

**The international School of economics at Tbilisi State University**

**Consumption Habits and Price Differential in  
Clothing Markets of Tbilisi**

Thesis

Student: Nana Mukbaniani

Academic Advisor: Yaroslava Babych

**2013**

## 1. Introduction

At the first glance the highly competitive non-brand clothing market in Georgia is characterized by high profit margins. In the non-brand competitive markets, where lots of individual sellers operate and prices should be equal to marginal costs, profit margins seem to be high. Clothes are mostly imported from Turkey. While costing at least 30 lari to buy a women's blouse in Georgia, its price in Turkey is about 10 lira (10.7 lari). What is the main reason behind such high margins? Is it overhead costs or price discrimination? On the one hand, the low barriers to entry in the retail clothing import market in Georgia – the liberal visa regime with Turkey and low custom duties - should encourage entry and competition, driving down the markups. The observed high price differential between Georgian and Turkish prices, therefore, can either be attributed to hidden overhead costs (such as, for example, retail location dues, or an extra layer of intermediation), be a result of price discriminating behavior on the part of the sellers, or for some sellers be coming from the existence of search costs. This paper is an empirical estimation of the suggested theories that describe the existence of positive profit margins (at least in the short run) in free entry markets.

Price discrimination exists when the same seller sets different prices on identical goods or services for different customers and captures additional consumer surplus. Price discrimination can be either based on product differentiation or reservation prices (that corresponds to the willingness to pay). Therefore, if price discrimination exists, we should conclude which one is the basis of it.

Another possible explanatory factor for high non-brand clothing prices in Georgia (at least in some markets) is the existence of search costs, which also cause price dispersion to exist.

Price dispersion happens when prices for homogeneous goods vary across sellers. In essence, search cost is also correlated with reservation prices. Thus, we should include the role of search costs in the analysis.

In order to conclude whether the price differential is high only for non-brand market, the research of the brand clothing price differential is also in the order. For this reason, this paper also includes a partial analysis of the brand clothing market and concludes how the variables affecting the price differential of non-brand clothing influence the price differential for the total clothing market in Georgia.

## **2. Relevant literature and the hypothesis**

The question of this paper is to explore the possible reasons for the high price differential between Georgian and Turkish prices. I will call this term simply the price differential. This section reviews the existing theories that justify the presence of high profit margins in competitive market structures and states different hypothesis that will be referred in the following sections.

The first step towards answering the study question is to study the market and price structure: research what the overhead costs are (the cost of purchasing clothes in Turkey, tariff costs, transportation costs, what is the rent for the shop selling the goods and other costs are) and how prices are set. It may appear that profit margins in the short run are large, however, because of high fixed costs, profits are zero in the long run (described in Varian, 2010).

One possible explanation for high price differential is supply-side inefficiency – such as higher order levels of intermediation. The questions are whether individual sellers buy clothing mainly in Turkey or they buy them from a wholesaler and how many wholesalers operate in the market. If a few numbers of wholesalers are presented, it leaves room for monopolization in the supply-side, which can be one explanation for high differentials between Georgian and Turkish prices. One reason for high prices may also be monopolization in capital markets – if the place where the clothing is sold has one or fewer number of owners. If this is the case, then it is probable that they impose high rent prices, in addition to the in-itself expensiveness of capital in Georgia. However, an investigation of this issue is difficult for two reasons: it is difficult to find capital owners and hard to secure their willingness to answer. Thus, I will not be able to give a precise conclusion regarding this issue.

After accounting for the overhead costs, the next step is to assess the possible extent of price discrimination in the clothing retail market. In essence, if the clothing market is a market characterized by monopolistic competition, then in theory, high profit margins in monopolistic competition markets have some justification. According to Borenstein (1985) even if profits in the long-run are zero, free entry stimulates price discrimination when product heterogeneity is presented in the market. Furthermore, firms operating in such types of markets are forced to price discriminate in order not to lose clients and make a loss from other discriminating sellers. He assumes that price discrimination can occur on the basis of either strong brand preference (the general flexibility of consumers: how people switch from one brand to another when the price changes) or reservation prices (the willingness-to-pay: how people value the product, what utility they get from it). Borenstein (1985) divided the market into two regions: competitive and monopoly regions. He calls a market competitive if a marginal consumer of a particular brand is

indifferent between two diverse brands and a small change in the price of this particular brand causes switching to another brand so that the sales of this brand decreases, however, total market sales do not change. Conversely, a monopoly region encompasses consumers who decrease their consumption with price increases and the sales of any particular brand are correlated with total market sales. The author concludes that demand elasticity will be smaller for the people with the stronger preference for brands and the reservation price is not relevant for price discrimination. On the contrary, in case of a monopoly region, demand elasticity decreases with reservation prices and price discrimination can be based on reservation prices. In order to get an idea about the clothing market structure: whether it is a competitive region or a monopoly region, according to Borenstein's explanation, the next step is to research people's attitudes towards brands and their reservation prices for different types of clothing. Once we know the type of Georgian consumers, we will do an empirical analysis to check Borenstein's results. If the market structure appears competitive, according to Borenstein, we will conclude that, if there is price discrimination, it is based on the strength of brand preference and, if a market appears to be a monopoly, we will empirically check whether the reservation-price-based price discrimination is presented in the clothing market.

As long as our main hypothesis is that price differential is high in the non-brand clothing market, it would be reasonable to examine how the price differential differs for brand clothing; we should find out if the difference is coming from non-brand consumer habits or from Georgian consumers in general. If the price differential still appears higher for non-brand markets, then we should find out why this has such a place. One of the possible explanations could be income differences. Generally, people with lower family income (we look at family income to control for background) individuals have fewer choices (cannot afford brand products, lack online access,

etc.) and, if people that purchase clothing in non-brand markets are characterized with lower family income, then the higher price differential for non-brand clothing will have justification. Lack of option will influence the reservation prices of low-income families to be high, even for non-brand clothing. In essence, this indicates a monopoly region (as discussed by Borenstein, 1985) and we will have to check for reservation-price-based price discrimination.

As long as price discrimination is not allowed in all markets, we divide clothing market into two parts: fair markets that are open-air non-brand (less qualitative clothing markets) where price discrimination is allowed, and brand stores that sell brand (qualitative) clothing and first degree price discrimination is not allowed. This paper mostly focuses on the clothing prices in Tbilisi.

In addition, as we mentioned above, if the price differential in fair markets comes from the absence of options, this will make reservation prices to be high for non-brand clothing for low-income families. However, the reservation prices of low family-income individuals should be smaller than the ones for high family income people, otherwise low-family income individuals will not be characterized with a lack of options and they would also switch to brand clothing markets. Therefore, we assume that some threshold level of reservation price exists, after which people start switching to different markets.

In order to study consumer habits, we need also to research their preferences. Consumers will be asked about their preferences for brands, for fashion-style clothing (some special cuts that are in vogue for the period under consideration), for both or for none of them. If people appear to have a strong preference for fashion-style clothing (that is also sold in fair markets), this fact will indicate a tendency towards conspicuous consumption and will somehow justify high price

differentials. Inclination towards conspicuous consumption will also be expressed in the high reservation prices for clothing in general.

