Income, cultural norms and purchases of counterfeits

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Abstract

We conjecture that individual purchases of counterfeit products could be motivated by income and prices, but that another driver is cultural norms. To put the latter conjecture to an empirical test we make use of the unique situation of Surinamese people who live in Suriname and in the Netherlands and who might share the same norms and values but certainly not their respective income levels. Holding newly collected data from surveys amongst Surinamese individuals in the Netherlands and in Suriname against a control group of Dutch individuals in the Netherlands, we present evidence that cultural norms are indeed a key driver for purchases of counterfeit products. Implications for policy are discussed.

Key words: Counterfeit products; Consumer behaviour; Cultural norms
JEL codes: D12, D63, F13, F53

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1. Introduction

Fake, counterfeit, imitation, illicit or pirated goods, these are all products or goods that are associated with original goods being copied without the authorisation of the owner of the intellectual property. With intellectual property we mean copyrights and related rights, trademarks, geographical indications, patens, lay-out designs of integrated circuits, and undisclosed information (see WTO 2012). These un-original products are packaged identically to the originals, as a means to obtain financial benefit (see OECD 2007a).

The people and organisations who produce and distribute counterfeit and pirated goods are interested in those types of goods which produce high profit margins (in profitable markets), with low or at least acceptable risks. If the potential benefits to produce and distribute the counterfeit or pirated goods exceed the potential risks of detection and the potential penalties, the counterfeiters and/or pirates will produce and distribute these illicit goods (see OECD 2007b).

Some figures

Research done on the responsibility of the secretary-general of the OECD, documented in the report *"The economic impact of counterfeiting and piracy"* (see OECD 2007b) has shown that virtually every economy has to deal with counterfeit and/or pirated products, either in terms of the production or the distribution of these goods. Furthermore, it is reported that the impact of the production and distribution of counterfeit and pirated goods tends to be larger in developing countries than in developed countries. OECD (2007b) suggests that Asia is the largest source for counterfeit and pirated goods, with China as the single largest source economy. This finding is confirmed by data of the International Anti Counterfeiting Coalition Inc. (IACC), a non-profit organisation in the United States of America, which is devoted solely to combating product counterfeiting and piracy (see IAAC 2011).

Over the years, almost every type of good has been counterfeited and/or pirated, and the numbers are believed to increase, (see OECD 2007b, Dixon and Greenhalgh 2002). Analysis carried out by the OECD in 2005 has led to believe that the international trade in counterfeit and pirated products made up for USD 200 Billion of the total international trade. In the OECD's 2007 report on this matter it is

emphasized that this above-mentioned estimate, which exceeds the Gross Domestic Product (GDP) of about 150 economies around the world, might be several hundred billion dollars less than the real figure, given that it is impossible to detect all of the goods that are the product of counterfeiting and piracy. Moreover, the figure excludes counterfeit and pirated goods that are produced and distributed domestically or via the internet.

More recent estimates of the economic impact of counterfeit and pirated goods were made by the Business Action to Stop Counterfeiting and Piracy (BASCAP). BASCAP, which was initiated by the International Chamber of Commerce (ICC), based their estimates on the figures published by the OECD in their report which was issued in 2008. BASCAP summed the OECD's (estimated) figures regarding international and domestic trade in counterfeits and pirated goods including digital piracy. BASCAP's (2011) total estimated amount for the trade in counterfeit and pirated goods for 2008, ranged between USD 455 Billion and USD 650 Billion. This estimated amount is expected to range between USD 1220 Billion and USD 1770 Billion by 2015.

It is not only the international trade that has suffered from the impact of counterfeit and piracy activities. The OECD concludes in 2007 that national economies, of developing as well as of developed countries, have suffered from the effects of these unlawful acts as well. Developing countries are found to have suffered more, due in part to the relatively weak enforcement in most of these developing countries. Furthermore, the increase of criminal activities, including tax evasion, the loss of foreign direct investment (FDI) and the issues around employment, environment and economic growth, are reported as the main negative effects of counterfeiting and piracy on national economies. The OECD also identifies that the owners of the intellectual property and the (deceived) consumers of counterfeit and pirated goods are the victims of the illegal activities of counterfeiters and pirates. Moreover, the consumers of counterfeit and pirated goods suffer from lower consumer utility and potentially from health and safety risks (see Dixon and Greenhalgh, 2002, Scorpecci 2009).

Our study

One particular motivation for consumers to consciously purchase counterfeit products, which is usually considered as the dominant motivation, is the income level of the consumers. Indeed, counterfeit products may be cheaper and hence lower-income households, or people in lower-income (developing) countries, might be more prone to purchasing such counterfeits. In the present paper we challenge this dominant conjecture by putting forward another motivation, which has to do with cultural norms and values. Such norms have been seen to be relevant in other situations concerning illegal activities, see Fisman and Miguel (2007), and perhaps they are of relevance here too. To empirically examine this possibility, we collect detailed survey data on three groups of individuals which in various dimensions should be similar while in others are very dissimilar. In short, we interview Surinamese individuals in Suriname (a developing country), Surinamese individuals in the Netherlands (an OECD country) and Dutch individuals in the Netherlands. Our main focus will be on the similarities and differences across these three groups, where the first two would be more similar in terms of cultural norms and values, whereas the last two groups would be more similar in terms of income.

