sri Lanka (mainly related to pilgrimage) increased in importance from 2.7 to 8.1 percent (Figure 3).

Figure 3: Distribution of Tourist Inflows by Origin



Source: Nepal Tourism Statistics, Ministry of Culture, Tourism and Civil Aviation.

Table 2 shows the evolution of exports (in thousands of dollars) for the products considered in this analysis, both for Nepal, and for all countries (total world trade). Of particular note is the evolution of exports of shawls and pashmina-related products (chapter 62 in HS2), which were negligible toward the beginning of the 1990s, and increased substantially thereafter.

Table 2: Trade Patterns by Product

HS Code	Description		1990/1994	1995/1999	2000/2004	2005/2011
90830	Cardamoms	Nepal's Exports	2585.4	3257.1	8971.3	13826.1
		World Trade	50142.5	72260.0	136102.0	187357.0
121110	Liquorice roots, of a kind used in perfumery	Nepal's Exports			0.031	
		World Trade	29047.6	33493.4	30677.8	9213.4
121120	Ginseng roots, of a kind used in perfumery, pharmacy	Nepal's Exports	30.8	28.5	5.7	1.3
		World Trade	177406.0	276204.0	220284.0	219201.0

330610	Dentifrices	Nepal's Exports	2147.7	12627.1	24047.2	12117.8
		World Trade	300047.0	960194.0	1300000.0	2300000.0
480210	Hand-made paper and paperboard	Nepal's Exports	32.6	197.2	566.4	641.1
		World Trade	46551.7	88279.3	113977.0	118094.0
570110	Carpets and other textile floor coverings, of wool	Nepal's Exports	166121.6	160137.7	104527.9	86510.4
		World Trade	1400000.0	1600000.0	1300000.0	1000000.0
570190	Carpets and other textile floor coverings, of other materials	Nepal's Exports	104.2	329.9	1284.3	6612.5
		World Trade	248704.0	260952.0	206499.0	235607.0
570210	Kelem, Schumacks, Karamanie and others	Nepal's Exports	230.9	797.4	1133.1	1235.2
		World Trade	86604.9	133416.0	115009.0	122975.0
570220	Floor coverings of coconut fibres (coir)	Nepal's Exports	31.9	1.9	9.6	4.5
		World Trade	31109.3	74299.7	79397.6	95784.8
570500	Other carpets and other textile floor coverings	Nepal's Exports	22.0	82.6	698.4	514.0
		World Trade	208672.0	383319.0	460653.0	823343.0
621410	Shawls, Scarves, Mufflers, Mantillas, Veils, of Silk or Silk Waste	Nepal's Exports	11.9	873.1	4781.3	2612.6
		World Trade	286419.0	437781.0	303276.0	428502.0
621420	Shawls, Scarves, Mufflers, Mantillas, Veils, of Wool or Fine Animal Hair	Nepal's Exports	80.3	5315.7	24127.5	13456.5
		World Trade	122233.0	203986.0	362202.0	491360.0
621430	Shawls, Scarves, Mufflers, Mantillas, Veils, of Synthetic Fibres	Nepal's Exports	10.7	62.7	506.4	745.1
		World Trade	183118.0	340903.0	358044.0	540824.0
621440	Shawls, Scarves, Mufflers, Mantillas, Veils, of Artificial Fibres	Nepal's Exports	1.2	47.6	159.2	213.6
		World Trade	53801.5	109363.0	126250.0	284493.0
621490	Shawls, Scarves, Mufflers, Mantillas, Veils, of Other Textile Materials	Nepal's Exports	25.9	241.6	977.7	1082.2
		World Trade	38456.7	75832.0	114970.0	360809.0
711311	Art. of jewellery and pts thereof of silver w/n	Nepal's Exports	1180.8	2373.1	4989.8	5974.7
		World Trade	471548.0	1000000.0	1900000.0	4200000.0
711319	Art. of jewellery and pts thereof of/o prec mtl	Nepal's Exports	56.9	1305.5	2650.9	656.5
		World Trade	6500000.0	12000000.0	15000000.0	30000000.0

711320	Art. of jewellery and pts thereof of base mtl c	Nepal's Exports	48.9	64.6	53.2	78.4
		World Trade	47736.7	78023.5	114465.0	191487.0
730610	Pipe,line,iron or steel,welded,riveted or sim closed	Nepal's Exports		590.2	2710.0	7072.3
		World Trade	329601.0	756823.0	829761.0	2300000.0

Source: Comtrade. Note: Average exports per annum in thousand dollars.