Even if the empirical study suggests that price discrimination does really have a place in clothing fair markets, we still suspect that the latest trading prices are also high relative to marginal costs. Thus, price discrimination may not be the only reason for price differentials. When prices of relatively standardized goods differ substantially from seller to seller the search costs for consumers could be one of the explanations. That is called price dispersion (deviation in prices for a homogeneous good across sellers). The possible role of search costs, as a contributor to price differences, is investigated in the analysis of John W. Pratt, David A. Wise and Richard Zeckhauser (1979). According to their methodology, when deciding to search further for a lower price, consumers compare their marginal utilities from the lower price and search costs. Consumers are assumed to differ according to their search costs; however, the search cost for each buyer is constant. In addition, marginal costs are assumed to be the same for each seller. The authors conclude that when the search cost is zero, we should have a competitive outcome and maximum efficiency. They also state that when customers do not know the exact distribution of prices<sup>1</sup>, they follow sequential search strategies: when collecting information about prices from searching, equilibrium will always exist and it may exhibit price dispersion among sellers.

As long as Pratt, Wise and Zeckhauser (1979) claim that in the absence of search cost market should reveal a competitive outcome and we hypothesize that the Georgian clothing market does not lead to competitive equilibria, we should also seek for the relevance of search cost and price difference among sellers. The main thing is to be consistent with the assumptions

---

<sup>1</sup> They also claim that price dispersion may arise when price distribution is known to consumers; however they state that it is not realistic case and this paper thus does not focus on this point.

of the authors. The crucial assumption the authors are making is the existence of constant marginal costs across sellers. If the survey of the sellers suggests that sellers refer to the same way of purchasing clothing and the level of intermediation is the same among the sellers, then we can conclude that sellers are characterized with similar marginal costs. Therefore, the assumptions of Pratt, Wise and Zeckhauser (1979) will be relevant for this paper and we will also need to explore whether search costs are relevant in the Georgian clothing market and examine its influence on price differential.

In order to investigate the role of search costs on high profit markups, we collect prices of homogeneous products in the different fair markets of Tbilisi. Clothing is called homogeneous if they have the same use<sup>2</sup> and quality<sup>3</sup>. Then, in order to conclude for search costs, we look at distances of these fair markets from the center of Tbilisi. If the distance is less than 20 km, the search cost is assumed to be insignificant, if more than 20 km, search costs are assumed to be somewhat significant and if more than 50km, search costs are assumed to be significant. In the regression analysis part we will provide the estimation of buyers' search cost determinant in price setting. If the variable appears significant, we will assume that price dispersion is presented in the market.

If we find that search costs are a relevant variable in determining price differential, we implicitly assume that price dispersion is presented to the market. However, Reinganum (1979) asserts that imperfect information separately is not enough for price dispersion to exist and shows that price dispersion in a monopolistically competitive market is possible if firms differ according to their marginal costs (which are constant) and consumers are identical and their

---

<sup>2</sup>I will assume that if two products have the same use, it means that both are trousers, coats, shoes, blouses etc.

<sup>3</sup>Consist of the same material



demand curves are not completely inelastic. Firms are assumed to sell homogeneous products and to have perfect information about consumers' reservation prices and demand curves; however, they have the incentive not to price at the reservation price due to difference in marginal costs among firms and existence of demand elasticity. In addition, she does not restrict substitution and income effects (to purchase a commodity in a lower price) to exist and demand elasticity appears crucial to justify price spreading for the homogeneous commodities. Above we already spoke about the reservation prices and demand elasticity that we will explore from consumer survey analysis (Section 5). And, again, whether marginal costs vary across sellers will be found out from the sellers' survey. From the surveys' analysis we will conclude how the Georgian clothing market fits with the assumption made by Reinganum (1979) and how these variables together with search cost determines price differential.

Burdett and Judd (1983) also suggest some explanations for the existence of price dispersion. They argue that price dispersion in equilibrium is possible in a much simpler model than discussed in other papers and it could be durable. Specifically, no ex ante heterogeneity in production costs, search costs or propensities to search is needed for price dispersion to exist. They showed that when firms are identical (in costs) as well as consumers, and a search only occurs to reduce expected purchasing costs, price spreading is possible. The authors assume that price distribution is known to consumers. These assumptions are similar to the ones made by Pratt, Wise and Zeckhauser (1979), however, the critical point for the equilibrium (which is based on rational expectations) price dispersion is that buyers' information is ex post heterogeneous. The Burdett and Judd (1983) assert that if the probability that a random customer knows only one price is positive, then the sellers will charge different prices.

The following papers also suggest some interesting investigation of the issue discussed in this paper. Particularly, Stigler (1961), Akerlof (1970) and Phelps (1970) revealed that when information is not perfect in the market, firms are equipped with market power in the short run and sometimes in the long run too. Moreover, Diamond (1971) presented that the presence of costly information appeared to be a reason to attain an equilibrium in which small firms set monopoly prices rather than competitive prices. Later papers extended upon Diamond's paper and found that when information gathering is costly small-size firms have the power to price above competitive levels and, if the market clears, equilibrium prices are higher than competitive prices. They claim that price dispersion could also be presented and the market is characterized by monopolistic competition rather than perfect competition.

Salop and Stiglitz (1977) also showed that in the presence of costly information gathering the equilibrium will not arise at perfect competition price levels. Even if starting prices coincide with a perfect competition market structure, some firms will have an incentive to increase prices by a small amount and simultaneously maintain the same number of consumers. If all the firms behave similarly, then another cycle of price rises will take place. The authors argue that in the end prices will achieve either monopoly prices or price dispersion will take place which ranges from perfect competition to monopoly levels. In addition, if a sufficient number of buyers have perfect information (which is possible at some fixed cost), prices will go down to perfect competitive levels. Furthermore, they argue that low-priced sellers will attain an expanded market share because they will incorporate both, informed and uninformed consumers.

Salop (1976) suggests a very interesting conclusion about a market similar to the Georgian clothing fair markets. He asserts that when many similar brands (in our case, similar non-brand clothing in fair markets) operate in the market, effective search costs increase and

cause deterioration in the tradeoff concerning the choice of utility level and the search. Thus, the entrance of many firms into the market is attributed to higher search costs, which itself ultimately cause prices to go up. Therefore, Salop claims that further entries into the market could even increase prices.

According to the theories suggested by the above mentioned papers, in addition to overhead costs, we will investigate the possible roles of price discrimination and search costs and the possibility of price dispersion. We will also study consumer habits to estimate which assumptions of the named theories are true and then we will empirically test their influence on price differentials.

### **3. Data Sources**

The data about clothing market structure comes from several types of sources. We conduct interviews with clothes sellers in order to find out the structure of the clothing costs in Georgia. What the levels of intermediation are, who major suppliers are, and sellers buy clothing individually from Turkey or from wholesaler, how many wholesalers operate in the market, what the rental costs are. All the information about the overhead costs will be collected from interviews. However, the sellers are not supposed to provide information accurately as they may tend to exaggerate costs. Therefore, we collect information from other sources also. In particular, we collect data about Turkish clothing prices from survey in Turkey and from official custom data. We find out what are tariff rates and taxes from general access information, such as Georgian tax code. Also we find out transportation costs from general access information. In addition, we need to collect data about Georgian clothing prices to find out profit margins and

price discrimination. All the data we collect about prices and reservation prices are the result of the survey. The seller does not know that the price data is collected for research reasons. They should consider the price reporters as if they were buyers. In addition, some statistic values are coming from the National Statistics Office of Georgia.