Our key finding is that even though income levels are about 10 times as high in the Netherlands than in Suriname, the preferences for counterfeit products are about twice as high for Surinamese individuals, also when it concerns Surinamese individuals living in the Netherlands.

The outline of our paper is as follows. First, we discuss some aspects of the relevant literature on the consumer motivations to purchase counterfeit products. Next, we discuss the data collection and the survey questions that we used. Then we turn to the results, where we analyze similarities and differences across the three groups of individuals. We conclude with a discussion and the main implications from our study.

2. Background and hypothesis

With an increase in global trade, currently involving almost all countries in the world, interest is growing in studying various aspects of trade in counterfeit products.

Motivations for consumers to purchase counterfeit products is receiving attention, in particular when they are aware that the products are indeed counterfeits, see Bian and Moutinho (2009), Tom et al. (1998) and Wilcox, Kim, and Sen (2009). Interestingly, these studies all concern consumers in western countries (most notably the USA), and as such these studies address only one part of the story.

A commonly appreciated and accepted motivation for consciously purchasing counterfeit products is income or price. The price of the original product can be much higher than that of a counterfeit, while the difference in quality might be perceived as not that large. When prices are perceived as higher, then certainly lower-income households will be more inclined to purchase fake products. This behaviour may concern luxury goods (think of top brand fashion bags, sunglasses or watches), but also medication (like aspirins and anti-depressiveness medicines). The consumption of counterfeits might therefore be higher in developing countries, relative to developed countries, as the first countries have more households with low incomes. Indeed, in 2010 the World Health organization estimated that up to 10% of medicines are likely to be counterfeited, whereas in some developing countries this number might even close to one third.

There are not many studies on the drivers of the consumption of counterfeit products. And, when there are studies, they typically cover developed countries, with a few exceptions. Wee et al. (1995) and Kwong et al. (2003) document that there is apparently no (self-stated) relation between purchase intention and income. In contrast, Ang et al. (1999) and Tom et al. (1998) report that lower income levels do make people to have a more positive attitude towards counterfeit production and sales, in general. Furthermore, Albert-Miller (1998) and Tom et al. (1998) do report an effect of price on the intent to purchase counterfeit products

Could cultural norms matter too?

In sum, there seems to be consensus, and admittedly the consensus does have clear face value, that price of the original products versus the fake products and the individual income level can be drivers of counterfeit purchases and purchase intents. In the present paper we wish to examine if there is a potential other driver and this concerns cultural norms. Our conjecture is based on the innovative and interesting outcomes reported in Fisman and Miguel (2007), where it turned out those responses

to changes in policy concerning potential illegal activities differed across nationalities and cultures. In terms of our study, we wonder whether it could be that appreciation and adoption of counterfeit products is in part also governed by cultural norms. That cultural norms could make a distinction concerning counterfeits has also been documented in Vittel (2003) and Harvey and Walls (2003), comparing different countries.

To be able to study this possibility we need to discern groups of individuals which might share cultural norms but who differ in their income levels and perceived price levels. We believe we have found such a situation for the people who live in the South American country of Suriname and the Surinamese individuals who live in the Netherlands. We will examine to what extent these two groups share values and norms, and we compare their income levels and ask for their appreciation and adoption of counterfeit products.

3. Data collection

We collected our data in Suriname, a South-American country with a developing economy, and in the Netherlands, a member state of the European Union (EU) with a developed economy. Suriname borders with Guyana in the west, French Guyana in the east, and Brazil in the south. The Caribbean islands are located north of the country. The Netherlands is in Western Europe, north of Belgium and west of Germany.

The countries

According to the most recent estimate (2010) of the General Bureau of Statistics of Suriname (GBS), Suriname had a population of 531,170 inhabitants. In addition, GBS estimated that the majority of the population (88.5%) was younger than 59 years, with generally slightly more males than females. The Surinamese population has a rich diversity of ethnic groups, and thereby Suriname has a rich cultural diversity. As stated by Economy Watch in 2010, 2010 Suriname had a GDP Per Capita (PPP in

USD) of 8,924.20 USD. Compared to other countries, Suriname ranked 87th in the world rankings according to GDP Per Capita (PPP).

Statistics Netherlands (CBS, 2011) reported 16.7 million inhabitants for this country, of which the majority (84.7%) was younger than 65 years. The Netherlands is inhibited by slightly more women than men. In addition, CBS noted a number of about 1.9 million inhabitants (11%) of non-western origin, of which 342,000 (18%) are Dutch inhabitants of Surinamese origin of various ethnicities. Given that Suriname and the Netherlands share the same official language (Dutch), most overseas Surinamese do live in the Netherlands, which makes that approximately 40% of Suriname individuals worldwide live in the Netherlands, and about 60% live in Suriname. According to Economy Watch in 2010 the Netherlands had a GDP Per Capita (PPP) of 40,764.55 USD ranking this country on the 10th place in their world rankings.

History

Suriname and the Netherlands have a relationship that dates back to shortly before the year 1667, when the Dutch traded New Amsterdam, nowadays New York, for Suriname, with the British. This meant that Suriname came formally under Dutch ruling, after being a British settlement for several years. Suriname remained a colony of the Netherlands until November 25, 1975.

Around 1975 there were several developments that stood at the beginning of the current situation with many Surinamese living in the Netherlands. There was unrest amongst parties which were in favour of independence and those which opposed it. Around that time, the economic situation in Suriname deteriorated, and together with uncertainty about the future development of the country, large parts of the Surinamese population emigrated, in particular to the Netherlands, briefly before and around the time the independence became a fact in 1975, see Choenni and Harmsen (2007) and Nicholaas and Sprangers (2007).

