



Negative positional externality of conspicuous and positional goods on society:
An empirical analysis on income and clothing consumption for 9 EU countries.

Tran Xuan Thang

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Supervisor: Zieba Marta

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Aalto University

School of Business

Bachelor's Program in International Business

Mikkeli Campus

Author: Tran Xuan Thang

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Objectives

The main objectives of this study were first, through secondary sources, to analyze the way positional externality exist and its negative impact of on society, focusing on conspicuous and positional goods. Second, it tries to find the empirical evidence for the effect of positional externality in income and clothing consumption. Third, the thesis discuss various ways to reduce positional externality.

Summary

The thesis first analyzes the literatures which shows the negative impact of conspicuous and positional goods on society. Then, using data from Life in Transition survey III, the thesis tests four hypotheses on the effect of positional externality on life satisfaction. Two hypotheses are related to income comparisons, while the others are related to clothing consumption. Finally, the author discusses some of the measures to reduce the effect of positional externality.

Conclusions

The main findings shows controlled for income of each individual, GDP per capita and average clothing consumption has negative correlation with life satisfaction of each individual. This result shows the existence of positional externality and support the argument that positional externality has a negative impact on society.

Key words: *positional externality, conspicuous consumption, social comparisons, happiness, luxury*

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ABSTRACT

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1. Introduction

There are instances where the new consumption of a particular type of product reduces the value of the existing product. Many luxury Louis Vuitton handbags rely their value on the uniqueness and prestige, and able to set a very high price; for instance, the price of a Birkin bag is at least \$7000. However, if many people start to buy Louis Vuitton handbags, their consumption would negatively influence the value of existing goods by making these bags much less unique and prestigious. In the end, no one seems to be better off in the world where everyone has a Birkin bag than they are in the world where everyone has a normal handbag.

The example illustrates a circumstance in which everyone consumes more but no one is better off. The same thing can happen on a much larger scale. Contrary to both traditional economic models and our common expectation that the significant increase in our consumption in recent time should improve our well-being, the famous paper from Easterlin (1974) shows in many countries, an increase in average national income does not improve average happiness. More money and consumption does not seem to make society happier. This narrative has already been used to criticize the materialist way of living and call to cut down on consumption. Many social critics believe we would not be happier by having more money, but they lack a theoretical foundation for their ideas (Frank, 2010).

An increase in researches on happiness sheds some insights for the theoretical explanation. Easterlin's paper (1974) provides an interesting paradox: the average level of happiness in a country does not change over time, while the ones with higher income have higher happiness. Easterlin suggests people only care about the relative position to others. Hence, people with a higher income than others will feel happier. However, when the income of everyone rise, people see their relative position does not change, and they do not feel happier. The concern about relative position creates a negative effect which is called "positional externality".

The awareness about positional externality can change the way we approach economics and other social issues. We may question the importance of economic

growth as it may not be as beneficial as expected. There are suggestions that we should lower the growth rate to prevent environmental effects (Jackson, 2009). Solving inequality can be a better focus than economic growth as high inequality can exaggerate concerns about relative position and make poor people feel worse about themselves. Policy-makers can create a higher tax rate on positional goods to reduce the impact of positional externality.

However, the positional externality is still under-recognized in economics. Traditional economics model still neglects the effect of relative position (Hopkins & Kornienko, 2004; Krugman, 1998). The positional externality is rarely mentioned in economics classes and textbooks – the popular textbook “Economics” from Mankiw only mentioned positional externality from third international version (see Mankiw & Taylor (2014)), while the US versions do not mention it at all.

The thesis aims to explore the theoretical background of positional externality and the empirical evidence support for the theory. It tries to answer three research questions. First, what are the negative effects of positional externality? Second, is there evidence for positional externality, especially in EU countries? Third, what can be done to reduce the effects of positional externality?

The first research question is addressed in the literature review. The section 2.1 and 2.2 provide an introduction about positional externality and positional goods. Then three explanations on how positional externality influence on the society are presented in sections 2.3, 2.4 and 2.5. Lastly, sections 2.7, 2.8 and 2.9 focus on its effects on well-being, which includes happiness and positive freedom.

The second research question is addressed in chapter 4 and 5. In chapter 4, the thesis use data from Life in Transition III survey, take a focus on 9 Eurozone countries: Czech Republic, Cyprus, Estonia, Germany, Greece, Hungary, Italy, Latvia, Lithuania, Slovakia, and Slovenia, to test the theories and add more empirical evidence to evaluate the theory. In chapter 5, the results of previous researches are used to compare with results obtained in chapter 4.

The third research question is addressed in chapter 6, where the author discusses various ways to reduce positional externality, which have implications on both the collective level and individual level.

2. Literature review

2.1. Definition of positional externality

Most economic models show that the benefit a consumer gets only depends on absolute consumption. (Alpizar, Carlsson, & Johansson-Stenman, 2005; Carlsson, Johansson-Stenman, & Martinsson, 2007; Hopkins & Kornienko, 2004; Krugman, 1998). In other words, benefits which people get from their consumption are not affected by others' consumption. However, this assumption does not seem to be true in the case of the Louis Vuitton bags. Other scholars, starting from Thorstein Veblen (1899) and later James S. Duesenberry, stress on the importance of relative consumption. The consumption of others not only heavily influences how we evaluate our goods but also affect the real benefit we get from consumption.

By definition, such influence is an externality - "the cost or benefit of one person's decision on the well-being of a bystander (a third party) which the decision maker does not take into account in making the decision" (Mankiw & Taylor, 2014). To be more specific, this externality is called "positional externality", which happens when one enjoys the benefit from new consumption and does not take into account the effect that their purchases may "alter the relevant context within which an existing positional good is evaluated" (Frank, 2008). A bystander is harmed when his current consumption's value is reduced by new purchases, such as new, trendy shirts, make existing clothes obsolete. The harm is like a bystander harmed by pollutions from others' commuting activities.

Positional externality can be mistaken for "network externality", which also influences the value of existing goods. Network externality happens when the new consumption increases the value of existing products, which often happens in social network services, technologies like online games and computer operating systems, and entertainment events (Aoyagi, 2018). An increase in the number of Microsoft Windows operating system's users makes the consumption from existing users more valuable. The increase in value is not related to how we compare the product with others, but it stems from the increase in the usefulness of Microsoft Windows: with more users, developers have more incentive to create Windows-compatible applications, so users can enjoy a wider range of options. In other cases, when more people buy the same

best-seller book, the value of other copies of that best-seller book may increase because people feel that they conform more to society. Hence, network externality makes people want to be the same with others rather than concern about which one is better or worse.

Different from network externality, the definition of positional externality hinges upon the importance of the relative position – one is better or worse compared to the others: “positional externality exists when the payoff to one individual is dependent on their relative performance to others” (Mankiw & Taylor, 2014). In this sense, positional externality happens when new purchases change the relative position of the existing goods and tends to reduce the value of existing goods, which means it is a negative externality.

2.2. Conspicuous consumption and positional goods

The first one took relative position into academic literature is Veblen (1899), who coined the term “conspicuous consumption”. He defined conspicuous consumption as the type of consumption that increases buyers’ social status. Later authors defined it as “social and psychological motives associated with attempts to improve relative social standing and prestige” (Mason, 2000: 123). For example, people demonstrate wealth through conspicuous goods (Carlsson et al., 2007). Because conspicuous goods improve the relative social standing, it is necessary that these goods have better characteristics compare to others. As the first one to criticize conspicuous consumption, Veblen argues that it is wasteful from the collective perspective – “this expenditure does not serve human life or human well-being on the whole”, however, he did not deny that it is beneficial from the individual consumer’s perspective (Veblen, 1899:46).

Veblen’s idea is criticized because it focuses mostly on luxury goods, hence, lacking in generality (Trigg, 2001). To also cover other goods which are affected by relative position but may not be called “conspicuous goods”, later literature use a broader concept called “positional good”. As conspicuous goods are influenced by the comparisons with other goods in the same category, they are positional goods. However, conspicuous consumption relates more to tangible goods, while the term

“positional goods” is applied to many other intangible goods and services. When more people get bachelor degrees, such degrees seems not as valuable as before: employers require higher qualifications to get the same jobs (The Economist, 2018b). In this respect, education can be a positional good, but people often do not call it conspicuous good.

Frank (2008) defines positional goods are the ones “which the link between context and evaluation is strongest”. This definition is quite general as it does not specify how context can influence the evaluation, so it can be mistaken to goods influenced by network externality. In a previous paper, Frank (2005) proposed another definition which clarified a specific link between context and evaluation: “one whose utility depends strongly on how it compares with others in the same category”. In combination, we can see the value of the goods strongly depends on context - how the good is better or worse than the others.