#### **4. Cost structure**

The first step is to calculate overhead costs. The cost structure of clothing includes the cost of purchasing clothing, the importing tax on them (value added tax) and all other types of tax, transportation costs, storage cost and distribution costs. The next step is to sort all the costs as fixed costs or as variable costs. The cost of rent, storage costs and the wages of shopping assistant will be considered as fixed costs. Afterwards, we should compare prices and costs in order to see how large the markups are. We will do the last step in the section of regression analysis.

First, let us start from estimating cost structure and overhead cost in fair markets.<sup>4</sup> The study of cost structure is based on the seller survey results (now they know that they are participating in a survey) and officially accessible data. The first step is to estimate the initial purchasing cost of clothes in Turkey and their transportation cost. The latter is difficult to calculate. However, in the official custom service data, all purchases are reflected as the initial cost of purchasing clothes plus the transportation cost to the border. To make calculation easy, I will assume that the purchasing cost is equal to the one reflected in the official custom service data and I will call transportation cost the cost of transporting clothes from the border to the

---

<sup>4</sup> Again, these are the same as open air markets.

markets. As the survey results reveal, transportation cost (again, from the border to the market) is equal to at most 5% of the value of the product (most likely this percentage is exaggerated, however, we will base our analysis on this value. This will not damage results significantly if our hypotheses appear correct. If, in reality, transportation cost is smaller than 5%, this will just assert the results even more). When importing clothes from abroad, 18%<sup>5</sup> is added to the original cost of purchasing clothes from suppliers (tax is added on the value that is reflected in custom data). In addition, the sellers are supposed to pay 20% income tax as long as most of them are individual entrepreneurs. To store clothes in the store-houses, cost of 1 GEL is needed per day for a square meter. This does not seem to be constraining because in a square meter it is possible to store high volume of clothes. The daily rent for the selling area is 7 GEL for each square meter. However, to purchase a right of selling in some special place from the owner, on average, 1320 GEL is needed. In addition, if sellers hire sales assistants, on average they pay 15-20 GEL a day (including income tax). The last two could really be constraining if the daily sales amount is small for each seller. As the sellers state, on week-days, on average total sales amount is 120 GEL and on week-end sometimes it amounts to 500 GEL. Consequently, daily average seems be 228 GEL. Below we estimate average overhead cost and see if overhead cost matters significantly or high profit margins are presented in the market.

Daily fixed costs for sellers (calculated as rent cost plus store house cost and the compensation of sales assistant) appears to be 28 GEL. This amounts to 12% of the average daily sales. In addition, the cost of 1320 GEL initial cost to purchase the right to sell in a special place worsens the situation. The share of fixed cost is high in total daily sales; thus, capital market

---

<sup>5</sup> Officially accessed data [https://matsne.gov.ge/index.php?option=com\\_ldmssearch&view=docView&id=1043717](https://matsne.gov.ge/index.php?option=com_ldmssearch&view=docView&id=1043717)

seems the most constraining thing in the clothes market. High amount of capital is needed to start up a business and also, to go on operating into the market.

After estimating the average fixed costs, we need to estimate marginal costs to conclude about profit margins. Thus, we should look at variable cost per product that appears to be the initial cost (that includes purchasing cost and transportation cost to the border) plus 18% value added tax, plus 0.05% of transportation cost from the border to the market. At the initial cost of 100 GEL, estimated marginal cost is  $100 * 1.18 + 5 = 123$  (GEL). And the estimated marginal cost for the product with the purchasing cost of 20 GEL appears to be  $20 * 1.18 + 1 = 24.6$  (GEL). Nevertheless, as the surveyed sellers claim, on average, for the product of the value of 20 GEL overhead costs vary from 4 to 6 GEL. However, the product that costs 20 GEL to purchase and import from Turkey is sold in much higher prices on average, sometimes achieving even 60 GEL. Thus, this raises a reasonable question about high profit margins in fair markets.

But still, as long as fixed cost seems to be high, profits in the short run could be positive, but profits in the long run may be under question. Estimation shows that on average, fixed cost is equal to 11540 GEL per year. Knowing average daily sales, we can estimate yearly sales and using average profit margin, we can estimate net income per year. Average yearly sales appeared to be 75000. If we multiply it by the average profit margin of 40.5%, we will get the value added of 30 375 GEL at hand. After paying the income tax of 20% and excluding fixed cost of 11540 GEL, we get that net profit is equal to 12 760 GEL equivalent to 1063.3 GEL monthly income that is more than average monthly income per household in Georgia<sup>6</sup> (If we assume that sellers

---

<sup>6</sup> The average monthly income per household in Georgia is equal to 788.4 GEL in 2012. This is the last data accessible from the official source: [http://www.geostat.ge/?action=page&p\\_id=181&lang=geo](http://www.geostat.ge/?action=page&p_id=181&lang=geo) ). If we observe the trend of change in monthly income, it is small from year to year. Thus, I assume that the wage of 788.4 GEL is relevant for current year also.

are only income provider in their household, the average income for them still appears high. It is 34% more than average monthly income per household in Georgia). In addition, if we consider the fact that sellers mostly do not hire assistants (the cost of selling assistants are included in fixed costs), we can conclude that sellers get more quite than average household income and the essence of fixed cost is not too much binding.

Regarding the level of intermediation, the survey revealed that sellers refer to both ways of purchasing clothes, buying them either from wholesalers or going to Turkey and importing products individually. The number of wholesalers is high and it does not seem to be constraining. Thus I am assuming that marginal costs do not differ across sellers.

Now let us discuss the case of brand stores. Comparing average Georgian brand prices to the ones in Europe gives us surprising results. Georgian brand supermarkets seem to be operating on slightly lower profit margins than European ones on average. Sometimes the difference is so high, that we could suppose that brand supermarkets in Georgia get even negative profit margins. Explanation for lower Georgian profit margins could be the difference in demand due to income difference of the population. And the explanation for negative profit margins could be the difference in quality. The clothes may wear the same brand name, however, be either counterfeit or produced especially for developing countries. It means that the intrinsic cost of clothes is lower for the clothes in Georgia than the one for European clothes and Georgian profit margins in reality are positive. To sum up, brand stores price setting is not very different from the producers' ones and the main focus of this paper is a fair market pricing mechanism.