The Model

We consider 19 products in the analysis, including tourist-related or 'niche' goods as well as products that should, in principle, be unrelated to tourism while they are also important in Nepal's export basket. Specifically, the choice of products is based on three criteria: the importance of the product in Nepal's export basket, the identification of the product as 'strategic' under Nepal's Trade Integration Strategy 2010 (NTIS), and whether it is traditionally associated with the 'Nepal brand'. Shawls and Pashminas comply with the three conditions: their weight in Nepal's export basket is substantial, they are identified as strategic in the NTIS, and they are associated with the 'Nepal brand'. Carpets comply with two out of the three: large weight in the export basket, and identified with Nepal's brand – although not included in the NTIS. Handmade paper, Jewelry and Medicinal herbs are both strategic according to the NTIS, and are also associated to the 'Nepal Brand', although their importance in the export basket is relatively low. Finally, cardamom, pipes of iron or steel, and dentifrices are considered here as unrelated to tourism – not especially associated with the 'Nepal brand', but they appeared in the top 10 export products over the period 2005-2010, and the former two have been identified as strategic in the NTIS.

To identify the spillover effect that the inflow of tourists may have on merchandise exports, we estimate an augmented export supply function exploiting three sources of variation. We exploit time variation by looking at the period 1990-2011. We exploit variation across products by looking at the 19 aforementioned goods (disaggregated according to the HS classification at 6 digits), and finally, we exploit variation across the country of origin of tourists/destination of merchandise exports. The export supply function incorporates as regressors the evolution of the real exchange rate to capture relative price effects, a world demand 'pull' factor proxied by world exports of the product, product (or product-destination) fixed effects to control for time-invariant factors affecting the supply of exports of specific products. In addition, it incorporates tourist inflows and their per-day expenditures and their interactions with a tourist product dummy to capture the potential spillover effects that may exist. Data for tourism inflows by country of origin are disaggregated for the 16 most important countries in terms of Nepal's tourist inflows – the rest are aggregated under "others".

In the first stage, we only exploit variation over time and across products, but pool together the information on country of origin of tourists, and then we exploit the three sources of variation.

To further discern whether the spillover effect is specific by type of product exported, and in particular, if this spillover is related to the 'travel channel' described in the previous section, we follow two strategies: the first one consists in estimating an interaction model in which goods are separated into

'tourism-related', and 'tourism-unrelated'. This allows identifying the average spillover effect of tourism on tourist-related products, and increases the number of observations on which the model is estimated, but does not exploit the product heterogeneity or allow us understanding of the product-specific effects. The second strategy consists in estimating the augmented supply function on homogeneous groups of products (carpets, shawls, jewelry, medicinal herbs, handmade paper, cardamom, dentifrices and pipes of iron and steel). This allows identifying product-specific spillover effects of tourism, but leaves us with 'blurrier' estimates due to the reduced size of the samples.

More formally, in the first strategy, we define a dummy variable T as in equation (1):

$$T_i = 0 \; if \; i = \text{cardamom, dentifrices or pipes;}$$
$$= 1 \; if \; i = \text{carpets, shawls, jewelry, medicinal herbs, handmade paper} \quad (1)$$

Then, we interact the dummy with the tourism-related variables: lagged number of tourists, and lagged expenditure per day. The estimable equation is defined as:

$$V_{t,i} = a_i + b_1 \#T_{t-1} + b_2 Exp_{t-1} + b_3 \#T_{t-1} * T_i + b_4 Exp_{t-1} * T_i + b_5 RER_t + b_6 WV_{t,i} + e_{t,i} \quad (2)$$

where $V_{t,i}$ is the log of exports of product i in year t, a_i is a product fixed effect at the six-digit level of HS, $\#T_{t-1}$ is the log of the number of tourist inflows in Nepal in year t-1, Exp_{t-1} is the log of the dollar expenditure per day of tourists in year t-1, RER_t is the log of the real exchange rate defined as indicated above, and $WV_{t,i}$ is world trade in product i in year t, T is the dummy defined as in equation (1), and $e_{t,i}$ is an error term assumed to be orthogonal to the included regressors.