According to Nicholaas and Sprangers (2007) there was another influx of Surinamese people to the Netherlands in the years 1979 and 1980, as a result of the so-called "*Toescheidingsovereenkomst*" between the Netherlands and Suriname. This agreement offered Surinamese the opportunity to choose the Dutch nationality up to five years after the independence of Suriname. Choenni and Harmsen (2007) also

report that a significant number of Surinamese inhabitants migrated to the Netherlands in the early 1990's. This was possibly influenced by the then poor economic situation in Suriname. The Netherlands has always been the preferred option for emigration.

Even though the people of Surinamese origin (with Dutch passports) generally are rather well assimilated within in the Dutch society, most of them still retain a strong relationship with the country of origin and their family members who still live in Suriname. Statistics of the Surinamese Ministry of Transportation, Communications and Tourism showed that in 2008 approximately 64% of all visitors (137,421) to this country came from the Netherlands. Given the fact that a large portion of the Dutch people of Surinamese origin still retains a relationship with this country, it is likely that the majority of the Dutch visitors may be of Surinamese origin. In addition, in 2009 the CBS investigated the foreign money transfers from the four largest ethnic groups (associated with Suriname) in the Netherlands, and they found that in 2006 nearly a quarter of immigrant households said to have transferred money abroad, especially to parents, relatives or friends. The year average was 165.00 Euro (approximately 215.84 USD) per household. The highest proportion, namely more than 35 percent, is found to be among Dutch people from Surinamese origin. In addition, the report showed that in 2006 this group also had the highest year average of the amount of money transferred, namely 225.00 Euro (approximately 294.33 USD) per household.

Data collection by surveys

We collected data using basic survey techniques. We asked the same questions to three groups of individuals. For the sake of notation and discussion we abbreviate these groups as Surinamese individuals in Suriname (A), Surinamese individuals in the Netherlands (B) and Dutch individuals in the Netherlands (C). Data on A and B were collected by us personally (with the help of a few assistants), while data on C were collected by a professional marketing research agency.

The 225 individuals in Suriname were contacted (in the spring of 2011) by two of our assistants, who approached respondents in person at school, at work, and while participating in social activities, asking them to participate in the survey. Convenience sampling was used to select the respondents, although it was made sure

that (approximately) a reasonable reflection of general demographics could be found amongst the 225 individuals. Data collection took about two months.

The Netherlands-based individuals of Surinamese origin (B, with 108 individuals) were contacted by email by the second author in the fall of 2010. These individuals were alerted to a web-based survey. The second author is familiar with the Surinamese community in the Netherlands, and as such could make sure that there would be diversity across the respondents (in terms of ethnicity and income levels). The collection of this sample was rather time-consuming (two months), and hence we managed to collect data only for 108 individuals. Below we will learn that despite this somewhat smaller sample, the results appear to be quite conclusive.

Finally, the control group (C) containing the Dutch individuals in the Netherlands were contacted by a professional marketing research bureau in the fall of 2011. This company collected data until they had a response of 200 individuals. Based on their data files, this company could filter out Surinamese individuals from their records, and so they could make sure that all 200 respondents are born and raised Dutch individuals. So, Dutch citizens with a Moroccan or Turkish background were not included.

The three groups (A, B and C) received the same questionnaires (expect for some questions about ethnicity to group C), and this allows us to compare the answers across the groups.

An important component of our survey concerns the norms and values of the individuals in the three groups. Fritzsche and Oz (2007) observe that even though there are different wordings used to define these terms, various definitions generally lead to the observation that values affect behaviour. Rokeach and Ball-Rokeach (1989) define a value as “an enduring belief that a specific mode of conduct or end-state of existence is personally or socially preferable to an opposite or converse mode of conduct or end state of existence". In order to disclose more about individuals’ values, Rokeach designed the so-called “Rokeach Value Survey” (RVS). The RVS appears to be the most frequently used instrument for measuring human values. The RVS consists of concepts of the most desirable values that are rank-ordered in terms of their importance as guiding principles in a personal life, see Rokeach and Ball-Rokeach (1989) and Kamakura and Mazzon (1991), amongst others.

In the Appendix in Table A1 below we give the relevant items that we also used to assess and to score the norms and values of the individuals in our three groups of interest.

In the same Appendix in Tables A2 and A3 we present our own questions about the values concerning counterfeit products relative to original products (A2) and the values concerning the production and sales of counterfeits (A3). We will use the scores on these questions to compare the individuals in the three respondent groups.

4. Results

In this section we present the results of the extensive surveys held amongst the three groups and we compare the scores on norms and values, on demographics and on actual behaviour regarding counterfeit products. We then discuss income levels in the three surveys, and we end with a set of questions regarding the prices of counterfeit products relative to original products.

Norms and values

Table 1 shows the mean scores of questions on norms and values. The numbers in parentheses are the numbers of respondents who actually responded. In general the scores of individuals in group C are lower than those of group A and B.

When we compare the two groups with Surinamese individuals (A and B) we see that for 15 out of 18 values, the results are broadly similar. Only for the general values G9 (National safety), G12 (Forgiveness) and G16 (Achievements), we see that there are some differences with the Surinamese living the Netherlands quoting lower scores. When we compare the control group C with A and B, we see that the Dutch in the Netherlands seems to have lower average scores than Surinamese individuals on G4 (World peace), G5 (Equal human rights), G6 (Wisdom and knowledge), and also on G12 and G16.