## 5. Survey results

### 5.1 Survey description

In order to see how price setting behavior of the sellers is encouraged by the clothes-purchasing habits of the population, we need to provide population survey. The survey was conducted online and contains 136 observations. Average age of the sample is 24. However, the sample is not biased because the analysis of this topic concerns the clothes that are consumed by the generation whose age does not exceed 35. Average family wage is equal to 2100 GEL; and 93 out of 136 are female. The questionnaire contains sociological questions as well as purchasing tendencies of people and their reservation prices for different types of clothes. Sociological questions include age, gender, individual income as well as family income. People are also asked which type of purchasing they prefer, whether they prefer online purchasing, or buying clothes in fair markets or in brand stores. In addition, they are asked whether they prefer to purchase brand clothes, fashion-style clothes<sup>7</sup>, both, somewhat both or nothing. The survey also asks how satisfied people who have ever bought clothes via internet are. The survey also contains questions that check for purchasing tendencies of people. Particularly, they are asked whether they would buy more if the prices were 20% cheaper; or if prices are 20% cheaper in fair markets, if they would purchase clothes in fair markets rather than in other places. Finally, the surveyed individuals state their reservation prices, i.e. the maximum prices they would pay for different types of clothes according to their income and other background conditions (for more details, you can see the questionnaire in the appendix).

---

<sup>7</sup> Some special cuts that are in vogue for the period under consideration



## 5.2. Reservation prices

If the price discrimination exists, then we need to check whether price discrimination is based on high reservation prices. For that reason, we research reservation prices of different types of products for different groups of people and then find out how reservation prices are consistent with prices set in fair markets and in brand supermarkets. Again, reservation price is the maximal price a person is ready to pay for a particular product. People are asked to state their reservation prices for different types of clothing separately (table 1). If reservation prices are high (compared to selling price), it could be attributed to two reasons: reservation price for clothes coming from primary consumption need or reservation price for clothes coming from conspicuous consumption. To conclude which part dominates in determining reservation prices, we will analyze different aspects of people's behavior and preferences. Main aspect to observe is the difference (if it exists) in purchasing manner between low and high family-income individuals.

**Table 1. Types of clothes that was surveyed for the sake of reservation prices**

<b>Types of clothes</b>	Trousers	Shoes	Blouse	T-shirt	Shirt	Coat	Handbag

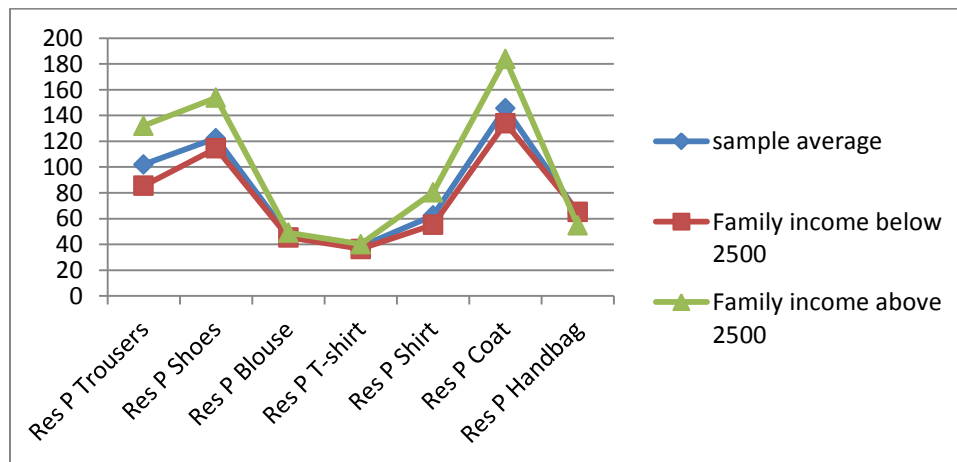
First, let us see how reservation prices change with income. For that reason, we divide people into two groups: low-income families and high income families. The threshold between high income and low-income families is taken to be family income of 2500 GEL<sup>8</sup>. Not

<sup>8</sup> According to David Dzidzikashvili 1000-2000GEL monthly income – low than average, 2000 – 4000 GEL average, more than 4000 – more than average family-income ([http://saqinform.ge/index.php?option=com\\_content&view=article&id=13875:2013-03-26-07-55-12&catid=109:arno&Itemid=538#axzz2Tm7XCjhF](http://saqinform.ge/index.php?option=com_content&view=article&id=13875:2013-03-26-07-55-12&catid=109:arno&Itemid=538#axzz2Tm7XCjhF)). However, for simplicity I divide people into two categories taking 2500 GEL as threshold.

surprisingly, as we can see from the graph 1, reservation prices are higher for higher family income individuals. The average reservation price for trousers for high family-income individuals is 132 GEL while average price of trousers in brand shops is 138 GEL (4% higher). These prices do not differ much from each other, thus I will assume that the reservation prices and market prices - the prices that people actually have to pay when they buy a product for high-income families are similar<sup>9</sup>.

It appeared that average reservation price for trousers is about 86 GEL for low-income families while the average price of trousers in fair markets, where mostly low family income individuals are purchasing clothes is 50 GEL. As we see average reservation price for trousers is 72% more than average fair market price of trousers (thus the market seems to follow the monopoly region). This could justify the theory of Reinganum (1979) that asserts the existence of lower equilibrium prices than reservation prices when, in addition to demand elasticity, the sellers are characterized with different marginal costs and that is why they do not price at reservation price (Reinganum (1979) assumes that sellers know reservation prices).

**Graph 1. Reservation prices for different types of clothes for low-income families and high-income families**



<sup>9</sup> As we will see below, higher family-income individuals tend to purchase clothes in brand stores

Besides, high differential between reservation prices and fair market prices could be attributed to two reasons. First, it does not mean that the trousers sold in fair markets satisfy the quality requirements, for which the buyers would pay their reservation prices, and they still purchase clothes in fair markets because their reservation prices are not as high as to afford qualitative (brand) clothes. Second, this high reservation prices could also represent the fact that trousers are primary consumption good and if prices are higher, people would still purchase some clothes in order not to get ill or not to be ashamed; but as long as prices are low they would not buy them at higher prices. To test it, we need to look at clothes style preferences for different family-income individuals. This analysis is presented in the paragraph below.

In a sense, a high reservation price could also come from the issue of conspicuous consumption. If people tend to purchasing needless products for show off, this could appear in the reservation prices. That is why, the survey questions also concerns the preferences of the population towards fashion-style dressing, brand clothes, both or none of them. As the survey reveals, only 19% of the surveyed individuals does not have any preferences for brand and fashion-style and 29% has strong preference for fashion-style. All others have different degree of preference for buying both brand and fashion-style clothes (the proportion of surveyed individuals who prefer brand, fashion-style, both, somewhat both or none is presented in table 2). The results do not change much when we analyze low family-income individuals (family income below 2500 GEL). Only 18% states that they do not have any preference for brand and fashion-style and 30% has strong preference on fashion-style clothes. However, if we narrow the range for extremely low-income families (family income below 1000 GEL), the percentage of people who do not have any preference for both brand and fashion-style increases to 24% and 22% have strong preference on fashion-style. But this is not still satisfactory result. 24% is still small for

clothes prices to be set at their marginal values. If we further decrease the range of family income below 500 GEL we get that 33% do not have any preference for either brand or fashion-style, however the percentage of individuals who prefer fashion-style clothes increases to 42%. The results somewhat point out that people are not rational, especially when family income is low. This signals conspicuous consumption that could be one of the reasons for high profit margins and, consequently, reservation prices may not be based on the fact that clothes are a primary consumption good.