To be influenced by comparisons, positional goods have some characteristics. First, high-end, luxury goods often are positional goods. Luxury goods are goods which people buy for mere usage or display. Kapferer & Michaut (2015) states that luxury goods have certain elements: exceptional quality, high price, and rarity. Second, goods which are easy to observe tend to be affected by positional externality because people can compare it with others easily (Frank, 1985). This is the reason why conspicuous goods are often observable goods: people cannot show off if the goods are difficult for others to observe (however, nowadays the super-rich tend to signal their wealth subtly (Trigg, 2001)). Clothing, shoes, cars are very easy to observe and subject to comparisons even if those are not luxury goods. Unobservable goods, in contrast, difficult to be compared. One’s insurance contracts or car safety are not visible to others – people cannot compare even if they want to and therefore, these goods are not subject to comparisons. People enjoy the benefit of these goods without the need to compare the goods with others.

However, goods are normally not completely positional or non-positional. Any good can be “made up of use and waste in the most varying proportions.” (Veblen, 1899: 47). For example, high-end DSLR cameras serve professional photographers great functional value, however, many people nowadays buy them only to show off their

wealth rather than being able to make full use of them. The degree of positional varies with different goods, for example, researches show that cars and homes are more affected by relative position than goods like health and safety (Solnick & Hemenway, 2009).

2.3. The influence of positional externality on the relative position

2.3.1. Concern for relative position

People care about their relative position because of either external factor (social status – how others view and value them), or internal factor (social comparisons).

The concern about social status can be a fundamental human characteristic (Hopkins & Kornienko, 2004). Frank (1999) argues that through evolution, concern about social status has become part of human characteristics because higher social status links to higher survivability. Psychology researches show social status brings benefit such as increase in happiness and self-esteem (Carbonell, 2005). A particular example of Landis & Gladstone (Landis & Gladstone, 2017) shows extraverts tend to spend more on conspicuous consumption than introverts do, which suggest the concern for status is a characteristic of the extravert.

The desire for social comparisons is hard-wired in the brain of people and difficult to change (Krugman, 1998). Researches show social comparisons happens when there is no objective standard; people need to evaluate their opinions or abilities by comparing with others (Festinger, 1954). This is different from concerns about social status because people do not only compare goods which enhance social status: a person can still compare his meals to the others' meals and feel bad if his meals are worse than the others, even when no one knows what they eat and therefore are not affected by how others perceive them. Social comparisons theory suggests that goods like food or healthcare can still be positional, but the effect is just less than conspicuous goods.

2.3.2. Changes in relative position and Positional Arms Race

Conspicuous consumption can increase or decrease the rank of an individual. Hence, the value of a conspicuous good is determined by its ability to improve the relative position of the owner.

The model that people care about their relative position in society assumes that people care about the ordinal rank in the consumption or income distribution (Hopkins & Kornienko, 2004). Krugman (1998) states that conspicuous consumption is a zero-sum game: one's status can only increase by reducing others'. Positional goods increase the social ranks of the ones who consume those by reducing the rank of others. The consumers of conspicuous goods can feel better while others feel worse about themselves.

After having their social ranks suffered from others' purchases, those whose ranks were reduced have an incentive to buy more positional goods to climb back the social ladder. Frank (2008) calls it a positional arms race, and compares it to a military arms race – in which two countries invest more in military in an attempt to gain advantages over the other. When both sides have stronger military, no one can gain the advantages and both sides lose the same amount of resources without being able to get to their goal. In the positional arm races, everyone competes to get higher social status, however, all the gain in status from increasing consumption is “cancelled out by the similarly increased expenditure of other” – a conclusion of a theoretical paper from Hopkins and Kornienko (2004).

Assume that two people, A and B, both want to get higher position than the other. Both sides buy a better car to increase the social rank compared to the other. The Positional Arms Race can be illustrated in the table below, with the numbers illustrating the benefit each person gets. In the bracket, the number on the left is the utility of person A, the number on the right illustrates the utility of person B. The table assumes each person loses 1 utility - “unit of benefit” from buying the car, but gains 2 units when his social rank increases compared to the other.

		Person A	
		Buy	Not buy
Person B	Buy	(-1,-1)	(-2,1)
	Not buy	(1,-2)	(0,0)

Table 1: Positional arms race – adapted from traditional game theory.

From the table, we can see if A chooses to buy, the best response from B to protect his benefit is to also buy a positional good. The outcome is a Nash equilibrium when both lose 1 utility. But even if B does not react, the total utility of A and B still lower than the case no one chooses to buy.

The table only illustrates the positional arms race between two people; however, in the real world, the large majority of people join the positional arms race. There are many papers which examine the strategy of multiple actors in a positional arms race, included (Hopkins & Kornienko, 2004) and show the gain from one is canceled out by the others.

Positional externality changes the evaluation of the existing consumption. For examples, when some job candidates start to wear expensive suits, the better suits make the interviewers good impressions. In exchange, the normal suits of other candidate would be less likely to create as good impressions as they do when no one wears the expensive suits (Frank, 2008). The consumption of expensive suits reduces the value of the normal suits in the eye of the interviewer.

2.4. The influence of positional externality on non-market goods

Section 2.3 is based on the idea that people directly care about their relative position. However, there are cases which people have no concern at all about the relative position, but their behavior can still create a positional externality. Imagine the case people apply for a high-rank job and each job candidate has no concern about their relative position to the others. They may even still wish everyone else also have the

same jobs. Each job candidate has the incentive to wear a more expensive suit in the interview because it increases the chance that they get a job, at the same time care nothing about other candidate. However, it subsequently change the relative position of the candidates in the eye of the employers reduces the ability to get jobs of others (Frank, 2008). The outcome of these behaviors is not different from the case which people care about their relative position.

2.4.1. Non-market goods

This example shows some goods do not directly satisfy our end needs and wants, but to help us to achieve other goods. Those goods are called non-market goods - goods which people want, but not able to get it directly in the formal market: people cannot directly buy fame or admiration (Perez-Truglia, 2013). People can only get those goods by buying other goods which grant them access to those non-market goods. Jobs candidates cannot buy job slots (unless they try to bribe the employers), they need to buy better clothes to increase the chance to get jobs.

There can be a strong link between non-market goods and the values that marketers suggest conspicuous goods bring to people. Some examples can be social status, better image of oneself, high-ranking jobs. Social status also gives people more opportunity, for example, higher chances to get a better marriage partner (Hopkins & Kornienko, 2004). Many literatures, which mostly focus on conspicuous consumption, claim that the concern about positional goods comes from concerns about social status, for instance, show off one's wealth (Veblen, 1899). Another research shows people have better treatment and financial gains if they purchase conspicuous goods (Nelissen & Meijers, 2011). Other benefits include improvement in self-esteem, show personality, improve happiness, etc. The benefits of conspicuous goods are also the value of non-market goods. The value of conspicuous consumption is based on how it can help the consumer access to non-market goods.

2.4.2. Signaling theory

The wastefulness of the competition for the relative position can be explained by signaling theory. Some market goods can buy non-market goods by signaling certain

characteristics. Conspicuous consumption signals the wealth of the buyer, so it increases the chance of access to non-market goods (Perez-Truglia, 2013).

Literatures suggest people buy positional goods to signal their wealth. Veblen (1899) argued that it is difficult for people to directly observe the wealth of others and only able to guess the wealth base on observing others' consumption. Because of that, people need to pursue conspicuous consumption to signal their wealth to others. By buying conspicuous goods, the consumers show that they can afford the goods. The ability to buy goods become a reliable signal for wealth.

The arguments from Veblen and many others are limited to signaling wealth, which limit the scope of conspicuous consumption (Trigg, 2001). Positional goods can be used to signal other traits (Nelissen & Meijers, 2011).

2.4.3. The social scarcity of non-market goods

Hirsh (1976) argues the non-market goods are often limited in nature. The implication of this argument is the increase in the quantity of positional goods does not lead to an increase of non-market goods. When one spends more to get the non-market goods, they reduce the access of the goods to others. The outcome is a zero-sum game: one gets more when others get less. If the society spends more on goods which can later buy non-market goods, the distribution of the scarce goods will change, however, do not increase access to the non-market goods. When everyone spends more the same amount, the price of the non-market goods increases and the outcome is the same as the "positional arms race".