In the second, we estimate a model as in equation (3) by group of products defined at the 2-digit disaggregation of the HS classification.

$$V_{t,i} = a_i + b_1 \#T_{t-1} + b_2 Exp_{t-1} + b_3 RER_t + b_4 WV_{t,i} + e_{t,i} \quad (3)$$

This strategy allows us to obtain eight sets of b1 estimates, one for each group of products considered.

For both strategies, it is reasonable to consider the right hand side variables as exogenously determined. World trade is largely unaffected by Nepal's export patterns. In addition, the nominal exchange rate is fixed against the Indian rupee, and the behavior of the CPI is more likely associated with consumption trends driven by remittances than by trade of the considered products. Finally, tourism patterns in the previous year (both in number and expenditure) are predetermined at time t, and anticipation effects are unlikely. To control for correlations within year, we cluster standard errors at the year level.

Then, given that Nepal underwent severe political conflicts during part of the period of analysis, that has likely affected simultaneously trade in goods and tourism, we introduce a level 'crisis' dummy defined as in equation (4), and estimate a modified version of equation (2), as in (5).

$$Crisis_t = 0 \; if \; year < 1996 \; or \; year > 2006;$$
$$= 1 \; otherwise \quad (4)$$

$$V_{t,i} = a_i + b_1 \#T_{t-1} + b_2 Exp_{t-1} + b_3 \#T_{t-1} * T_i + b_4 Exp_{t-1} * T_i + b_5 RER_t + b_6 WV_{t,i} + b_7 Crisis_t + e_{t,i} \quad (5)$$

We then exploit the three sources of variation: time, product, and country of origin of tourists/destination of exports, and estimate a modified version of equation (2) as in (6):

$$V_{t,i,j} = a_{i,j} + b_1 \#T_{t-1,j} + b_2 Exp_{t-1} + b_3 \#T_{t,j} * T_i + b_4 Exp_t * T_i + b_5 RER_t + b_6 WV_{t,i} + e_{t,i} \quad (6)$$

where the difference between equation (2) and equation (6) lies in the fact that now, our dependent variable, V_{tij}, is the log of exports of product 'i', in year 't', to country 'j', while T_{tj}, is the inflow of tourists in year 't' from country 'j' and a_{ij} are product-destination fixed effects.

There is a benefit and a cost associated with exploiting the third source of variation (destination of exports/origin of tourists). The cost is related to the period of availability of the data: from 2001 to 2011. The benefit, apart from the gains that the extra source of variation itself represent for our identification strategy, relate to the fact that now year dummies could be incorporated in the model (in which case the regressors that vary only over time would be dropped – such as the real exchange rate and the tourist expenditure per capita).

To tackle the problem of the restricted time period, we estimate a model relating tourist flows by origin over time, with the GDP per capita (in constant dollars) of the countries of origin, and country fixed effects (that would control for time-invariant characteristics, such as distance, that affect the likelihood of visiting Nepal, independently of the average income of the population). Using this model, we extract the predictions of the tourists by origin, extrapolating for the whole period of analysis, and use them to estimate equation (6).