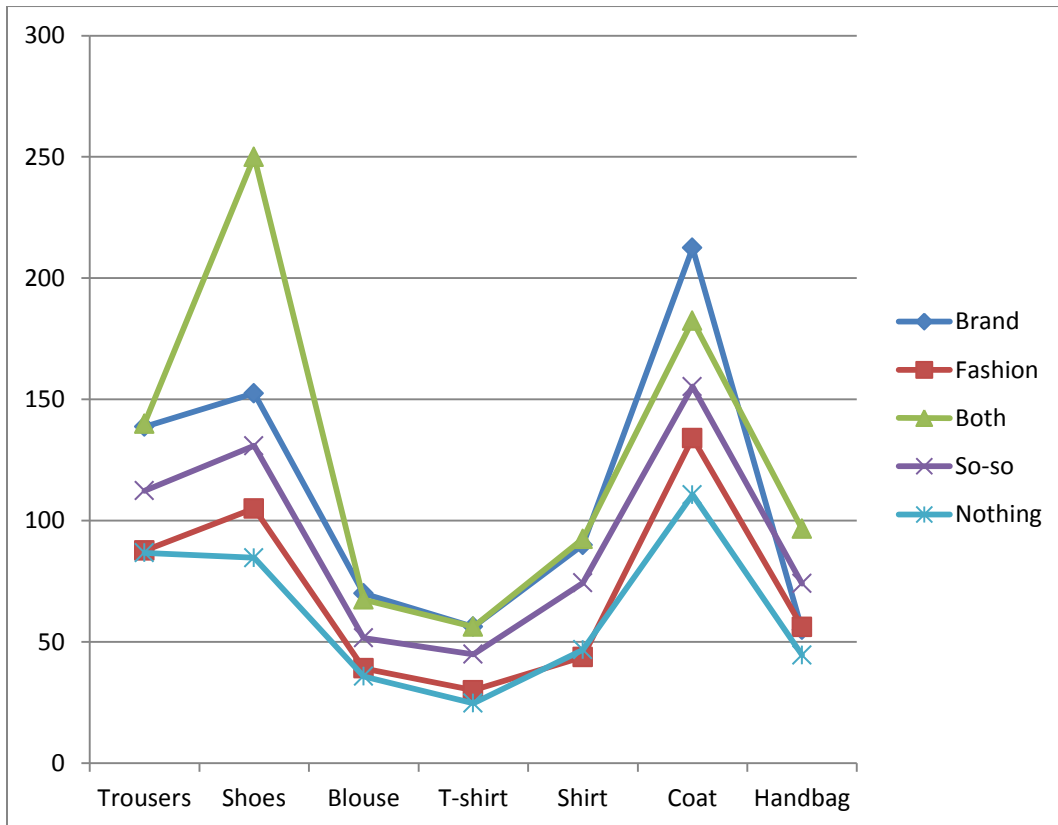
**Table 2. Average family and individual income and sample proportion for people with different style preferences, in GEL.**

Clothes style preferences	Average family income	Average individual income	Sample proportion
<b>Brand</b>	1500	475	3.6
<b>Fashion</b>	2564.25	620.9744	29.4
<b>Both</b>	1900	350	3.6
<b>Somewhat both</b>	1825.917	505.8333	44.9
<b>Nothing</b>	2157.083	284.8	18.5

The results of the table above indicate that people do not have strong preference on some particular brand and if price discrimination has the place in the market, it is less likely to be based on strength of brand preference (less likely to be the competitive region Borenstein (1985)). In order to see if it can be based on high reservation prices, let us analyze reservation prices for different types of people. From the graph 2 it is clear that those people that have preference on both brand and fashion style are characterized with the highest reservation prices. While for those, who do not have any preference for brand or fashion style, the reservation price

is the least for every type of clothes. Thus, again we can conclude that the survey signals to price discrimination that is based on reservation prices.

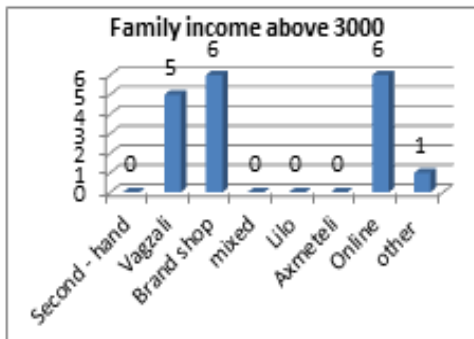
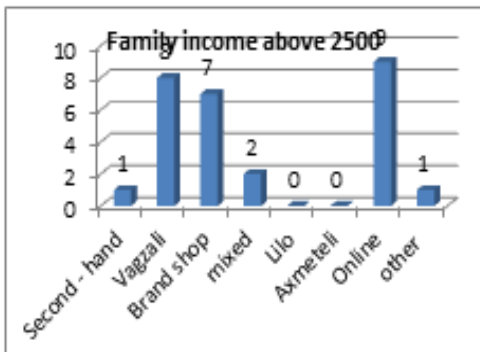
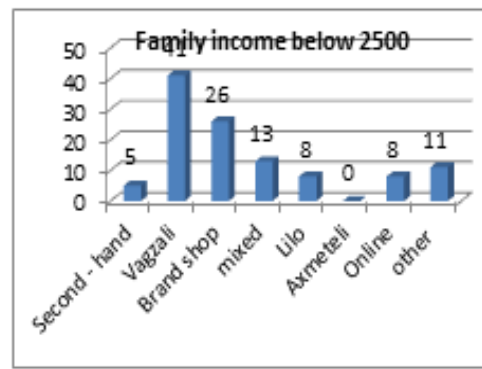
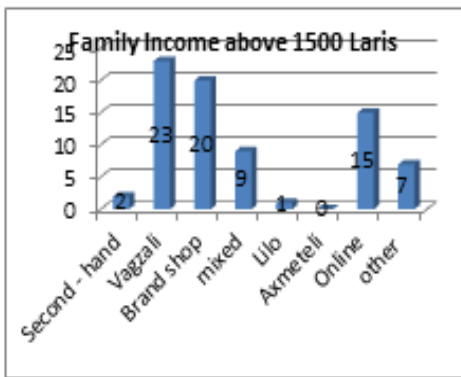
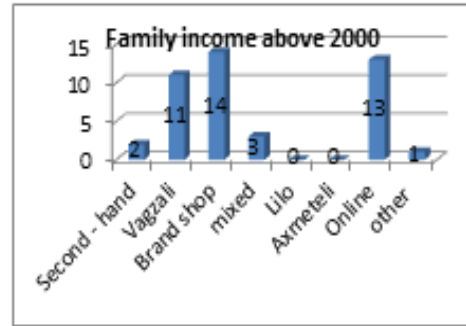
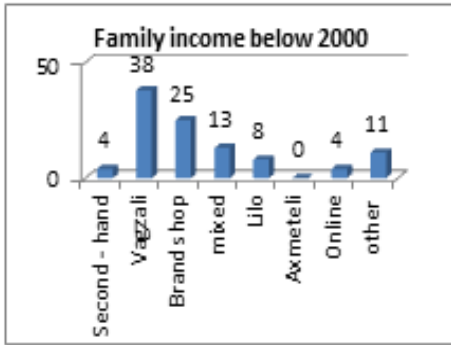
**Graph 2. Reservation prices for different types of clothes and for different groups of people with different preferences.**



### 5.3. Purchasing behavior

It is interesting to observe how purchasing behavior changes with income. The picture 1 shows what number of surveyed individuals refers to each way of purchasing. As the diagrams reveal, when family income increases, higher proportion of people buys clothes in brand shops or purchase them via online. Some exploration of purchasing behavior is discussed below.