Table 2 presents the mean scores of the differences across the scores in the columns of Table 1. On average the differences between Surinamese individuals in Suriname and in the Netherlands (A versus B) is 0.083, while the differences between

Surinamese people in Suriname and Dutch individuals in the Netherlands (A versus C) is 0.406. Hence, Table 2 shows that, in terms of general values, the Surinamese in Suriname and the Surinamese in the Netherlands are very similar as they closely share their norms and values.

Tables 3 and 4 are in the same format as Tables 1 and 2, respectively. Table 3 shows the mean scores on the statements in Table A2 associating with norms and values concerning counterfeit products in general and relative to original products. It is interesting to see that there seems to be agreement amongst the Surinamese (A and B) on all values except for C2 ("for higher quality products one does not always have to spend more money") and C6 ("If there would not be any counterfeit products, then many people could not purchase any products"). For group C we obtain yet another (higher) average value for C6, and also for C5 ("I usually purchase original products, even when the price of a counterfeit product is lower"), in which case the Dutch in the Netherlands agree more.

Table 4 presents the mean scores of the differences across the scores in the columns of Table 3. On average the differences between Surinamese individuals in Suriname and in the Netherlands is 0.167, while the differences between Surinamese people in the Netherlands and Dutch individuals in the Netherlands is 0.198. In contrast, the average difference in norms and values (concerning counterfeits) between Surinamese individuals in Suriname and Dutch people in the Netherlands is 0.365. When we take in minimum and maximum values as well as the standard deviation into account, then we see that the distribution of the differences between Surinamese people in Suriname and in the Netherlands is much more peaked. In sum we conclude that the last two sets of individuals (B and C) have most similar norms and values concerning counterfeit products than across A and C. Note that the individuals in B and C are all living in the Netherlands.

Tables 5 and 6 present similar scores as Tables 3 and 4, where now the statements concern the norms and values relative to the production and sales of counterfeit products. Individuals in groups A and B seem to give broadly similar answers, except for P11 ("Producers of original products ask too much money for their products"), with which Surinamese in Suriname agree much more. Questions P3, P4 and P7 seem to receive different scores in group C, relative to A and B. When we look at Table 6, we get the same qualitative outcomes as in Table 2, which is that people in groups A and B are broadly similar in terms of norms and values.

Demographics

Table 7 gives some summary statistics of the demographics. The main differences are the age distribution where Surinamese individuals in the Netherlands are much older on average than in Suriname, which corresponds with the fact that Suriname has a substantial amount of young citizens. Our sample in Suriname has a smaller fraction of Creoles and a larger fraction of mixed ethnicity. Furthermore, households in Suriname are substantially larger than in the Netherlands, where the Surinamese in the Netherlands have household sizes that come close to those of ethnic Dutch in the Netherlands.

The gender quotas amongst the Surinamese respondents (groups A and B) are a bit biased towards females, but this also indicates that the professional bureau that interviewed people in group C is of good quality (with 54% males). There are more creoles interviewed in group B relative to A and less people with mixed ethnicity.

When we further compare the columns with headers B and C, we see that various scores are rather similar across Surinamese individuals in the Netherlands and Dutch people in the Netherlands. The distributions of the number of adults in a household, the number of children in a household and the number of working adults in a household are broadly similar across the two samples. Also, the age distribution is rather similar, and all this suggests that Surinamese people in the Netherlands have similar demographics as Dutch people in the Netherlands have. These statistics seem to confirm the earlier statements that the Surinamese in the Netherlands did assimilate rather well since 1975-1980.

Purchases of counterfeits

A key table in our paper is Table 8. It shows the fractions of individuals who state that they have recently and consciously purchased a counterfeit product. Interestingly, the percentages 83.7% and 77.4% for Surinamese people in Suriname and in the Netherlands (A and B), respectively, are about the same. In striking contrast is the 50% score of Dutch people in the Netherlands.

Evaluating these scores against the impression we obtained from Tables 1 to 6, we are tempted to conclude that the similarity across norms and values for individuals in groups A and B also translates to actual behaviour. The Surinamese individuals

share the same norms and values and they also purchase counterfeit products with the same frequencies.

To first examine the effect of income, we fit probit models to the purchase data for individuals to see if there are any variables that can predict this binary variable. Table 9 reports on the probit models (1 = yes, I purchased a counterfeit product recently, and 0 = no, I did not). The models include the average scores on norms and values (from Tables 1, 3 and 5) and the demographics from Tables 2 and 10 (to be discussed below). In the models for Surinamese people we include variables for ethnicity, and in the model for Surinamese in the Netherlands we add the number of years that people are in the Netherlands. In the model for Dutch people in the Netherlands we do not include these variables as we have no data on these. The p-values indicate the relevance of various sets of variables. All these p-values are way above 0.05, and hence suggest that the probability of purchasing counterfeit products does not depend on demographics, values, ethnic background, and not on how long people have already lived in the Netherlands. Hence, from Table 9 we can learn that income seems not to be a predictor for purchasing counterfeits.

Is there a relation with income levels?