Finally, and given that tourist inflows may influence investments in infrastructure, which may have different effects on touristic and non-touristic products, introducing a possible source of endogeneity in the analysis. To control for this, we introduce year dummies interacted with the touristic dummy, to allow for infrastructure investments to have differential effects on tourist related and unrelated products. As mentioned above, the inclusion of the interacted year effects implies that variables that only vary along the time-touristic dimension (tourist expenditure and the RER) should be dropped. The new estimable equation is as follows:

$$V_{t,i,j} = a_{i,j} + a_t * T_i + b_1 \#T_{t-1,j} + b_2 \#T_{t-1,j} * T_i + b_4 WV_{t,i} + e_{t,i} \quad (7)$$

Results

Results from estimating our baseline model are presented in Table 3. The first column presents the estimates of a standard export supply function, in which total exports of the selected 19 products are explained with the evolution of relative prices and world demand for the product, proxied by total world trade in the product. The second column differs from the first in that it introduces the lagged number of

tourists as well as the interaction with the type of product exported, while the third column also introduces the lagged expenditure per day of tourists, along with the interaction. Columns four and five present the same specifications as in column three, but they differ from it in that the dependent variable considers total exports of the 19 products to countries other than India (column 4), and to India only (column 5).

Table 3: Estimation output

Variables	Exports	Exports	Exports	Exports Outside India	Exports to India
Lagged Log Tourists		-0.844	-0.343	-1.316	-0.119
		-0.546	-0.538	-2.057	-0.788
Lagged Log Tourists*Touristic Export Products		2.416***	1.723***	3.506**	-0.934
		-0.511	-0.402	-1.659	-0.787
Lagged Log Expenditure per day Tourists			-0.119	2.733*	0.0285
			-0.567	-1.307	-0.497
Lagged Log Expenditure per day Tourists*Touristic Export Products			1.151**	-0.538	-1.049
			-0.494	-0.986	-0.681
Log World Imports of the Same Product	1.179***	0.955***	0.711***	0.657**	0.518
	-0.108	-0.164	-0.196	-0.243	-0.384
Log Real Exchange Rate	-0.838***	-0.754***	-0.726***	-0.908***	-0.580***
	-0.106	-0.123	-0.113	-0.165	-0.165
Constant	-10.65***	-23.04***	-15.76	-18.8	4.328
	-1.265	-6.767	-9.359	-14.12	-7.154
Observations	362	350	336	305	147
R-squared	0.372	0.38	0.385	0.453	0.106
Number of Products	19	19	19	19	14

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Consider first the results of the simple export supply function reported in Column (1). Exports appear to be responsive to world demand and to relative prices, with the expected signs. Increases in world demand push Nepalese exports upwards, while increases in the real exchange rate, which imply that inflation is higher than the nominal exchange rate depreciation, reduce Nepalese exports. These results are interesting in their own right, given the generalized perception that export stagnation is largely explained by supply side constraints related to inadequate infrastructure. The recent appreciation of the rupee against the dollar may have been a detrimental factor for export growth, particularly for exports outside India. When it comes to the size of the effects, we cannot reject the hypotheses of exports being unit-elastic to world demand and to relative prices.

Columns (2) and (3) present the results of the augmented supply function, with the quantity of tourists (and the interaction with the tourist-related product dummy, column 2), and with both the quantity of tourists and their expenditure per day (and the corresponding interactions, column 3). Results strongly suggest that both the quantity of tourist inflows and the resources they spend in the economy are associated with exports of tourist-related products in the year after their arrival in Nepal. This evidences spillover effects from tourism into exports of 'niche' or 'country-specific' goods. Consistent with our hypothesis, neither the quantity of tourists, nor the resources they spend are associated with exports of non-tourist related products in the year after their arrival. The spillovers are significant statistically, and economically. In fact, their magnitude is sizable. The observed average increase in the number of tourists of about 5 percent per year are systematically associated with, all else equal, higher exports of tourist-related products by about 8.9 percent per year, while the more modest average increase in their per-day expenditure of 2.2 percent per year, is associated, all else equal, with an average increase in tourist related exports of 2.57 percent per year. Overall, and *ceteris paribus*, tourism has been a catalyzer for exports of specific products, contributing to 11.5 percent extra-growth per year.[7] The size and signs of the coefficients on world trade and relative prices are as expected and the estimates are very well-defined.

Columns (4) and (5) restrict the dependent variable to the value of exports of the selected products to destinations outside India (column 4), and to India only (column 5). Results suggest that tourism may be a useful strategy for market diversification in Nepal. For exports outside India, the results are largely in line with those previously discussed, with larger coefficients – the number of tourists arriving in year t has a larger effect on exports of tourist-related products (for expenditure per capita per day the base effect on all products is positive but only weakly significant statistically). For exports to India only, only the coefficient on relative prices is well-defined. There is no evidence of tourism-related spillovers associated with Nepal-India trade. This seems reasonable. All tourist-related products considered here are likely to be available from domestic producers in India too.