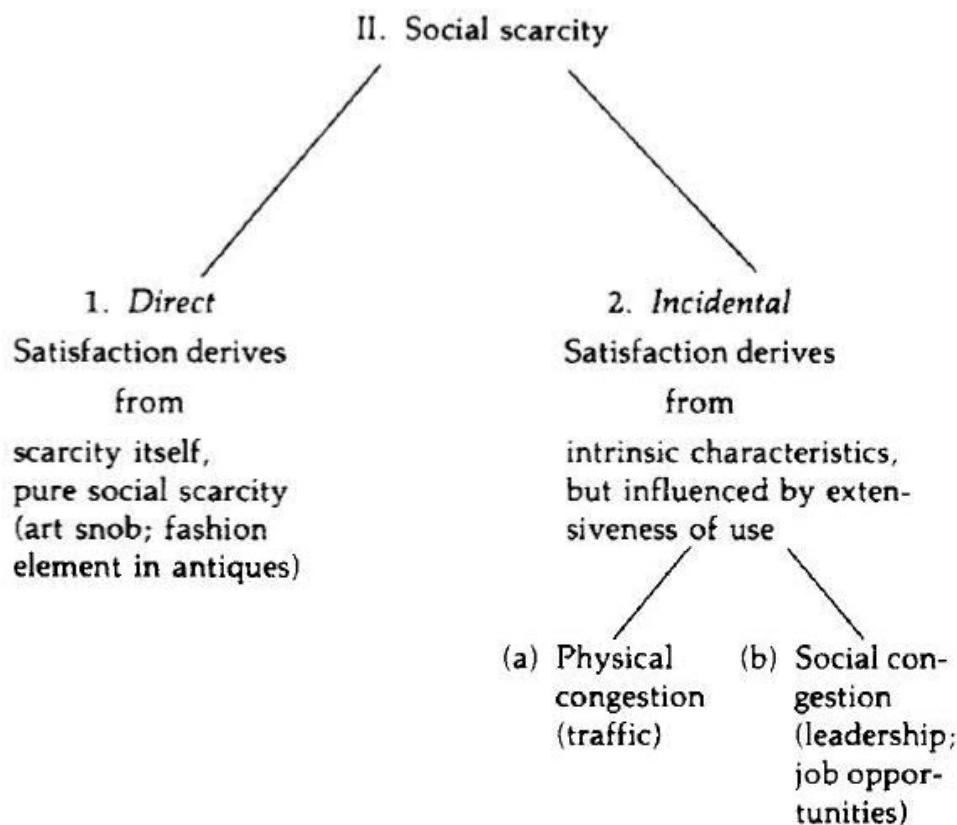


Figure 1 Social scarcity (Hirsch, 1976)

Non-market goods are limited in two ways. The first type, people can have direct satisfaction from scarcity, like a person feel the value of his art reduces when others copy that art. In this case, the supply for scarcity goods is certainly limited. The second type is non-market goods can create benefit from its intrinsic characteristics, but the supply for those goods are limited in nature. For example, high social ranks only belong to certain people. The idea that everyone can have high social ranks at the same time seems ridiculous (Hirsch, 1976). Pretty can also be scarce. The standard of beauty is relative, and only a few people can be considered as “pretty”. When everyone use cosmetics, it is not likely that cosmetics would increase the total self-esteem.

2.5. The influence of positional externality on social norms

The consumption of positional goods is not purely based on competing for ranks as proposed in the relative position model and social scarcity model. People can buy positional goods is to conform to social norms and customs – which belongs to the “network effect”, “network externality” or “bandwagon effect”. In contrast with the social scarcity, which only some people can access the non-market goods, in some circumstance, social norms may allow everyone to conform. The amount of non-market goods can fluctuate or change.

Social norms require a level of acceptable consumption, and people compare themselves with a “conventional standard of decency” (Veblen, 1899) rather than with others. An example of social norms is noted by a famous economist: “Adam Smith in his day noted that women in England required better clothing to appear in public without shame than women in Scotland did”(Alpizar et al., 2005).

The influence of the bandwagon effect is different from the positional externality. Andersson (2008) found respondents concern more about their relative consumption when their consumption is lower than society average. Those people concern more because they both want to increase their relative position and conform to the social norm, while the ones who consumption is higher than average – so they already matched the social standard - only need to care about their relative position. In certain societies which discourage show off, people may even avoid consuming higher than the standard.

However, social norms are easily affected by positional externality. Social norms are sensitive to upward comparisons and decided by the “elite” in society (Bourdieu, 1984). When new positional goods are purchased, it shifts the standards of acceptable level of consumption. Veblen also focuses on the trickle-down effect of consumption, when the rich buy conspicuous goods lead to the change in the generally acceptable level of consumption (Veblen, 1899). For example, Frank (2005) showed the shift in standards for desirable houses in the United States is pushed through all income groups, start with the changes when the richest build larger houses, shift the standard of slightly lower income group and then push pressure on the lower income group. The

evidence is since 1980, the median size of a newly constructed in the US has increased two times higher than what traditional model, which does not include positional externality, suggests. When social norms changes, people need to buy more goods to meet the standard.

Social norms are shaped by many factors, and therefore, can deviate from the average level of consumption. If advertisements can make people compare themselves with a high standard, the norms become the standard set by advertisers.

2.6. The contribution of Irrationality and Hedonic Adaptation on demand for positional goods

From the reasons above, we can see people have the rationale for buying positional goods. However, the demand for positional goods can still come from irrationality. People may falsely expect that they need to spend more on positional goods than they need.

Hedonic adaptation may make a person expect he will get more utility from a good, and then irrationally decide to purchase the goods. Because people get used to having a good, they will feel happy for having a good for a short-term, but in the long-term, the feeling will be faded away (Frank, 1997).

Just a few numbers of irrational people can exaggerate the positional externality to everyone else. As some start to buy more, they create positional externality, which makes others need to consume more. Hence, the positional arms race becomes worse with the existence of hedonic adaptation and irrationality.

2.7. Happiness and positive freedom

The previous sections provide a general view on positional externality; however, they do not discuss whether such influence is good or bad. To evaluate something is good or bad, we must use some kinds of value judgment instead of purely describing a fact. The concerns about the criteria to judge good and bad have been the jobs of moral philosophers for a long time. However, there are beliefs that having value judgment is

not part of economics (Ng, 1972). Although the value judgment can be outside the scope of economics, the values set by philosophers still influence the way economists assess the economy.

In this section, the paper explores two main value used in economics. First, happiness, which set the base for many subjective well-being, happiness and satisfaction researches, and second, the notion of capability – or positive freedom, which set the base for Human Development Index.

2.7.1. Intrinsic and instrumental value

If, then, there is some end of the things we do, which we desire for its own sake, [...] clearly this must be the good and the chief good. Will not the knowledge of it, then, have a great influence on life? Shall we not, like archers who have a mark to aim at, be more likely to hit upon what is right?

Aristotle (2000) - Nicomachean Ethics

Consider this example: we want to have a job only because we want to have more money. We want more money only because money helps us to buy more products. We want more products only because they make us happier. We may continue to ask why we want happiness. We may answer that we want that because it is good in itself. From the writing of Aristotle, intrinsic value is good in itself; we want it without expecting it leads to anything else. Many philosophers argue that happiness is an intrinsic value, we still want happiness even if it does not lead to any other benefits, such as higher productivity or reduce depression, etc, it is still desirable.

On the other hand, we value job, money or products only because they can lead to something else. They are examples of instrumental value, which are the values we get to achieve other things. If we cannot use our money, getting more money is not meaningful at all.

2.7.2. Happiness and Subjective Well-being

Many philosophers, like Aristotle (2000), believe that happiness is desirable in itself. Happiness and pleasure are long believed to be the goal of human's lives. The idea has been promoted and becomes the ground for utilitarianism, which is promoted by

philosophers such as Jeremy Bentham and John Stuart Mill (Mill, 2014). They think happiness/pleasure is the only criteria to decide the good and bad.

The philosophical arguments have some impact on economics research. Daniel Kahneman, in his paper “Back to Bentham? Explorations of experienced utility”, refer to the importance of real happiness/pleasure, which comes from Bentham’s definition of utility. It is different from the one often used in economics, “decision utility”, which focus on explaining the decision of consumers. He uses the term “experience utility” for Bentham’s one. (Kahneman, Wakker, & Sarin, 1997). Kahneman believes that we should focus on research the “experience utility” than “decision utility”, and help to build the research on happiness.

Because of the importance of happiness, nowadays there are more and more economists joined researches on measuring it (Ferrer-i-Carbonell & Frijters, 2004). There are more than 3000 studies about happiness in the 20th century, and currently, those studies treat happiness as the main subject instead of a side issue of health and aging (Veenhoven, 2004).

Utilitarianism only cares about happiness as intrinsic value, which we cannot be sure about. People can follow other goals in their lives which are not maximizing happiness or pleasure. Buddhist people have their own beliefs that they should avoid having both positive feelings like happiness and negative feelings. Therefore, we may believe that happiness is not an intrinsic value. Amarty Sen (2000) criticizes utilitarianism for neglect non-utility concerns, for example, rights and freedom, so even if happiness is an intrinsic value, it is not the only one. However, happiness can be instrumental value: the increase in happiness can improve productivity, hence increase the amount of goods produced, which allow people to achieve other goals. Hence, happiness is still an important goal of society.

2.7.3. Positive freedom and Human Development Index

Sen suggests another criterion called Capability Approach: freedoms and capabilities “to choose a life one has reason to value”. He claims the Capability Approach can cover a broad range of values. Having more freedom means people can pursuit any

values that they want instead of just be happy (Sen, 2000). Because freedom allows people to pursue their value, freedom can be an instrumental value. If certain freedoms do not help people to achieve what they want, those freedoms can be useless.