Picture 1. Purchasing behavior changes according to family income



### 5.3.1. *Online purchasing*

It is possible to purchase clothes, similar to the ones sold in fair markets, ten percent cheaper via online on average. However, it is surprising that the survey is conducted via online and only 11.7 percent refers online to purchase clothes and only 45% of the total sample has purchased clothes at least once. It is surprising that only 8% of those people that ever tried online-purchasing (3.6% of the sample) is not satisfied with it; however, only 11.7% of the sample refers to it as a usual way of clothes-purchasing. If we look at average family income for those, who purchase clothes via online, it is 3048.125. It indicates that for high family-income people this way is more convenient while for low-income families it incorporates some cost. The hidden cost could be the risk for online purchasing when people cannot be sure that the size of clothes will be in perfect fit for them. That is why they may prefer not to try new way and “waste money”. The latter hypothesis can be justified from the fact that the percentage of people that ever tried online way to purchase anything rather than clothes (when the size is not as important) is higher than 45% (who ever purchased clothes via online) and is equal to 58%. In addition, this intuition is supported by the fact that reservation prices for those people that purchase clothes via online do not differ much from the reservation prices of those people that do not purchase clothes via online. Thus, we see that online-purchasing incorporates some hidden cost that retains consumers from referring to it.

## 6. Regression analysis

### 6.1 Regression analysis for fair market clothes market

In this section, we check for the above hypothesis and explore which of the above reasons could be a driving force for high price differentials between Georgian and Turkish prices. To estimate the model, I use OLS regression, where the dependent variable is the log of price differential that is measured as the difference between clothes price in Turkey (expressed in Laris) and last price of clothes in Georgian fair markets<sup>10</sup>. The prices in Georgia are collected from the survey of sellers, when sellers do not know that they are participating in the survey (in order to get rid of measurement error). The data about average retail prices of clothes in Turkey is taken from the custom service that uses these values to estimate cost of imported clothes when declaration of purchased goods is not presented. Below independent variables and their role in the regression is offered (Table 3). The model is not established methodology and is based on survey results and on the hypothesis presented in above-mentioned theories.

Table 3. Definitions of the variables that are used in the regression

Price Differential	The difference between clothes trading price in Turkey (expressed in GEL) and last trading price of clothes in Georgian fair markets
Profit Margins	The ratio of the difference between latest trading prices and marginal costs over the latest prices and multiplied by 100.
Overhead Cost	The value of marginal cost per product value except the purchasing cost of clothes in Turkey
Price discrimination	The difference between the first trading price and latest trading price divides by latest price and multiplied by 100

<sup>10</sup> Where clothes mainly is imported from Turkey



Reservation prices	The average of the maximal amount of price surveyed people are willing to pay for each type of clothes (table 1)
Price discrimination that is based on reservation prices	The interaction term of price discrimination and reservation prices
Search Cost	Dummy variable taking value of 0 if the distance from the center to the market is less than 20 km, is equal to 1 if the distance is 20 – 50 km, and is equal to 2 otherwise.

One of the main questions of the topic is to find out if high price differential is due to profit margin or high cost. Above we considered cost structure and average overhead cost according to values of products. Here we calculate marginal cost of each product and based on price survey we calculate profit margins. We calculate profit margins as the ratio of the difference between latest trading prices and marginal costs over the latest prices. Marginal costs are calculated on average for different types of clothes such as trousers, T-shirts and etc. For all trousers I take the same marginal cost calculated as an average cost of all trousers imported from Turkey. The same way of calculation is used for other types of clothes as well. This kind of approximation for marginal costs will not damage total picture because products sold in fair markets are very similar with quality and style.

If profit margins are significant variable that causes high price differential between Georgian and Turkish prices, then the regression should also include the variables that explain high profit margins. First, we should explore the role of price discrimination; however, the measure for price discrimination is needed in order to use it in the regression and check for its significance. To calculate the degree of price discrimination, we use the data on prices before

trading (asking for price decrease) and on the latest trading price of the same product. Then I divide these price differentials by the latest price and take the percentage.

Besides, as in the above section we made the hypothesis about price discrimination that is based on high reservation prices, we should also control for reservation prices in the regression. The corresponding value of reservation price for each particular observation of price differential is taken as the log of average reservation price for the type of clothes that the price differential represents. However, intuitively, price differential of fair market prices is not linearly depended on reservation prices. Logically, if reservation prices increases, sellers can manipulate with it and set higher prices, but when reservation prices increase sufficiently, people may change their purchasing trend and instead of fair market, go to brand stores to buy clothes. For this reason, we add the square of log of reservation prices in the model. However, the correlation coefficient between the log of reservation price and the square of it is almost 1 (0.9995), thus, we have to exclude one of them. As long as the square term is more intuitive, we leave it into the regression. In addition, to control for price discrimination that is based on reservation prices, in addition to the variable of reservation prices, we add the log of interaction term of the price discrimination and of the reservation price in the regression.

In order to investigate the role of another possible cause for high profit markups - search costs, we use the distance from the center of Tbilisi to the particular fair markets as proxy variable. If the distance is more than 20 km but less that 50km, the variable takes value of 1, if more than 50km, the variable takes value of 2 and 0 otherwise.

The model that we discussed above has the form of (1).

$$\mathbf{ldiff} = \alpha + \beta_1 * \mathbf{lpm} + \beta_2 * \mathbf{loc} + \beta_3 * \mathbf{lpd} + \beta_4 * \mathbf{lrpsq} + \beta_5 * \mathbf{lptrp} + \beta_6 * \mathbf{sc} + \mathbf{u} \quad (1),$$

where *ldiff* stands for the log of price differential, *lpm* – for the log of profit margin, *loc* – for the log of overhead cost, *lpd* – for the log of price discrimination, *lrpsq* – for the square of the log of reservation prices and *lpdrp* – for the interaction term of *lpd* and *lrp*; *sc* stands for search cost estimated as dummy variable described above. And *u* is an error term (normally distributed i.i.d random variable). Descriptive statistics of regression variables on table 4.

**Table 4. Descriptive statistics of regression variables**

variable	Obs	Mean	Std. Dev.	Min	Max
ldiff	392	1.303316	1.592946	0	5.298317
lpm	242	3.356634	1.290203	0	4.694167
loc	242	3.113812	.6917591	1.204772	5.451656
lpd	242	1.245206	1.255835	0	5.991465
lrpsquare	242	20.04262	3.698294	13.60783	24.81958
lpdrp	392	2.338388	3.25137	0	10.12532
sc	392	.8877551	.9145894	0	2

The information about the regression variables that are expressed without log-s is given in table 5.