When a dummy 'crisis' is included in the estimated models (as described in equation (5)) to control for the potential bias arising from the simultaneous effect of the political turmoil on trade in goods and tourism, the estimates remain largely unchanged. This suggests that our results are not being driven by the 'crisis' factor. Table 8in the Appendix reports these results.

Product Heterogeneity

Table 4 and Table 5 report the results of estimating two versions of equation (3). The first one includes only the lagged effect of the number of tourists arriving in a given year, while the second includes both the number of tourists, and their per capita-per day expenditure. All models reported are estimated on exports to all destinations.

Results are largely in line with those found above: it is for the products that *a priori* were identified as 'tourist-related' where the spillovers from tourism appear to be positive. Instead, for the control group

[7] These results are likely an underestimate of the spillovers of tourism on exports of these products, given that part of the 'exports' take place through the direct purchase of 'niche' goods by tourists in Nepal, which are not actually registered as exports, but as domestic sales.

of products that were *a priori* identified as unrelated to tourism, there is no evidence whatsoever of a positive effect of tourism on trade. Interestingly, within the group of tourist related products, it is for carpets, shawls and handmade paper where the spillovers from tourism are the largest, while these are not well identified for jewelry and for medicinal herbs. Also worth mentioning is the relatively large effect that relative prices exert on exports of shawls and pashmina.

Table 4: Models by Product – Specification 1

Vars	Carpets	Shawls	Jewelry	Handmade Paper	Medicinal Herbs	Dentifrices	Cardamom	Pipes I&S
Lagged Log Tourists	1.345**	3.129*	0.628	1.439**	-2.22	1.097	-0.11	-2.771
	(0.605)	(1.587)	(0.565)	(0.602)	(2.93)	(0.794)	(0.531)	(1.821)
Log World Imports of the Same Product	1.113***	1.069**	0.384**	2.296***	-0.37	0.282	1.121***	2.212
	(0.322)	(0.45)	(0.167)	(0.319)	(0.782)	(0.32)	(0.259)	(1.477)
Log Real Exchange Rate	-0.476***	-1.460***	-0.407***	-0.403*	-0.246	-1.004***	-0.154	-2.222
	(0.138)	(0.295)	(0.133)	(0.196)	(0.841)	(0.194)	(0.101)	(1.648)
Constant	-25.79***	-51.13***	-8.298	-40.23***	34.17	-11.21	-3.215	6.51
	(8.036)	(16.26)	(6.063)	(6.734)	(34.75)	(7.701)	(4.428)	(37.11)
Observations	99	103	63	21	10	19	21	14
R-squared	0.259	0.618	0.271	0.912	0.197	0.626	0.811	0.366
Number of Products	5	5	3	1	2	1	1	1

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, *p<0.1

Table 5: Models by Product – Specification 2

Vars	Carpets	Shawls	Jewelry	Handmade Paper	Medicinal Herbs	Dentifrices	Cardamom	Pipes I&S
Lagged Log Tourists	0.866	3.647***	0.592	0.926*	6.366	0.765	-0.158	-3.357
	(0.616)	(1.153)	(0.589)	(0.456)	(3.73)	(0.865)	(0.65)	(2.023)
Lagged Log Expenditure	0.779*	3.029***	-0.237	0.997***	-4.021**	-0.983*	-0.122	-2.306
per day per Tourist	(0.409)	(0.77)	(0.371)	(0.274)	(1.099)	(0.536)	(0.485)	(1.933)
Log World Imports of	0.745**	-0.104	0.482*	1.790***	2.301	0.846**	1.189**	3.099*
the Same Product	(0.299)	(0.38)	(0.235)	(0.302)	(4.887)	(0.327)	(0.456)	(1.383)
Log Real Exchange Rate	-0.328***	-1.306***	-0.417***	-0.380**	0.518	-1.071***	-0.162	-2.606
	(0.113)	(0.289)	(0.134)	(0.162)	(0.583)	(0.187)	(0.116)	(1.766)
Constant	-11.99	-32.58*	-10.06	-24.33***	-121.8	-18.39*	-3.834	-6.903
	(9.07)	(16.52)	(7.149)	(7.937)	(103.2)	(10.23)	(5.841)	(35.11)
Observations	95	99	60	20	9	19	20	14
R-squared	0.207	0.741	0.222	0.915	0.67	0.678	0.794	0.437
Number of Products	5	5	3	1	2	1	1	1