The Human Development Index is built on the Capability Approach, and “emphasize that people and their capabilities should be the ultimate criteria for assessing the development of a country” (UNDP, 2018)

2.8. The negative effect of positional externality on happiness

Losing in a positional arms race can have direct consequences on psychological well-being. People with low social ranks feel worse about themselves, so they have low self-esteem and low happiness (The Economist, 2012). When new purchases alter the social norms and standards, the harms they create is more than just the waste from a zero-sum game. The ones who cannot keep up with social standards may face discrimination, which has big impact on their well-being. The feeling of shame can reduce happiness.

The way people perceive positional externality is also important. Reports show girls in high school tend to feel bad about their appearance, which affects their happiness (The Economist, 2018a).

Positional externality also affects happiness in an indirect way. It reduces the capabilities of people to achieve what they want, hence, potentially reduce their happiness.

2.9. The negative effect of positional externality on positive freedom

Even the ones who do not care about their position are still harmed by positional externality can take away the opportunities they have. Positional externality changes the distribution of non-market goods, which have a negative effect on people who have low ranks. The ones who consume less positional goods can get less prefer treatment compare with others. People who show up to be poor can be discriminated, which do not only reduce happiness but also reduces the real opportunities: the chance to have jobs, ability to get help from others, etc. (Frank, 2008) provides an example of people need to buy larger houses to get to better school. The one who can't keep up with the

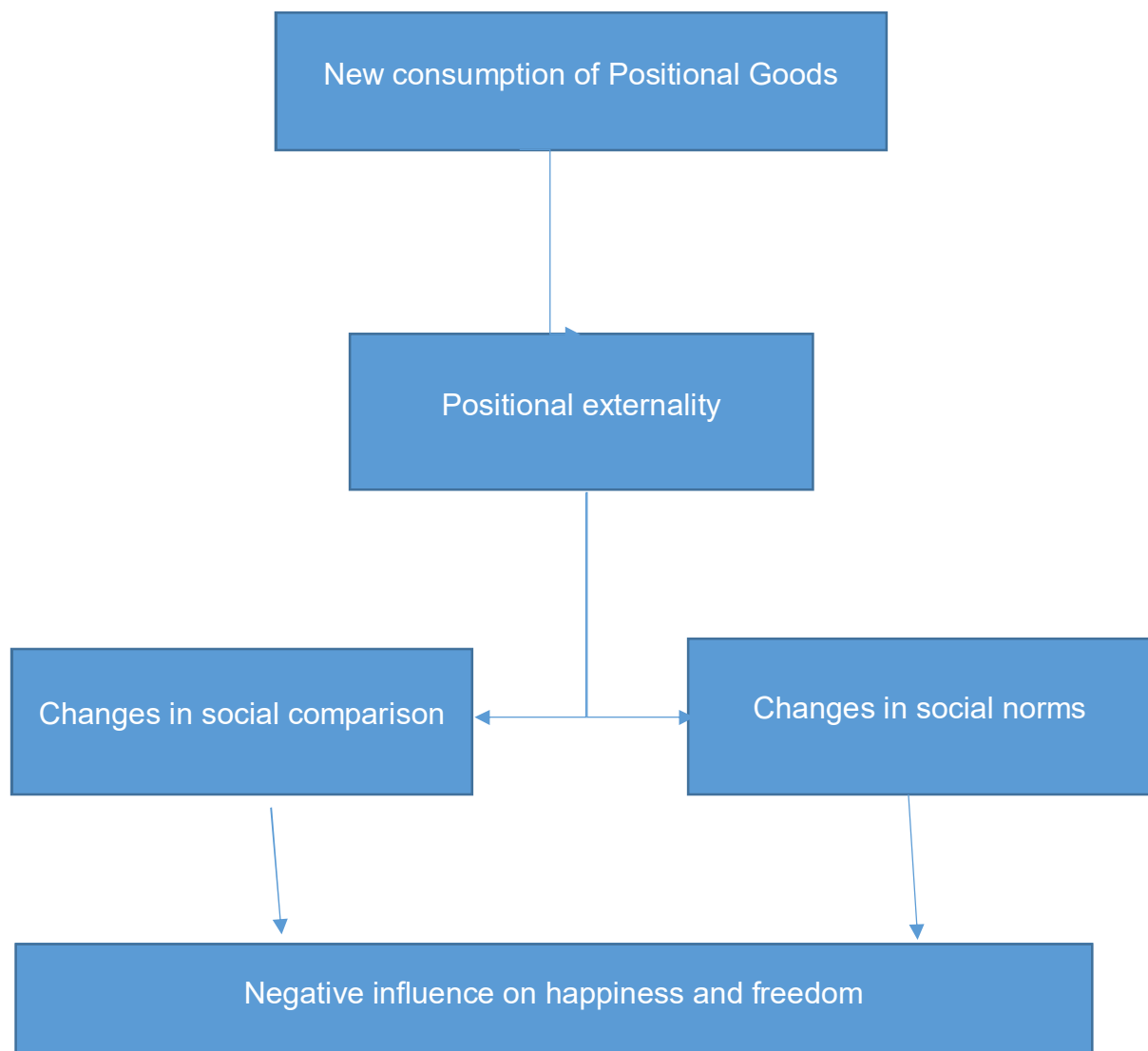
standard can't get their children to a good school. The outcome is inefficient as the most vulnerable in the society even get worse treatment because of positional externality.

The positional arms race leads to tremendous waste. According to Frank (1997), trillions of dollars each year has been lost because of "consumption arms races". To produce positional goods, we lost human resources, which can divert to more useful activities, and natural resources, which can partially divert to produce non-positional goods and benefit more to people. Through resources loss, the wasteful of positional arms race significantly reduce the capabilities and freedoms we have to achieve what we want.

The resource losses have strong negative consequences to certain groups. If the rich spend more on conspicuous consumption, the poor need to spend more to keep up with the standard (Hopkins & Kornienko, 2004). While the rich are already able to secure their basic needs and the resources lost just reduce the ability to enjoy lives a little, the poor wasted important resources which should be spent on important goods like education and healthcare.

Wasting natural resources also create environmental issues. For example, the trend in the fast-fashion industry changes pretty quickly and makes lots of clothes out of fashion. People buy lots of new clothes to keep up with new standards and clothes and the outdated clothes are thrown in the trash, which serious environmental effects (Joy, Sherry, Venkatesh, Wang, & Chan, 2012). The environmental harms significantly reduce the capabilities of future generations to flourish.

2.10. Conceptual framework



The conceptual framework shows a new consumption of positional goods creates positional externality through changes in social comparisons, which come from the competition of relative position (section 2.3) and the increase in the price of non-market goods (section 2.4). The second way that it can create positional externality is to contribute in changing the social norms and rising standard of acceptable level of consumption (section 2.5). Both ways create a negative influence on aggregate happiness and freedom of society.

3. Methodology

Several methods are adopted to test the effect of positional externality. Previous researchers used pure theoretical approaches (see (Frank, 1985); (Hopkins & Kornienko, 2004)) or empirical approaches like hypothetical questions (see (Carlsson et al., 2007); (Solnick & Hemenway, 2009)), or real-world data (see (Johannes & Jeremy, 2015) & (Perez-Truglia, 2013)). Currently, there is an increase in theoretical researches and the theoretical part are well-developed by previous researchers, but there is still a lack of empirical studies. The hypothetical questions may only reflect respondents' decisions when they see the questions but not their decisions in real life, and therefore may not as correct as the real-world data (Carlsson et al., 2007). Because of that, the thesis uses real-world happiness data from Life in Transition Survey III and Eurostat. Statistical methods, including simple regression analysis and descriptive statistic, will be used to explore the data and prove the hypotheses presented in the first part.

In this thesis, the Ordinary Least Squares (OLS) linear regression is used to test the hypotheses, and to model the effects of the explanatory variables on the dependent variable which is wellbeing. Both univariate and multivariate regression models are used. The OLS method finds a value for α and β_i such that the sum of the squared errors is minimized. When the error terms are uncorrelated, have equal variance, and mean of zero, the OLS method provides estimators which are BLUE – Best Linear Unbiased Estimators. A test for heteroscedasticity is used in this study ensure the absence of heteroscedasticity which when present leads to incorrect standard errors.

However, the dataset and the method used have certain limitations and therefore, the proofs of hypotheses may not be credible. The thesis then uses secondary data from previous researches, which are much more rigorous and have higher credibility, to compare to the results of the hypotheses and present the more credible results of the effects of position externality.

4. Quantitative analysis and results

4.1. Introduction

The thesis tests the effect of positional externality through income and consumption comparisons. Clothing consumption is chosen because clothing is considered as positional goods: clothing can easily be observed and compared, the value of clothes often depends on social norms (Perez-Truglia, 2013). Four hypotheses are tested, with two relate to income comparisons and two relate to clothing consumption. The data used comes from Life in Transition Survey III and Eurostat.