When we continue with a focus on the income levels across the three groups, Table 10 shows that the income distribution in Suriname is skewed to the left, with a large fraction of individuals that has less than 800 SRD (net) to spend per month, which is less than about 200 Euro per month. The income distribution for the Dutch in the Netherlands reflects that of the general Dutch population, with an average annual income of 30000 Euro (http://www.gemiddeld-inkomen.nl/modaal-inkomen.php), and as discussed before. Also, we notice a striking 17.5% of survey participants who refuse to indicate their income level.

Interestingly, our survey amongst Surinamese people in the Netherlands (B) shows that their income levels are rather high, also when compared to the Dutch in the same country. This might be due to some sample selection (when collecting our data for group B), where we had to rely on friends and relatives (of the second author) to collect the addresses of Surinamese people in the Netherlands. This may have led to an underreporting for poor Surinamese in the Netherlands. Note however, that even when the Surinamese have approximately 12 times as much to spend (in terms of after

tax Euro), they still agree with more than 77% that they consciously purchase counterfeit products.

Figures 1 and 2 are based on data from the World Bank, and there it can be seen that in terms of real GDP per capita in USD terms, the fraction is about 10. Hence, the income levels in our sample B are a bit too high, but not too far out from average officially published levels.

As a further comparison of income levels of the two groups of individuals, we can rely on the so-called Big Max index (not the menu, just the burger). In Suriname a Big Mac (September 2011) costs 11 SRD, which with an exchange rate (September 2011) of 4.45 SRD per Euro amounts to approximately 2.5 Euro. In the Netherlands (again September 2011) the price of a Big Mac is 3.25 Euro. This shows that the price levels in Suriname are also relatively higher.

In sum, we can conclude that Surinamese individuals in Suriname have significantly less money to spend (also in terms of PPP) than Surinamese people in the Netherlands, and also than Dutch people in the Netherlands.

However, the fact that Surinamese individuals in the Netherlands have more than 10 times as much to spend does not have an impact on their propensity to purchase counterfeit products. The percentages in Table 8, that is, 83.7% and 77.4%, show that income apparently is not the key driver of purchasing counterfeit products. As we have seen from Tables 1 to 6, the norms and values of Surinamese people in Suriname and in the Netherlands are very similar, and quite different in various dimensions from those of Dutch people in the Netherlands, we are now tempted to conclude that norms and values might be a more important driver to purchase counterfeits. Surinamese people, whether rich or poor, apparently do not see any problems with purchasing counterfeits.

Is there a relation with price levels?

Finally, we also asked the individuals in the three samples whether the price of the products would induce a higher personal probability of purchasing counterfeit products. We mentioned 20 different types of products, and asked whether people would consider purchasing counterfeit versions of these products, given the price. Table 11 gives the total scores of disagree and of agree, and hence omits the indifferent category. We see that there can be differences across those percentages,

but also many similarities can be observed. Surinamese people disagree with the statements, on average, with fraction 58.25% and 55.71%, respectively, while the Dutch in the Netherlands disagree with 46.43%. On the other hand, the agree fractions of 21.31%, 24.00% and 21.73% for the three samples are broadly similar.

Tables 12 and 13 support these similarities even more, by showing that the mean differences in "Agree" (bottom panel of Table 12) are small, while the differences in "Disagree" are substantially larger. The correlations in Table 13 further show that there is strong correlation across the 20 types of products, meaning that most interviewed individuals would consider similar products when purchasing counterfeit versions. We interpret the results in Table 11 to 13 as that the price levels of counterfeit products are not a driver either.

5. Conclusions and implications

In this final section we give the main conclusions of our study. Next, we discuss potential implications. Finally, we give suggestions for further research.

Conclusion

The population of Surinamese individuals, who live either in Suriname or in the Netherlands, provides a unique opportunity to test whether cultural norms and values could be one of the drivers of counterfeit purchases. We surveyed Surinamese people in both countries and held their answers to a range of questions against a control group of Dutch individuals in the Netherlands. We showed that Surinamese people in the Netherlands have assimilated rather well in the Netherlands, with similar sized families, similar age distributions, and, most importantly, similar disposable income levels. At the same time, their norms and values are broadly the same as the people in Suriname itself. And, saliently, their attitudes towards purchasing counterfeit products and even their factual purchasing behaviour are also broadly similar. This leads us to include that purchasing counterfeit products seems to be associated more with cultural norms than with income levels and prices.

Implications

This conclusion has various implications. When international organisations intend to reduce the traffic and trade of illegal counterfeits, there seems more to be done than just equalising prices of products and to try to raise income standards in developing countries. Apparently, cultural aspects are important too, and campaigns to create awareness seem useful. This also suggests that the time we need to incorporate to make the current practice to change may perhaps take much longer than expected. Indeed, to change norms and values is much more time consuming than trying to change prices.

Further research

The collection of the relevant data is quite involved, and needs quite some attention from the researchers. As we are personally familiar with people in Suriname and the Netherlands, our choice for these two countries originated out of convenience. Further work in this area could address other large groups of individuals who live in their home country and somewhere abroad (in reasonably large amounts, so that cultural norms and values are kept as if they would still leave in the home country). One could think of Chinese people living in Australia or Turkish people living in Berlin.