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, *p<0.1

Exploiting Three Sources of Variation

Table 6 reports the results from estimating a model for the log of tourist inflows into Nepal by country of origin, explained by the log of GDP per capita of the country of origin, and by country fixed effects. Results show that the model fits the data well, the F-stat is significant at 1 percent, and the coefficient on GDP per capita is statistically significant, and its size is plausible. Tourist flows into Nepal are highly elastic to income per capita. Figure 4 shows the goodness of fit of the model presented in Table 6 by plotting actual tourist inflows by origin, against the prediction of our estimated model.

Table 6: Predicting Tourist Flows by Origin

Variables	Log Tourist Inflows
Log GDP PC	2.071***
	-0.409
Constant	-10.11**
	-3.89
Country of Origin Fixed Effect	Yes
Observations	169
Number of Countries	17
F-stat	25.62
R-squared	0.414

Figure 4: Goodness of fit of the prediction.

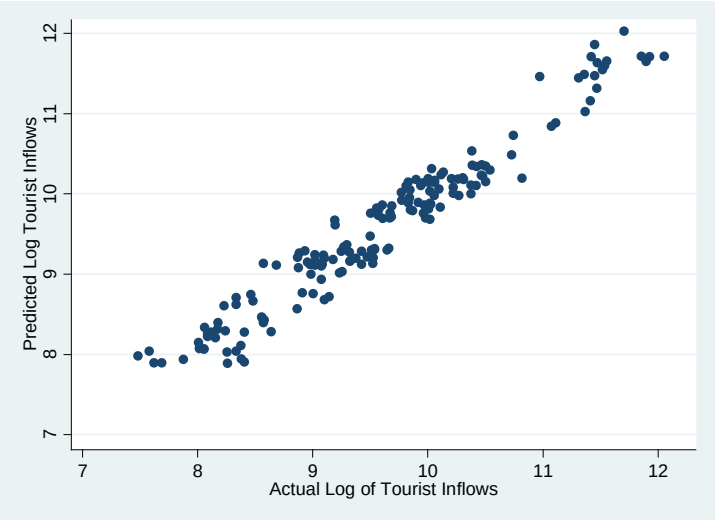


Table 7 reports the results of different specifications in which the three sources of variation are exploited: time, product, and country of origin of tourists/destination of exports. The first column reports the results when the prediction of the model whose results were presented in Table 6 was used as a proxy for actual tourist inflows by country of origin. Our results suggest that increases in inflows of tourists from country j in period t-1 are associated with increases in exports to that country j in period t, all other things equal. The magnitudes of these effects are bit smaller than those reported when tourist and export flows were pooled across origin. The second column reports results when the (log) expenditure per day of tourists and its interaction with the tourist product dummy are incorporated. Results are virtually unchanged and tourist expenditure per capita seems to exert no effect directly, or indirectly via its interaction with the tourist product dummy. The third column substitutes the predicted tourist inflow variable and its interaction with the tourist product dummy with the actual tourist inflow variable and its interaction, which implies restricting the sample to the period 2001-2011, where actual (rather than predicted) data on the origin of tourists are available. Here, also tourist expenditure and the interaction are included, and they gain statistical significance. The coefficient on the interaction of the actual tourist inflows with the tourist product dummy carries the expected sign, although it is not well-determined. The fourth column reports the results of the baseline specification now introducing year dummies, which implies that those regressors with time-variation only are dropped (the real exchange rate, and the per day expenditure of tourists). The spillover effect from tourism into greater exports of 'niche' or 'traditional' goods withstands the inclusion of the year dummies.