4.2. Data set

Life in Transition Survey III (LiTS III) is the third survey round conducted by the European Bank for Reconstruction and Development. The two previous surveys were conducted in 2006 (LiTS I) and 2010 (LiTS II) (EBRD, 2016). The LiTS III was conducted in 2016 in 34 countries, with 32 countries in central and eastern Europe, central Asia, and northern Africa; and two Western Europe countries, Germany and Italy, for comparisons. The sample size for each country is 1500 households (*Life in transition survey (LiTS III)*. 2014).

The thesis selects nine countries from the survey: Czech Republic, Cyprus, Estonia, Germany, Greece, Hungary, Italy, Latvia, Lithuania, Slovakia, and Slovenia. These countries are selected because they are in Eurozone - countries which use Euros as the official currency, which makes countries comparisons easier. The thesis selects several variables from the dataset, mainly on life satisfaction and income/consumption variables. Some other data from Eurostat are added to the database, such as GDP per capita of each country and the average consumption of clothing and PPP.

4.1. Hypotheses

There are four hypotheses for income comparisons (H1, H1a, H1b, and H2) and two hypotheses for consumption comparisons (H3 and H4).

H1: People who have higher perceived positions on wealth ladder will have higher happiness

Based on social comparison theory, people will feel better if they think that they are better than others. Also, people can compare and estimate their wealth correctly so the ones who think they have high income tend to have high income. High income allows people to do the thing they want, so they have higher happiness.

H1a: Control for income, People who have higher perceived position on wealth ladder will have higher happiness

H1b: Control for perceived position on wealth ladder, people who have higher income will have higher happiness

The social comparison comes from how individuals perceive themselves. People who think they have higher income would feel better about themselves, so they have higher happiness.

This hypothesis takes a moderate approach between the claims of (Easterlin, 1974), where people only care about relative position and traditional economic theory, which believe people only care about absolute income. Life satisfaction may not only come from the relative position of one person to the other. Higher income will also increase the ability to enjoy unobservable/ non-positional goods which can increase life satisfaction without concern about relative position.

H2: Control for income, people who live in country with higher GDP per capita will have lower life satisfaction

GDP per capita suggests the income that people get in one country. This thesis assumes people who live in a country with high GDP per capita, compared to the ones who have the same income but in a country with lower GDP per capita, tend to have most people around them with a higher income than the ones in the other country have. Because of that, the person will have lower social ranks, so they will be affected by social comparisons and have less freedom they will have lower happiness. The assumption can be challenged if the income distribution varies between countries.

H3: Controlled for income, people who spend more on clothing consumption have higher life satisfaction

When people spend more on clothing, their relative position can increase, and therefore improve their life satisfaction. The argument suggests that if people increase clothing consumption, they will be happier. However, it can be argued that the consumers are rational and they already have an optimal level of clothing consumption, so the ones who spend more on clothing seems to be affected more by social comparisons and may have lower happiness.

H4: Control for income, people who live in country with higher clothing consumption per capita will have lower life satisfaction

Clothing consumption per capita reflects the amount of positional goods consumed by people around an individual. This also reflects the appropriate level of clothing consumption. High clothing consumption per capita means with the same income, people get more positional externality. Therefore, they need to spend more to keep up with the standard, and/or have lower relative position compare to others.

4.2. Variables

4.2.1. Variables from the LiTS III dataset

Life satisfaction

Variable name: happiness

The variable shows the level of life satisfaction of each individual in the survey. The scores range from 1 to 5 for the question “All things considered, I am satisfied with my life now”, 1 is “strongly disagree”, 5 is “strongly agree”.

Perceived position on wealth ladder

Variable names: wealth_ladder, wealth_ladder_past and wealth_ladder_future

The variable shows how the respondents think their position on a wealth ladder. The scale of the ladder is from one to ten, the first is for the poorest 10% people and the tenth is for the top 10% richest in the country. Each respondent was asked to estimate which step of the ten is their household at the present (variable “wealth_ladder”), in the past 4 years (variable “wealth_ladder_past”) and in the next 4 years (variable “wealth_ladder_future”).

Other control variables

Variable names: q103_1; q108_1; q109_1; urban

These variables reflect other characteristics of individuals in the survey. “q103_1” reflect the gender of the respondent, “q108_1” is the marital status, “q109_1” is educational level, urban shows whether the respondent live in urban or rural area.

4.2.2. Variables from other datasets

GDP per capita

Variable name: GDPcap

The variable is the real GDP per capita of the country for individuals in the dataset. The thesis uses the data of GDP per capita in 2016 for European countries. The currency is euros, which fits with other variables in the LiTS III. The variable is already adjusted for power purchase parity. The data comes from the database in Statista.

Power purchase parity

Variable name: PPP

The variable shows the power purchase parity of the country of individuals in the dataset. The power purchase parity is from 2016.

Median income

Variable name: MedianIncome

This variable shows the median income of the country in 2016 of an individual in the LiTS dataset. The median income is adjusted for power-purchase parity.

Clothing consumption per capita

Variable name: AvgCC

This variable shows the clothing expenditure per capita (in euros) of each country in the dataset. The data is from 2016.

4.2.3. New variables calculated from other variables

Number of household members

Variable name: NoHHmem

The variable shows the number of household member presented in the household in the past six months. The variable is calculated from other questions in Section 1 of the survey about household members.

Income per head of households

Variable name: Income

Income per head of households are calculated from three variables: Income of households (variable name: q223) divided by number of household member (NoHHmem) then divided by PPP.

Clothing consumption per head of households

Variable name: Cloth

Clothing consumption per head of households are calculated by: Household clothing consumption per month (variable name: q222c) divided by number of household members (NoHHmem) then divided by PPP

4.3. Econometric Model

$$H1: \text{happiness}_i = \alpha + \beta_1 \text{wealth_ladder}_i + \varepsilon_i$$

$$H1a \text{ and } H1b: \text{happiness}_i = \alpha + \beta_1 \text{wealth_ladder}_i + \beta_2 \text{Income}_i + \varepsilon_i$$

$$H2: \text{happiness}_i = \alpha + \beta_1 \text{MedianIncome}_i + \beta_2 \text{Income}_i + \beta_3 \text{GDPcap}_i + \beta_4 \text{q103_1}_i + \beta_5 \text{q108_1}_i + \beta_6 \text{q109_1}_i + \beta_7 \text{wealth_ladder}_i + \beta_8 \text{wealth_ladder_past}_i + \beta_9 \text{wealth_ladder_future}_i + \beta_{10} \text{Gini}_i + \beta_{11} \text{urban}_i + \varepsilon_i$$

$$H3: \text{happiness}_i = \alpha + \beta_2 \text{Income}_i + \beta_3 \text{Cloth}_i + \beta_4 \text{q103_1}_i + \beta_5 \text{q108_1}_i + \beta_6 \text{q109_1}_i + \beta_{10} \text{Gini}_i + \beta_{11} \text{urban}_i + \varepsilon_i$$

$$H4: \text{happiness}_i = \alpha + \beta_1 \text{MedianIncome}_i + \beta_2 \text{Income}_i + \beta_3 \text{AvgCC}_i + \beta_4 \text{q103_1}_i + \beta_5 \text{q108_1}_i + \beta_6 \text{q109_1}_i + \beta_7 \text{wealth_ladder}_i + \beta_8 \text{wealth_ladder_past}_i + \beta_9 \text{wealth_ladder_future}_i + \beta_{10} \text{Gini}_i + \beta_{11} \text{urban}_i + \varepsilon_i$$

where:

- i is the subscript for each individual present in the data sample

- While α is the intercept of the OLS regressions, β_1 , β_2 , β_3 are the regression coefficients of the independent (explanatory) variables. The coefficients of the independent variables give an initial insight into the effect of each variable on the dependent variable. The coefficient of each independent variable measures the degree of change in the dependent due to a one unit change in the explanatory, while holding all other variables constant. The sign of the explanatory coefficients allows insight into whether or not the effect on the dependent will be positive or negative.
- ε_i is the error term of the OLS regression which has zero mean and equal variance.