Appendix

Table A1: General values

(1 = very much disagree and 7 = very much agree)

G1: Being happy with my life
G2: True friendship
G3: Self respect
G4: World Peace
G5: Equal human rights
G6: Wisdom and knowledge (to make the proper decisions in life)
G7: A comfortable life
G8: Having fun
G9: National safety
G10: Freedom and independence (being able to make my own decisions)
G11: Being appreciated by society at large
G12: Forgiveness (to give or to be given)
G13: Exciting life
G14: Inner peace
G15: A beautiful world
G16: Achievements (working hard to reach the top)
G17: True love
G18: Safety for family

Table A2: Values concerning counterfeit products relative to original products (1 = very much disagree and 7 = very much agree)

C1: "More expensive products are usually of better quality"

C2: "For higher quality products one does not always have to spend more money"

C3: "I usually purchase original products and the price is usually irrelevant"

C4: "The price of a product is a good indicator of quality"

C5: "I usually purchase original products, even when the price of a counterfeit product is lower"

C6: "If there would not be any counterfeit products, then many people could not purchase any products"

C7: "My friends and relatives support my purchasing of counterfeit products"

C8: "My friends and relatives also purchase counterfeit products"

C9: "Before I purchase a product, I compare the original with a counterfeit"

C10: "I do not object that people purchase counterfeit products"

Table A3: Values concerning production and sales of counterfeits

(1 = very much disagree and 7 = very much agree)

P1: "Producing and selling counterfeit products is against the law"

P2: "Governments should act strongly to prevent the production and sales of counterfeit products"

P3: "It is mainly small firms that suffer most from the production and sales of counterfeit products"

P4: "There is nothing wrong with the production and sales of counterfeit products"

P5: "People who purchase counterfeit products act against the law"

P6: "There is nothing wrong with purchasing counterfeit products"

P7: "Counterfeit products are often cheaper than original products"

P8: "Counterfeit products are of the same quality as original products"

P9: "If people purchase counterfeit products, then this will harm all firms which make original products"

P10: "Counterfeit products can be unsafe and unhealthy"

P11: "Producers of original products ask too much money for their products"

Table 1: mean scores (with number of respondents in parentheses) for general values (Table A1)

Values	Surinamese in Suriname		Surinamese in the Netherlands		Dutch (200) in the Netherlands
G1	6.66	(224)	6.73	(108)	6.43
G2	6.29	(225)	6.44	(108)	6.05
G3	6.71	(223)	6.71	(107)	6.16
G4	6.34	(224)	6.21	(108)	5.76
G5	6.50	(220)	6.43	(107)	5.89
G6	6.53	(222)	6.39	(108)	5.90
G7	6.08	(225)	6.09	(108)	5.94
G8	5.98	(222)	6.33	(107)	6.14
G9	6.60	(224)	6.18	(108)	5.91
G10	6.33	(225)	6.47	(108)	6.23
G11	5.91	(222)	5.90	(108)	5.54
G12	6.20	(225)	5.82	(106)	5.48
G13	5.24	(221)	5.02	(106)	4.89
G14	6.61	(225)	6.63	(106)	6.24
G15	5.36	(225)	5.58	(106)	5.69
G16	6.29	(225)	5.49	(108)	4.61
G17	6.28	(223)	6.11	(107)	6.12
G18	6.74	(224)	6.63	(108)	6.37
Average	6.37	(201)	6.17	(103)	5.85

Table 2: Differences in general values (Table A1)

People versus people	Mean	Median	Min.	Max.	SD
Surinamese in Suriname - Surinamese in the Netherlands	0.083	0.04	-0.35	0.80	0.264
Surinamese in the Netherlands - Dutch in the Netherlands	0.323	0.32	-0.11	0.88	0.225
Surinamese in Suriname - Dutch in the Netherlands	0.406	0.37	-0.33	1.68	0.427

Table 3: Table 1: mean scores (with number of respondents in parentheses) for values concerning counterfeit products relative to original products (Table A2)

Values	Surinamese in Suriname		Surinamese in the Netherlands		Dutch (200) in the Netherlands
C1	5.00	(218)	4.51	(108)	4.15
C2	4.98	(214)	5.66	(109)	5.22
C3	4.27	(215)	3.96	(108)	3.66
C4	3.59	(216)	3.28	(108)	3.34
C5	4.12	(216)	3.75	(108)	5.02
C6	5.81	(215)	5.14	(109)	3.85
C7	4.21	(216)	4.15	(106)	4.29
C8	4.80	(216)	4.82	(107)	4.33
C9	4.07	(217)	3.94	(109)	3.70
C10	5.01	(215)	4.98	(109)	4.65

Table 4: Differences in values concerning counterfeit products relative to original products (Table A2)

People versus people	Mean	Median	Min.	Max.	SD
Surinamese in Suriname - Surinamese in the Netherlands	0.167	0.22	-0.68	0.67	0.369
Surinamese in the Netherlands - Dutch in the Netherlands	0.198	0.32	-1.27	1.29	0.644
Surinamese in Suriname - Dutch in the Netherlands	0.365	0.365	-0.90	1.96	0.747

Table 5: mean scores (with number of respondents in parentheses) for values concerning production and sales of counterfeit products (Table A3)

Values	Surinamese in Suriname		Surinamese in the Netherlands		Dutch (200) in the Netherlands
P1	4.29	(214)	4.81	(109)	3.75
P2	4.55	(212)	4.32	(109)	4.56
P3	4.75	(213)	4.74	(109)	3.87
P4	3.45	(213)	3.48	(108)	4.18
P5	3.71	(208)	4.02	(109)	3.88
P6	4.39	(210)	4.44	(109)	3.84
P7	4.91	(215)	5.24	(107)	4.14
P8	3.24	(214)	4.07	(108)	5.01
P9	4.80	(212)	4.33	(108)	3.87
P10	5.08	(213)	4.77	(106)	4.32
P11	5.62	(212)	4.04	(107)	4.11