Table 7: Results Exploiting Variation over Time, Across Products, and Across Origin/Destination

Vars	(1)	(2)	(3)	(4)	(5)
Lagged Predicted Log Tourist	0.277	0.187		-0.254	-2.418*
	(0.301)	(0.599)		(0.239)	(1.237)
Lagged Predicted Log Tourist*Touristic Export Products	1.494***	1.380**		0.713**	2.989**
	(0.252)	(0.489)		(0.291)	(1.237)
Log World Imports of the Same Product	0.456***	0.423***	0.286**	0.246***	0.255***
	(0.0735)	(0.0831)	(0.112)		
Log Real Exchange Rate	-0.32***	-0.32***	0.148		
	(0.0864)	(0.102)	(0.0849)		
Lagged Log Expenditure per day Tourists		0.0782	-2.10***		
		(1.185)	(0.342)		
Lagged Log Expenditure per day Tourists*Touristic Export Products		0.214	2.061***		
		(1.121)	(0.373)		
Lagged Actual Log Tourists			-0.959		
			(0.657)		
Lagged Actual Log Tourists*Touristic Export Products			1.337		
			(0.742)	(0.0779)	(0.0792)
Constant	-19.1***	-15.8***	-2.912**	-4.341	-3.179
	(2.394)	(3.863)	(1.041)	(2.282)	(2.580)
Year Dummies	No	No	No	Yes	Yes
Year Dummies*Touristic Product Dummy	No	No	No	No	Yes
Product - Tourism Origin Fixed Effect	Yes	Yes	Yes	Yes	Yes
Observations	2,465	2,430	1,579	2,465	2,465
R-squared	0.161	0.161	0.048	0.212	0.223
Number of Product-Origin	204	204	197	204	204
F-test (P-value) Lagged Pr.Log Tourists + Lagged Pr Log Tourists*T=0					0.024

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Finally, the fifth column introduces a set of time dummies interacted with the touristic product dummy to control for possible macro shocks that disproportionately affect exports of touristic goods and the

previous year's inflows of tourists. Such factors would introduce a source of endogeneity to our results, rendering the estimator inconsistent. The main result holds, with tourist inflows in year t-1 affecting positively export levels of niche goods in period t.

Concluding Remarks

This paper examined empirically the link between the inflow of tourists and the exports of 'cultural' or 'niche' goods for the case of Nepal during the period 1990-2011. Tourism can act as a platform to improve export performance in existing traditional products, and to turn traditional goods that are not yet exported into exportable ones. By facilitating learning, tourist inflows reduce the costs of self-discovery associated to exportable products, bringing a sample of the international market to the local economy. This is a sample on which local producers can experiment with lower transaction costs and risks. In addition, tourism acts as a springboard for the promotion of domestic goods, as it acts as a low-cost in-house trade fair, with easy access for all domestic producers. These mechanisms impact both on the intensive and extensive margins of exports. The promotional role played by international tourism boosts exports both at the intensive and the extensive margins. Existing and new firms alike benefit from this mechanism. The reduction in the costs of self-discovery associated with the increased information about foreign demand, the facilitation of experimentation with new products, and the successful conversion of a market trial into a mature product and world export substantially reduces the costs of entry to export markets, making export activities more accessible to relatively less productive firms and hence affecting overall exports of 'touristic' products through the extensive margin.

The paper provided evidence on sizable spillovers from increased inflows of tourists on increased exports of traditional products. It unveiled the strength of a new channel through which tourism in Nepal can have economy-wide gains. We found that a one percent increase in tourist inflows from a particular country is systematically associated to a 0.5 percent increase in exports of traditional goods to that particular country, one year later, on average, and controlling for world demand for the product, product specific, and year specific factors.

The following policy implications emerge from this analysis.