4.4. Results and discussion

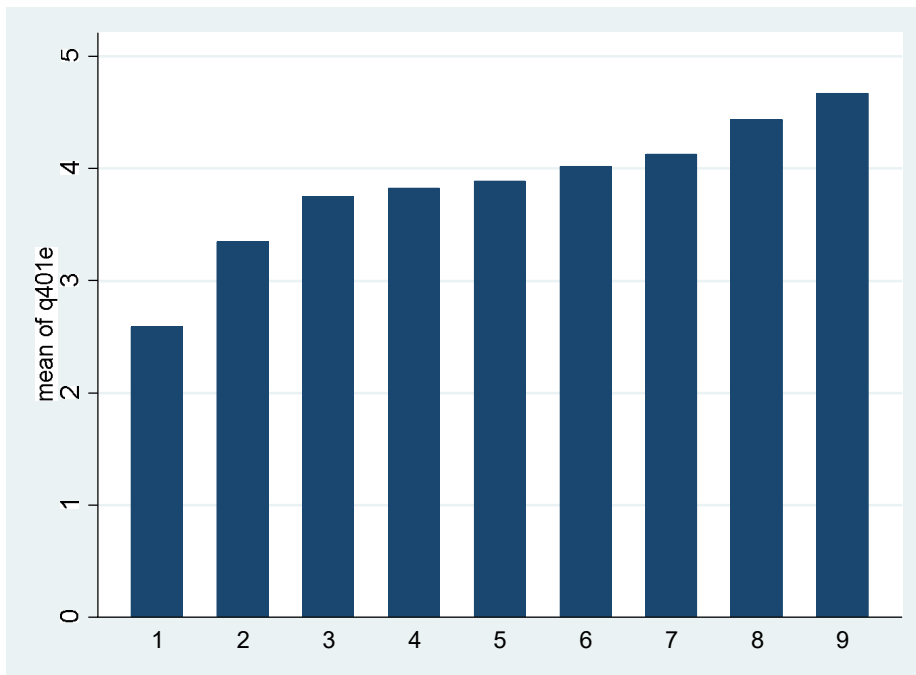
4.4.1. Hypothesis 1

H1: People who have higher perceived position on wealth ladder will have higher happiness

	Coefficient	Std. Err.	p-value
wealth_ladder	0.1858701	0.0052594	0.000

The regression confirms the hypothesis with coefficient = 0.1858 and p-value < 0.01. It shows for all countries selected, the increase in 1 step of wealth ladder leads to an increase of 0.19 satisfaction point (on a scale 1-5).

To illustrate the impact of perceived position on wealth ladder, the graph shows an example of Germany:



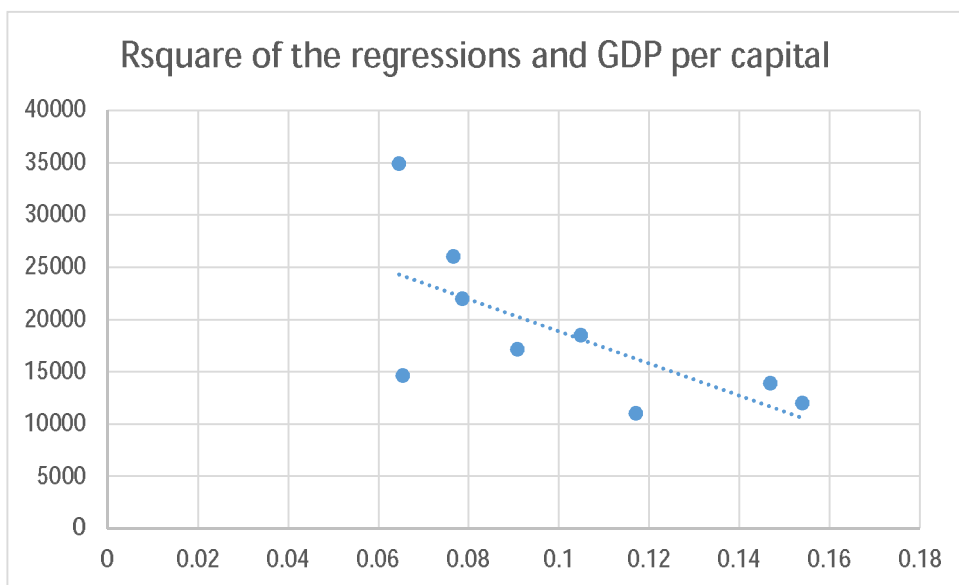
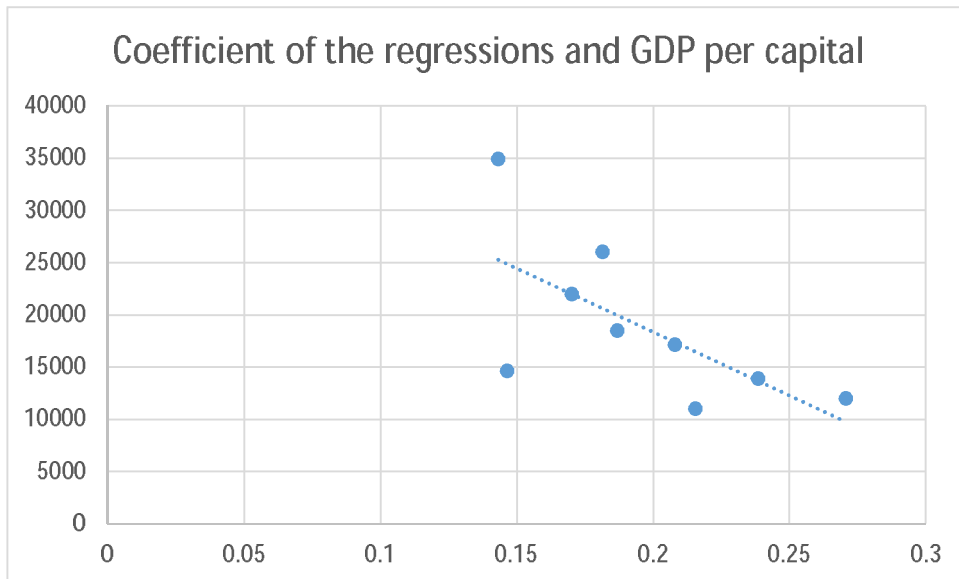
The group which people believe to have high position on the wealth ladder have higher average happiness than other groups. The ones who think they are on the lowest ladder have significant lower happiness than those who in second ladder, while the differences between other positions are not smaller.

4.4.2. The impact of income comparisons

The thesis did the regression on the data of each country to further explore if there are any differences in the impact of perceived position on wealth ladder in different countries.

	Coefficiente	p	R-square	GDP/cap
Lithuania	0.2705944	0	0.154	12000
Estonia	0.2385395	0	0.1468	13900
Latvia	0.2155657	0	0.1171	11000
Slovenia	0.1868442	0	0.1048	18500
Greece	0.2080789	0	0.0908	17100
Cyprus	0.1701731	0	0.0786	22000
Italy	0.1814088	0	0.0766	26000
Slovak Rep.	0.1465104	0	0.0654	14600
Germany	0.1432042	0	0.0646	34900

The effect of position on wealth ladder on life satisfaction is statistically significant in all countries analyzed. Lithuania shows the highest coefficient between position on wealth ladder and life satisfaction, while Germany has the lowest one.



While people in all countries care about their position on wealth ladder, the impact of the position is different in each country. The two graphs on the relations of perceived wealth ladder and GDP per capita show that in countries with lower income, an increase in perceived wealth ladder has a bigger impact on life satisfaction (higher coefficient) and perceived wealth ladder has a higher influence on life satisfaction (higher R-square: how much the regression explains the variance of life satisfaction).

As GDP per capita growth, people seem to care less about their position. One explanation is when income is low, both income and income position are important factor of life satisfaction. In a poor country, higher income means people can spend more on basic necessities and improve their lives. In a rich country, almost basic needs are provided and therefore having more money does not affect that much on life satisfaction.

4.4.3. Hypotheses 1a and 1b

H1a: Control for income, People who think they have higher income will have higher happiness

H1b: Control for perceive of wealth, people who have higher income will have higher happiness

	Coefficient	Std. Err.	p-value
wealth_ladder	0.1640808	0.0061046	0.000
Income	0.0002403	0.0000173	0.000

The regression shows both Income and perceived position on wealth ladder have a positive impact on life satisfaction, while the other variable remains constant. The result is consistent with the theory that higher income does not only improve one's view on social comparisons – which reflected in the perceived position on income ladder variable - but also improve the real opportunity that a person gets. Also, improvement in perceived position on wealth ladder increases life satisfaction even without the increase in real income. Even if people overestimate their relative position, the overestimation can make they feel better about themselves and have higher life satisfaction.