Table 6: Differences in values concerning the production and sales of counterfeit products (Table A3)

People versus people	Mean	Median	Min.	Max.	SD
Surinamese in Suriname - Surinamese in the Netherlands	0.048	-0.03	-0.83	1.58	0.633
Surinamese in the Netherlands - Dutch in the Netherlands	0.248	0.45	-0.94	1.10	0.681
Surinamese in Suriname - Dutch in the Netherlands	0.296	0.55	-1.77	1.51	0.917

Table 7: Demographics of respondents (A = Surinamese in Suriname, B = Surinamese in the Netherlands, and C = Dutch in the Netherlands (200 respondents) (with numbers of respondents in parentheses)

Variable	Statistic	A		B		C
Age	Mean	28.5	(211)	46.4	(109)	42.0
	Median	24		48		41
	Minimum	18		17		18
	Maximum	79		103		78
	Standard deviation	11.5		16.4		14.9
Gender	Fraction males	37.7%	(215)	38.5%	(109)	54.0%
Ethnic Group	Creole	33.3%		60.0%		NA
	Hindu	13.3%		7.5%		NA
	Mixed	28.0%		15.8%		NA
Adults in Household	Mean	2.8	(209)	1.6	(106)	1.7
	Median	3		2		2
	Minimum	0		0		0
	Maximum	9		5		4
	Standard deviation	1.5		0.89		0.79
Children in Household	Mean	1.4	(190)	0.57	(99)	0.59
	Median	1		0		0
	Minimum	0		0		0
	Maximum	8		3		3
	Standard deviation	1.4		0.87		0.86
Working Adults in Household	Mean	2.4	(210)	1.4	(106)	1.4
	Median	2		1		1
	Minimum	0		0		0
	Maximum	7		5		4
	Standard deviation	1.1		1.0		1.0

Table 8: Did you ever consciously purchase a counterfeit product?

Surinamese in Suriname	83.7%
Surinamese in the Netherlands	77.4%
Dutch in the Netherlands	50.0%

Table 9: P-values in probit models for purchase of counterfeit products (yes = 1, no = 0) (A = Surinamese in Suriname, B = Surinamese in the Netherlands, and C = Dutch in the Netherlands)

Significance of variables	P value		
	A	B	C
All	0.333	0.362	0.373
Income, income^2	0.281	0.235	0.322
Creole, Hindu (Mixed)	0.498	0.420	
Years in the Netherlands, years ^2		0.974	

Table 10: Income distribution (A = Surinamese in Suriname, B = Surinamese in the Netherlands, and C = Dutch in the Netherlands)

	Income categories	Fraction
A	< 800 SRD	55.3 %
	800 – 1200 SRD	17.5 %
	1200 – 2000 SRD	17.0 %
	2000 – 2800 SRD	4.4 %
	2800 – 4000 SRD	2.4 %
	> 4000 SRD	3.4 %
	Average (Approx.)	1000 SRD ≈ 225 Euro
B	< 400 Euro	0.0 %
	400 – 800 Euro	6.5 %
	800 – 1600 Euro	15.0 %
	1600 – 3200 Euro	43.0 %
	3200 – 4000 Euro	17.8 %
	> 4000 Euro	17.8 %
	Average (Approx.)	2750 Euro
C	< 400 Euro	13.5 %
	400 – 800 Euro	10.0 %
	800 – 1600 Euro	27.0 %
	1600 – 3200 Euro	26.5 %
	3200 – 4000 Euro	3.5 %
	> 4000 Euro	2.0 %
	Do not tell	17.5%
	Average (Approx.)	1543 Euro

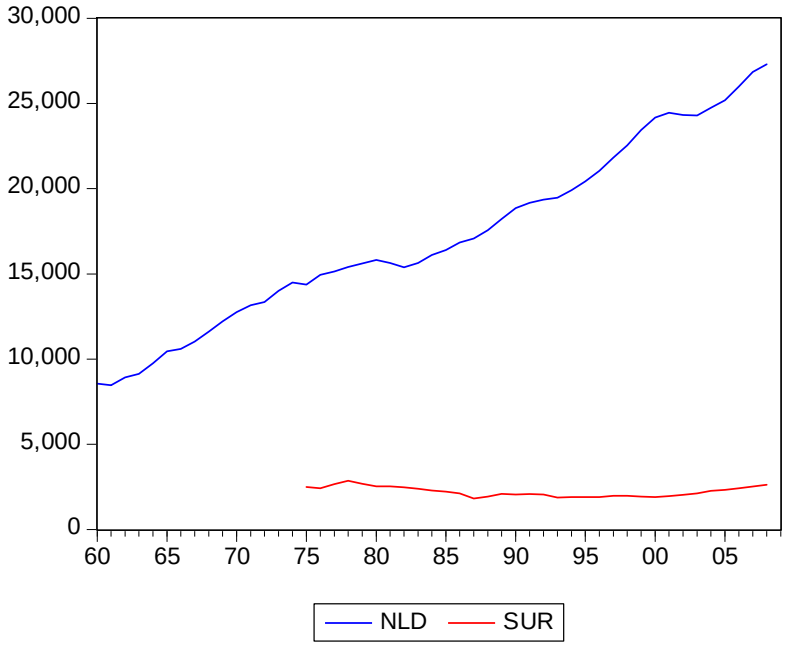

Figure 1: Per capita income in Suriname (SUR) and the Netherlands (NLD) in USD (Source: World Bank) for 1975-2008 and 1960-2008, respectively