**Table 5. Regression variables without log-s**

variable	Obs	Mean	Std. Dev.	Min	Max
diff	242	16.34504	39.79076	-127	200
pm	242	40.50342	34.62718	-105.7	109.308
oc	242	29.38587	30.54725	3.336	233.144
pd	242	8.462387	27.66437	0	400
rp	242	93.60296	34.97217	40	145.755
pdrp	242	780.509	1996.479	0	24967.27
sc	392	.8877551	.9145894	0	2

The estimated regression looks like (1\*)

$$\text{ldiff} = -1.16 + 0.44*\text{lpm} + 1.85*\text{loc} - 0.55*\text{lpd} - 0.17*\text{lrpsq} + 0.19*\text{lpdrp} - 0.42*\text{sc} \quad (1^*)$$

(0.000)
(0.000)
(0.002)
(0.000)
(0.007)
(0.000)

In parenthesis, below the coefficient estimates, p-values are given. The coefficients are rounded up to hundredth. As the above regression shows, price differential is significantly determined by

profit margins. In addition, overhead cost, search costs and price discrimination have significant influence on price differential and price discrimination that is based on reservation prices is presented in the market (described by the interaction term). Besides, reservation price has quadratic influence on price differential, as we expected. Before some threshold its influence on price differential increases and after the threshold, decreases.

According to the regression (1\*), 1% increase in profit margin leads to about 0.44% increase in price differential. In addition, overhead cost is a significant variable influencing high price differential and 1 % increase in it leads to 1.85% increase in price differential. That indicates the fact that once the costs increase, the sellers, in equilibrium are able to preserve the profit margin at least partially in response to the higher costs.

In addition, price discrimination is a significant variable and one percent increase in it leads to 0.55% decrease in price. That is quite intuitive, because price discrimination gives sellers ability to set prices in a more flexible way and do not lose a client for high prices. In addition, if we look dependent variable, it is difference between Turkish prices and the latest trading selling prices in Georgia, thus it is already cleaned from the margin of price discrimination (alternatively, if we looked at first prices rather than last prices the influence of price discrimination, intuitively, would be positive).

In addition to price discrimination, reservation price is also a relevant variable in determining price differentials; its quadratic influence on the dependent variable is justified by the regression. The sign before the quadratic term is negative as we expected. This points out the existence of threshold, after which people start switching to brand stores to purchase clothing. Thus, if sellers try to set high enough prices, people decrease their demand on fair market clothes

and tend to go to brand stores to purchase dressings. That is why, when reservation price increases sellers decrease prices to attract more buyers.

However, if we look at the interaction term of reservation prices and price discrimination, it has a positive influence on reservation prices. This points out that price discrimination is presented in the market due to high reservation prices in general and it has a positive influence on price differential. It means that price discrimination that is based on reservation price causes last prices still to be high compared to marginal costs. As estimation shows, one percent increase in reservation-price-based price discrimination leads to 0.19% increase in price differentials.

In addition, we see that search cost is significant and when the distance from the center increases, price differential decreases by 42%. The negative sign of the coefficient is quite intuitive: when the distance increases, search cost increases and in order to make people purchase clothes in far distances, prices should be lower in farther markets. Thus search cost is also main determinant in high profit margins in clothes fair markets.

To sum up, the regression suggests that high price differentials between Georgian and Turkish clothes prices are not coming only from overhead cost. It is explained also by price discrimination that is based on reservation prices and search costs that motivate sellers to set higher than competitive prices and make positive profit margins.

## 6.2 Regression analyses for total clothes market in Georgia including both brand and fair market prices

The regression (1) contains observations only for fair market prices. Now let us observe the role of the above explanatory variables in Georgian clothes market as general. However, now we need to change some explanatory variables because some issues are arising.

All the variables that was used in regression 1 cannot be included in the case of total clothes market because some of them are not defined for brand clothes markets or we do not have qualitative data to characterize it. For example, as long as price discrimination (first and third degree) in stores is not allowed, we cannot include this variable in the regression (1). Alternatively, if we had tried to generate a dummy variable, which takes value of 1 when price discrimination is allowed and zero otherwise, then we get that this dummy variable is highly correlated to search cost (correlation coefficient is equal to 0.93), thus, in order to get rid of multicollinearity problem, we do not put the dummy of price discrimination in the regression. Moreover, as long as price discrimination does not seem to be correlated with other explanatory variables (correlation coefficients are less than 5% in magnitude), we can run the regression without the regressor of price discrimination and do not get omitted variable bias. But the problem of the quality of clothes arises. Supposedly, stores supply more qualitative clothes than fair markets because they sell brands. To control for quality, we can introduce another dummy variable that takes value of 1 if we have brand product and value of 0 otherwise (this variable takes the name of *quality* in the regression below). We also include the log of reservation prices. Here, expected sign of the influence of reservation price is positive because we take total market prices and not only fair market prices.

In addition, we cannot find relevant data to estimate profit margins in brand markets because they are importing brands from different countries. That is why we cannot clean prices of brand clothes from official custom data bases. Therefore, we do not include this variable in the regression at all. Similarly, estimation of overhead cost is difficult and imprecise for brand clothes, thus, from we exclude from the regression this variable too.

The regression looks like (2)

$$\mathbf{ldiff} = \alpha + \beta_1 * \mathbf{sc} + \beta_2 * \mathbf{quality} + \beta_3 * \mathbf{lrp} + \varepsilon \quad (2),$$

where  $\varepsilon$  is an error term (normally distributed i.i.d random variable).

The estimated regression (2) looks like (2\*):

$$\mathbf{ldiff} = \mathbf{-0.96} - \mathbf{0.55} * \mathbf{sc} - \mathbf{0.77} * \mathbf{quality} + \mathbf{0.86} * \mathbf{lrp} \quad (2^*)$$

**(0.000)**
**(0.004)**
**(0.000)**

As we see from the regression (2\*), search cost, quality and reservation prices are all significant variables. Search cost seems to have higher influence on the price differential than in the case of fair markets. When the distance from the center increases, price differential seems to decrease by 55%. In addition to search costs, as we see from (2\*), intuitively, the sign of the coefficient on reservation prices is positive and one percent increase in reservation prices, causes 0.86% increase in price differential. As we see, once we came to the model were both, fair market and store prices are included, we get that higher reservation prices leads to high price differentials.

The strange thing appearing from the regression is the sign on the coefficient of the quality variable. As analysis shows, when dealing with brand (more qualitative) clothes, price

differential is 77% smaller than for the inferior one. However, it does not mean that either prices or profit margin decreases with quality as long as dependent variable is price differential, not the profit margin itself. The coefficient expresses that non-brand clothes goods are sold in higher prices in Georgia than in producer country (and generate higher profit margins). It could mean that when dealing with brand clothes, profit margins for the exporter brand and for Georgian brand store do not differ much. The latter could be explained again by the fact that reservation prices do not vary much among low family-income and high family-income individuals and they maybe are not sufficiently high to allow brand stores set significantly higher than producer's prices because in this case they will lose customers.

In short, as we see from the regression 2, price differential between Georgian clothes price and producers' prices determined by the effect of search costs and reservation prices. Quality also influences price differential, however, when the quality increases, price differential decreases.