4.4.4. Hypothesis 2

H2: Control for income, people who live in a country with higher GDP per capita will have a lower life satisfaction

First, I took a test for heteroscedasticity for this regression. The test shows p-value is lower than 0.001, which means the regression has heteroscedasticity. To avoid incorrect standard errors, I use the robust standard errors for the regression.

```

Linear regression                               Number of obs   =    7,037
                                                F(11, 7025)    =   147.03
                                                Prob > F       =    0.0000
                                                R-squared      =    0.1937
                                                Root MSE      =    .94337
  
```

happiness	Coef.	Robust Std. Err.	t	P> t	[95% Conf. Interval]	
MedianIncome	.000059	6.35e-06	9.29	0.000	.0000465	.0000714
Income	.0001609	.0000341	4.71	0.000	.0000939	.0002278
GDPcap	-.0000395	5.41e-06	-7.31	0.000	-.0000502	-.0000289
q103_1	-.0272601	.0262608	-1.04	0.299	-.0787392	.0242191
q108_1	-.167685	.0279118	-6.01	0.000	-.2224006	-.1129695
q109_1	.0461281	.007421	6.22	0.000	.0315807	.0606754
urban	.0952879	.0241793	3.94	0.000	.0478891	.1426867
wealth_ladder	.1166138	.0167746	6.95	0.000	.0837306	.1494971
wealth_ladder_past	-.1163418	.0098612	-11.80	0.000	-.1356727	-.0970109
wealth_ladder_future	.1295837	.0105962	12.23	0.000	.108812	.1503553
Gini	-.0187602	.0029889	-6.28	0.000	-.0246195	-.012901
_cons	3.306743	.1445238	22.88	0.000	3.023433	3.590054

The regression shows an increase in GDP per capita has a negative effect on people, with coefficient of -0.0000395 and p-value < 0.001. This result confirms the hypothesis 2. The R-square of the regression is only 0.1937, means that the model explains 19,37% of all deviations.

This result shows an increase in GDP create positional externality. Furthermore, it shows the negative effect of positional externality outweighs the positive externality from a higher GDP per capita.

The result also shows that the increase in Median income would lead to an increase in happiness. Median income shows the income of the 50th percentile person in a country, so it is a better representation of middle-income people than GDP per capita – which shows the average income and can be easily influenced by the income of rich people. The effect of an increase in median income (while GDP per capita remain constant) on the income distribution of a country is unclear. The author suggest that

an increase in Median income may show an increase in income from bottom half of a country, which can create a positive effect to everyone, for example, lower poverty rate or more stable society, and therefore makes people happier.

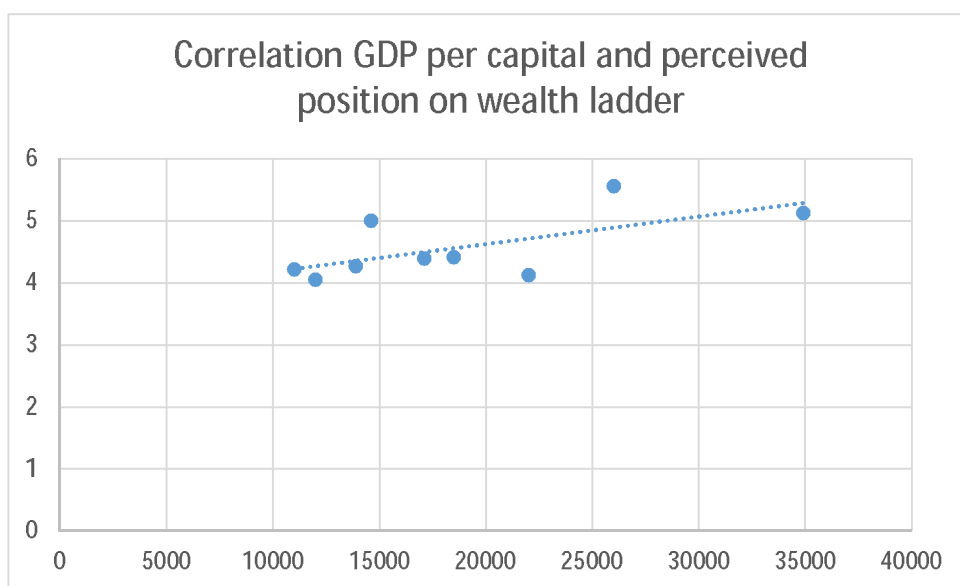
4.4.5. Other factors influence on social comparisons

From the regression of hypothesis 2, we can also see the influence of income distribution is statistically significant. The regression shows an increase in Gini leads to lower life satisfaction, with $p\text{-value} < 0.001$. Higher income inequality can exaggerate income comparisons at all income groups, the competition for social status become harsher and all may need to spend more on positional goods to retain their relative position. As countries are trying to reduce income inequality – Gini score – the result is expected and also support the goal of those countries.

The regression found past and future perceived position on wealth ladder influence on life satisfaction. The higher perceived position in the past four years has negative effect on life satisfaction, not surprisingly as people may get used to high position in the past, hence, they may compare with their own past and tend to dissatisfied with the status quo. While having the same perceived position in present, the ones who have lower perceived position in the past may see their lives have more improvement compare to the one with high perceived position in the past, and hence, they are happier. In contrast, the higher perceived position in the next four years has positive effect on life satisfaction. It seems that people feel happier if they think they will have a brighter future.

I took a further test to know if an increase in GDP reduces life satisfaction by changing the perceived position or not. The results are shown in the tables below.

	GDPcap	Mean wealth_ladder
Cyprus	22000	4.130174
Estonia	13900	4.272542
Germany	34900	5.128465
Greece	17100	4.39589
Italy	26000	5.563514
Latvia	11000	4.220638
Lithuania	12000	4.052133
Slovak Rep.	14600	5.001324
Slovenia	18500	4.41213



If people predict correctly their position, the average perceived position should be the same for all countries. However, the data shows an increase in GDP per capita have a positive effect on perceived position on wealth ladder. It seems that people mistakenly compare to others in different countries when they answer a question on comparing themselves with people in their countries.

If this is the case, then the increase in GDP per capita should increase life satisfaction through increase perceived position. The negative influence tends to increase

positional externality on the real opportunity of individual, and hence, reduce the happiness of those people.

4.4.6. Hypothesis 3

H3: People who have higher spending on clothing will have higher happiness

First, the thesis took a test for heteroscedasticity. The test shows p-value is lower than 0.001, which means the regression has heteroscedasticity. To avoid incorrect standard errors, the regression is taken with robust option.

```
Linear regression                               Number of obs   =    7,385
                                                F(7, 7377)     =    73.44
                                                Prob > F       =    0.0000
                                                R-squared      =    0.0804
                                                Root MSE      =    .98934
```

happiness	Coef.	Robust Std. Err.	t	P> t	[95% Conf. Interval]	
Income	.0002697	.0000414	6.52	0.000	.0001885	.0003508
Cloth	.000223	.0000366	6.09	0.000	.0001513	.0002948
ql03_l	-.0224403	.0272118	-0.82	0.410	-.0757833	.0309027
ql08_l	-.1870166	.028273	-6.61	0.000	-.2424399	-.1315934
ql09_l	.0654021	.007372	8.87	0.000	.050951	.0798533
urban	.1411994	.0244026	5.79	0.000	.0933633	.1890355
Gini	-.0259456	.0029563	-8.78	0.000	-.0317408	-.0201504
_cons	3.710866	.1156008	32.10	0.000	3.484255	3.937477

The regression shows an increase in clothing consumption leads to increase in life satisfaction, with p-value < 0.001. This shows people get more benefit when they spend more on cloth, however, with R-square equal to 0.08, the result is quite weak. The result may suggest people can be happier if they reduce savings or consumption of other goods in exchange of clothing consumption. Therefore, it seems that people have not reach the optimal amount of cloth consumption.

4.4.7. Hypothesis 4

H4: Control for income, people who live in country with higher clothing consumption per capita will have lower life satisfaction

The test for heteroscedasticity for this regression also shows p-value is lower than 0.001. The robust standard error option is used.

Linear regression		Number of obs	=	7,037		
		F(11, 7025)	=	177.24		
		Prob > F	=	0.0000		
		R-squared	=	0.2062		
		Root MSE	=	.936		
happiness	Coef.	Robust Std. Err.	t	P> t	[95% Conf. Interval]	
MedianIncome	.0001133	7.55e-06	15.01	0.000	.0000985	.0001281
Income	.0000969	.0000247	3.93	0.000	.0000485	.0001453
AvgCC	-.0015295	.0001173	-13.04	0.000	-.0017594	-.0012996
ql03_1	-.0120245	.0262255	-0.46	0.647	-.0634344	.0393853
ql08_1	-.2002109	.0273403	-7.32	0.000	-.2538062	-.1466157
ql09_1	.0379867	.0072381	5.25	0.000	.0237977	.0521756
urban	.0584732	.0242309	2.41	0.016	.0109733	.1059731
wealth_ladder	.1396921	.016958	8.24	0.000	.1064493	.1729349
wealth_ladder_past	-.1146975	.0098276	-11.67	0.000	-.1339626	-.0954324
wealth_ladder_future	.1235549	.010674	11.58	0.000	.1026307	.1444791
Gini	.0213132	.0042139	5.06	0.000	.0130526	.0295738
_cons	1.48659	.1708468	8.70	0.000	1.151679	1.821502

The regression confirms the hypothesis. The consumption of clothing per capita has a statistical significant effect on happiness with p-value < 0.001. Hence, the result shows clothing consumption has negative positional externality. However, the R-square is only 0.2062, so there are also a lot of other factors affect on the model. Furthermore, the regression cannot tell clothing consumption is completely positional or not.