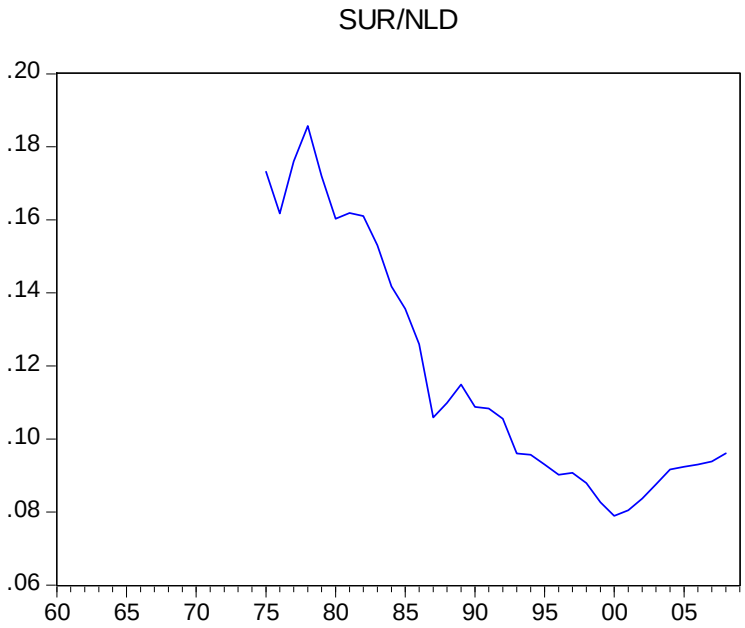

Figure 2: Ratio of GDP in USD of the Netherlands over Suriname

Table 11: Scores on questions "Considering the price of the products, would you consider purchasing counterfeits?" Fully disagree is 1 and fully agree is 7. The cells are the percentage disagree DAG)(scores 1, 2, and 3), and the percentage agree AG (scores 5, 6 and 7) (A = Surinamese in Suriname, B = Surinamese in the Netherlands, and C = Dutch in the Netherlands)

Product	A		B		C	
	DAG	AG	DAG	AG	DAG	AG
Digital camera	74.76	10.95	77.57	10.28	62.50	13.00
Mobile phone	74.29	10.95	72.48	14.68	63.00	13.50
Clothing	31.78	39.25	33.94	43.12	29.00	37.00
Music CD	25.35	48.36	25.00	43.52	38.50	31.00
DVD movies	24.17	51.66	23.36	47.66	40.00	30.00
Shoes	51.66	23.22	52.78	25.00	44.50	26.00
Perfumes	68.42	12.44	62.96	21.30	47.50	24.00
Watches	57.21	16.35	50.94	24.53	42.50	24.50
Car parts	63.94	15.87	55.66	24.53	45.50	23.00
Jewellery	59.24	10.18	56.48	20.37	40.00	20.00
TV sets	72.60	12.98	74.07	11.11	59.50	10.50
Electric kitchen tools	72.95	22.56	64.81	11.96	49.00	19.00
Radios	67.31	13.46	63.89	15.74	46.00	16.50
Ironers	66.83	12.20	57.80	15.60	48.00	18.00
Books	23.56	43.75	44.44	36.11	41.00	23.00
Body care products	66.35	15.87	64.49	20.56	42.50	25.00
Medicine (oral intake)	78.26	11.11	71.03	14.95	63.00	11.50
Medicine (other)	78.37	11.54	64.81	20.37	54.50	16.50
Food and beverage	70.05	14.01	57.01	27.16	40.50	22.50
Home appliances	37.98	29.33	40.74	31.48	31.50	30.00
Average	58.25	21.31	55.71	24.00	46.43	21.73

Table 12: Differences in preferences for purchasing counterfeit products (Table 11)

People versus people	Mean	Median	Min.	Max.	SD
Disagree					
Surinamese in Suriname - Surinamese in the Netherlands	2.54	2.31	-20.88	13.56	7.43
Surinamese in the Netherlands - Dutch in the Netherlands	9.29	9.98	-16.64	21.99	9.55
Surinamese in Suriname - Dutch in the Netherlands	11.83	14.99	-17.44	29.55	13.52
Agree					
Surinamese in Suriname - Surinamese in the Netherlands	-2.69	-3.57	-13.15	10.60	6.21
Surinamese in the Netherlands - Dutch in the Netherlands	2.28	0.90	-7.04	17.66	6.16
Surinamese in Suriname - Dutch in the Netherlands	-0.41	-2.61	-11.56	21.66	9.76

Table 13: Correlations across preferences for purchasing counterfeit products (Table 11) (A = Surinamese in Suriname, B = Surinamese in the Netherlands, and C = Dutch in the Netherlands)

		A	B	C
Disagree	A	1.00	0.93	0.74
	B		1.00	0.81
	C			1.00
		A	B	C
Agree	A	1.00	0.89	0.73
	B		1.00	0.87
	C			1.00

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