There is space for cooperation between efforts by the export promotion agencies and tourism promotion agencies. If increased tourist inflows have positive effects on exports of traditional products, then efforts to attract tourism are of interest, not only for agents directly related to the touristic industry, but also to current or potential exporters. This means that there are gains to be exploited from cooperation between tourism promotion and export promotion agencies. These efforts may include, for example, incentivizing the use and promotion of local products in hotels at the high end of the market. For example, in Mauritius, a country that has succeeded at achieving substantial gains from the tourism industry, a yearly Food Exhibition ("Food Exhibition Mauritius") is organized with the goal of maximizing trade opportunities, bringing together producers of potentially exportable local food products, international traders, and tourists. Similarly, the "*Creole Festival*" in Seychelles attracts tourists worldwide and promotes local food products abroad. Nepalese authorities could encourage and facilitate the interaction of international hotel chains already operating in the country and producers

and traders of traditional exportable food products, such as spices, tea, coffee, honey, etcetera, to organize small-scale food exhibitions that could help building a trademark for domestic products, and promote them internationally through the tourism channel.

Given that tourism acts as an export promotion channel, it is of foremost importance to strengthen quality standards, and product certification systems domestically. While efforts have been made to improve product certification processes, in particular in export markets, it is important that these processes are also implemented domestically. For example, the 'Chyangra Pashmina' logo introduced by the Association of Pashmina Exporters of Nepal is used only by Nepal's exporters. However, if tourist consumption of products in Nepal also promotes exports, building the brand domestically can also help to build it internationally. This is especially relevant for food products, where sanitary concerns are likely to be a binding constraint for tourist experimentation of domestic products. In the case of honey, for example, the implementation of a traceability system for honey farmers, along with the provision of clear guidelines to comply with internationally-acceptable production processes, and the availability of labs at local levels for monitoring residuals could provide a boost to the sector, increasing demand both within and beyond borders.

Finally, it is important to point to the limitations of this analysis as well as to lines of further research. First, given the lack of long series of firm-level data on exports by product and by destination, it is not possible to actually test the differential effects of tourist inflows by destination on export growth at the extensive and intensive margins. As these databases become increasingly available, it would be valuable to understand the importance of the tourism channel in decreasing entry costs into export markets, thus boosting firm entry and diversification along the product and market dimensions, by modeling both entry into export markets and levels of exports given entry. Second, in this paper focusing on the case of Nepal, the identification of 'niche' or 'cultural' goods relied on the criteria of Nepal's Trade Integration Strategy, designed by the government. However, alternative methods to choose the 'niche' or 'cultural' goods as well as the goods to be considered as controls could be introduced to check the robustness of the results. Finally, more disaggregated tourist-related data, such as length of stay and tourist expenditure per-day by origin of the tourist would better inform tourism promotion agencies on where to allocate resources that are scarce.

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Appendix

Table 8: Robustness Check – Inclusion of Crisis Dummy

Vars	Exports	Exports	Exports	Exports Outside India	Exports to India
Lagged Log Tourists		-0.832	-0.322	-1.291	-0.0503
		(0.536)	(0.516)	(2.018)	(0.75)
Lagged Log Tourist*Touristic Export Products		2.414***	1.720***	3.492**	-0.76
		(0.512)	(0.399)	(1.642)	(0.775)
Lagged Log Expenditure per day Tourists			-0.113	2.726*	-0.00661
			(0.569)	(1.307)	(0.531)
Lagged Log Expenditure per day Tourists*Touristic Export Products			1.149**	-0.527	-0.786
			(0.495)	(0.99)	(0.679)
Log World Imports of the Same Product	1.174***	0.963***	0.724***	0.664**	0.629
	(0.107)	(0.168)	(0.193)	(0.241)	(0.397)
Log Real Exchange Rate	-0.854***	-0.731***	-0.682***	-0.883***	-0.425*
	(0.159)	(0.184)	(0.178)	(0.251)	(0.239)
Crisis	-0.0303	0.0452	0.0846	0.0489	0.413
	(0.314)	(0.31)	(0.282)	(0.411)	(0.291)
Constant	-10.60***	-23.23***	-16.10*	-19	1.148
	(1.255)	(6.713)	(9.199)	(13.88)	(6.979)
Observations	362	350	336	305	147

R-squared	0.372	0.38	0.385	0.453	0.114
Number of Products	19	19	19	19	14