## **7. Conclusion**

The study showed that despite a competitive market set-up, the price differential between clothes on the Georgian and Turkish markets is high. This is in particular the case for "fair markets", i.e. open air, bazar type of markets. At least part of the price differential can be attributed to the high profit margin (the average profit margin is equal to 40.5%), rather than marginal and overhead costs. This presents a puzzle, because the structure of the fair markets in Georgia seems competitive, with relatively low barriers to entry, which should drive the prices closer to the marginal cost.



The price differential for brand clothing sold in the stores is much lower than the price differential in fair markets (evidence from the regression). This can be explained by the fact that the brand clothing markets and fair markets are patronized by different income groups, with different outside options for buying clothes. The higher income groups (brand store customers) typically have the option to buy online as well as in the brand shops or on the fair markets. The lower-income groups do not buy online, and therefore do not have the outside option for purchasing affordable clothes.

The ability of fair market sellers to maintain relatively high profit margins can be driven in part by high reservation prices (high willingness to pay) for clothing of particular fashion-style. The survey results show that low-income consumers in particular may have a higher preference for fashion-style in clothing (going beyond the basic need for clothing), making them more willing to pay higher prices. This pattern of preferences decreases the bargaining power of average fair market consumer and allows the sellers to realize positive profit margins even over the last sales price.

Bargaining power can also be expressed with price discrimination. The regression reveals the evidence of price discrimination in the fair markets: the open-air markets are characterized by the sellers' and buyers' ability to bargain. This allows the seller to capture additional consumer surplus. The ability of the seller to price discriminate is measured by the difference between the first asking price and the last sales price after bargaining. The ability to price discriminate can be realized in two ways: either by naming a higher initial price, or by bidding down the final sales price. From the regression results, it appears that the sellers' behavior follows the latter scenario. This can be explained by the costs attached to naming an initial price which is "too high" for the customer, and risking to lose her to another seller. Therefore, in the Georgian clothing markets

the ability to price discriminate works in the direction of capturing the lower-end of the market, the customer with the lower ability (or willingness) to pay, rather than the high-end of the market (trying to capture the customers with higher willingness to pay). This can be interpreted as evidence that despite positive profit margins, the fair markets in Georgia are still competitive in nature.

As mentioned, high reservation prices of low family income individuals can be the reason behind high profit margins. However, when the willingness to pay increase, this may lead to store switching: intuitively, if the reservation price of the buyer increases, the price differential for that type of clothing should either increase or remain unchanged. However, if the reservation price for a particular type of clothes passes a certain threshold, the consumer may switch from buying in the fair market to buying in the brand stores. The price differential on the fair market would go down in this case. The regression results present evidence of the “store switching” behavior of consumers in the fair markets (as evidenced by the negative coefficient on the reservation price variable. The coefficient turns positive, as we would expect, when both fair market prices and brand store prices are included in the regression).

In addition to price discrimination, search costs also give opportunity to the sellers to extract additional consumer surplus. The increase in search costs (that is measured as distance from the center of Tbilisi) causes prices and, therefore, price differentials to go down (based on the regression). This also indicates price dispersion. The impact of search costs appears to be quite high (40% decrease in price differential) that points out that people have big disutility from search and the sellers located near to the center of Tbilisi are able to generate higher profit margins.

An interesting interpretation can be drawn about the sensitivity of the price differential to costs: Increasing the overhead cost by 1% increase the price differential by 1.85%. This may indicate that the sellers, in equilibrium are able to preserve the profit margin at least partially in response to the higher costs.

To sum up, high price differential between Turkish and Georgian clothing prices (non-brand clothes) are driven by the high profit margins in addition to overhead costs. High profit margins are supported by the high willingness to pay of low income individuals (because they lack of purchasing choices) and by the high marginal disutility from search.

References:

- G. Akerlof, 1970. "The Market for 'Lemons': Qualitative Uncertainty and the Market Mechanism," *Quart. J. Econ.*
- S. Borenstein, 1985. "Price Discrimination in Free-Entry Markets", *The Rand Journal of economics*, Vol. 16, No. 3, pp. 380-397
- R. Borzekowski, R. Thomadsen, Ch. Taragin, 2005. "Competition and Price Discrimination in the Market for Mailing Lists", *Finance and Economics Discussion Series 2005-56*, Board of Governors of the Federal Reserve System (U.S.).
- K. Burdett and K. L. Judd, 1983. "Equilibrium Price Dispersion". *Econometrica*, Vol. 51, No. 4 (Jul., 1983), pp. 955-969. The Econometric Society
- P. Diamond, "A Model of Price Adjustment," *J. Econ. Theory*, 1971
- E. Phelps, et al., *Microeconomic Foundations of Inflation and Employment Theory*, New York 1970.
- J. W. Pratt, D. A. Wise and R. Zeckhauser, Price Differences in Almost Competitive Markets, *The Quarterly Journal of Economics*, Vol. 93, No. 2 (May, 1979), pp. 189-211  
Published by: Oxford University Press  
Stable URL: <http://www.jstor.org/stable/1883191> .Accessed: 30/12/2012 06:30
- J. F. Reinganum, 1979. "A Simple Model of Equilibrium Price Dispersion". *Journal of Political Economy*, Vol. 87, No. 4 (Aug., 1979), pp. 851-858 The University of Chicago Press.
- S. Salop, 1976. "Information and Monopolistic Competition". *The American Economic Review*, Vol. 66, No. 2, Papers and Proceedings of the Eighty-eighth Annual Meeting of the American Economic Association (May, 1976), pp. 240-245. American Economic Association
- S. Salop and J. Stiglitz, 1977. "Bargains and Ripoffs: A Model of Monopolistically Competitive Price Dispersion". *The Review of Economic Studies*, Vol. 44, No. 3 (Oct., 1977), pp. 493-510. Oxford University Press.

G. Stigler, "The Economics of Information," J. Polit. Econ., 1961.

Hal. R Varian, 2010. Intermediate Microeconomics textbook, 8<sup>th</sup> edition, 19<sup>th</sup> chapter.

## Appendix

### Clothes Market Survey Questions

1. Your sex (Female, Mail)
2. Your age (open question)
3. Private Income (open question)
4. Family income (open question)
5. Where do you buy clothes as usual? (online shopping, “Vagzali”, “Lilo”, Brand shops, other)
6. Are brand clothes or fashion clothes important for you? (Brand is important, fashion clothes is important, both are important, both are somewhat important, neither is important)
7. Based on your and your family income, what is the maximum amount of money you would pay for your desired (desired quality, brand, fashion) 1. Trousers 2. Footwear 3. T-shirt 4. Shirt 5. Coat 6. Handbag?
8. Have you ever tried online-purchasing of clothes? (yes, No)
9. If you did, are you satisfied? (yes, somewhat satisfied, No)
10. Have you ever tried online-purchasing of something? (yes, No)
11. If clothes prices in fair markets are decreased by 20%, would you purchase clothes mostly in fair markets rather than in brand supermarkets? (Yes, No, Maybe)
12. If clothes prices in all Georgian markets are decreased by 20%, would you purchase more clothes? (Yes, No, Maybe)