5. Analysis from previous research

To compare with the results in Section 4, the thesis chooses two studies on the effect of relative income: “Do You Enjoy Having More than Others? Survey Evidence of Positional Goods” and “WHO COMPARES TO WHOM? THE ANATOMY OF INCOME COMPARISONS IN EUROPE”, and two studies on the effect of clothing consumption: “Consumption and Happiness” and “A test of the conspicuous–consumption model using subjective well-being data”.

5.1. Do You Enjoy Having More than Others? Survey Evidence of Positional Goods (Carlsson et al., 2007)

The study was taken in 2002. The methodology of the study is using surveys with hypothetical questions. The authors randomly choose 700 individuals in Sweden. The sample includes people from different educational backgrounds, income level, and gender to ensure the result can be widely applicable to different groups.

The study tested four hypotheses, two of which are selected to compare with the results in Section 4: “Income is more positional than leisure” and “Status-signalling goods, such as cars, are completely positional” (Carlsson et al., 2007). The first hypothesis are tested by asking respondents to choose between society A and society R, which one is the best for their future relative to live in. The income of their relative and the average income of society are listed in the table. All other conditions are the same, including price level and working hours.

	Society A	Society R
The relative's income	27000 SEK	25250 SEK
Average income of society	30000 SEK	22950 SEK
% of respondents choose society	25%	75%

The results shows people cares about relative position, especially when the absolute income level in society R is not much lower than society A. The study supports the results of hypothesis 2 in Section 4 because it shows people prefer to live in a society with lower average income, even when their absolute income reduce (compare to society A). The limitation of this research is it only shows the perception of people

about relative position. People may not fully aware the impact of positional externality when they answer the survey and hence, the result can underestimate the impact of positional externality.

5.2. WHO COMPARES TO WHOM? THE ANATOMY OF INCOME COMPARISONS IN EUROPE (Clark & Senik, 2010)

The research uses 18 European countries' survey information, which provided by the European Social Survey (ESS3). The goal of the study is to find the intensity and direction of income comparisons.

While this research does not focus on the affect of GDP on individuals. The paper provides some interesting results which can be useful for comparing with the results in chapter 4. For example, from the study, majority of Europeans think income comparison is important. Furthermore, people who compares with work colleges are less happy than the ones who compare with family members or friends. On this point, the paper is much rigorous than the results from section 3 because it specifies the groups that people compare with. The research also shows the intensity of income comparisons is higher in countries with lower GDP per capita, which consistent with the result obtained in Section 4.

5.3. Consumption and Happiness (Wang, Cheng, & Smyth, 2019).

The study was taken in China. It used panel data from the China Family Panel Studies. The panel data ask respondent about their life satisfaction and scale range from 1 – “very unsatisfied” to 5 “very satisfied” for happiness. The study shows an increase in individual absolute consumption increase happiness, even after control for income or other factors, which potentially improve life-satisfaction. The result of hypothesis 3 in chapter 4 is consistent with this study.

The study also tests whether the reference group consumption increases would lead to higher or lower happiness. The result shows happiness decreases when the reference group is other people in the same district. The result suggests that with a big reference group, the increase in others' income and consumption create negative positional externality on people. This result is consistent with hypotheses 2 and 4 in chapter 4.

However, when group of reference is people in the same hukou (a unit which is smaller than district), the result is reversed. The authors of the study explain that if a reference group is close to people, there is a “tunnel effect” that people would believe they can have opportunity to achieve the same income and consumption in the future, and therefore feel happier if this reference group is richer. This effect is not reflected in the hypotheses 2 and 4 in chapter 4.

5.4. A test of the conspicuous–consumption model using subjective well-being data (Perez-Truglia, 2013)

The article creates a theoretical foundation based on conspicuous consumption theory, which shows people buy observable goods to signal their wealth to others and therefore, the benefit from observable goods mainly comes from getting more than others. The article uses data from the Russian Longitudinal Monitoring Survey, which has over 14000 observations from 36000 people. It has data on food and clothing expenditure of each individual. The longitudinal dataset has a significant advantage to the LiTS III dataset as this article are able to calculate the change in rankings of individuals after time.

Using quantitative method, the article shows life satisfaction correlates with the ranking of clothing expenditure, but increase in absolute level of clothing expenditure does not increase satisfaction above the effect of increase in ranking. In reverse, increase in ranking of food expenditure does not contribute to the increase in satisfaction, but the increase in absolute food expenditure does. This result match with the predictions from the theory, as the benefit from positional goods (clothes) is mainly based on rankings, while benefit from non-positional goods (foods) is mainly derive directly from the goods. The result is also consistent with the hypothesis 4 in chapter 4, as people get negative influence when others get higher clothing consumption.

The finding from this article is much more rigorous as it can show the specific ranks of individual on consumption distribution, rather than relying on aggregate data like this thesis used.

6. Implications on policies, business, and individuals.

6.1. Government policy

6.1.1. Policies to reduce the positional externality

The negative influence of positional externality suggests higher taxes on positional goods (Alpizar et al., 2005). An example of tax on positional goods is luxury tax, which was introduced for the first time in 1918 in France and Great Britain, with the goal of “attack manifestation of wealth” (Bogart, 1919: 237). Although economics theory at that time did not concern with positional externality, it seems that the norms had a negative view on showing off wealth, therefore enable policy makers to make policies which reduce positional externality.

However, specific tax on positional goods have a lot of problems. First, it is difficult to know whether a good is positional or not (Mason, 2000). Different researches can have different result, for example, the research from Alpizar et al. (2005) found people concern about the absolute consumption of cars and housings, while previous literatures suggested those goods are highly positional. Second, consumers have many choices for positional goods, they can easily switch to other kind of positional goods when they face a very high tax on one positional good.

This problem leads to suggestions on a general tax apply on all kind of goods, including the progressive consumption tax, raising progressive income tax and so on. Instead of having specific tax rate on each good, Frank (1997) suggest a progressive tax on total consumption. The percentage of tax would increase if the total consumption increase, so the ones who consume more than others need to pay much higher tax. The goal of the tax is to reduce the consumption of the rich, therefore reduce the positional externality they create to the poor. The major difference between consumption tax and income tax is consumption tax does not punish savings, which would help the economy growth faster in the future. Frank endorsed a progressive consumption tax also in his other papers, for example, (Frank, 2010; Frank, 2008) .

6.1.2. Other policy implications

The existence of positional externality significant reduces the value that we get from current consumption. In many developed countries, it is likely that most of the goods

are spent on positional goods. Such awareness about positional externality can shift the debate for protecting the environment for future generations, which focus on how much we should sacrifice current consumption for future benefit. However, if current consumption does not bring many benefits, we can favor the argument to sacrifice current consumption.

For some other fields, positional externality can be an argument in favor of certain restrictions of behavior. In schools, students may need to wear uniforms to avoid adverse effect on poor students when the richer buy better clothes. In sports, doping is banned instead of allow everyone to use because if just one participant uses doping, he would force everyone else into a positional arms race – everyone would use doping and face negative health effect from doping.

6.2. Individual contribution to reducing positional externality

Not all changes can be taken by the government. Individuals can also contribute to reducing the waste of positional externality. Some of the contributions are already applied in social norms, for example, we criticize the rich when they show off their wealth.

6.2.1. Voluntary reduce consumption

To fight against the unrealistic beauty standard, the emerging “escape the corset” movement encourage women to reduce make-ups. (Jeong, 2019) When more women reduce make-ups, they reduce their positional externality and allow others to reduce make-ups. Their voluntary actions change the social norms which put so much pressure on women. This extreme case of positional externality shows people can have some awareness about the harms of positional externality, and when they do, they can collectively rebel against the norms and reduce the positional externality. However, there are many other circumstances where the harms are not so clear and people still not aware enough about positional externality.

If people aware more about positional externality, the ones who are spending above the standard should be the ones who reduce consumption first. If the rich do not spend on positional goods, it would be more difficult to know exactly who is rich and who is not and the credibility of the signal is reduced. Business which discriminate people

can have higher chance to loss rich customers, therefore their incentives to base treatment on signaling reduces.

There are some positive signs of the change in social norms. The book “The Sum of Small Things: A Theory of the Aspirational Class” argues that the rich in the US now spend less on conspicuous consumption. As society gets richer, more people are able to access conspicuous goods, and therefore the signal become less reliable. The author argues that when the rich spend their money better, they can defend their position easier and enlarge inequality (Elizabeth Currid-Halkett, 2017) . However, the rich spend less on those goods will also allow others to spend less on conspicuous consumption compare to the worlds which the rich still spend luxuriously.

6.2.2. Changing the way of signaling

Signalling is important in certain time. A large proportion of positional goods are used for signaling, hence, the changing the way of signaling can be beneficial for the society. For certain areas which need reliable signal, signal receivers can spend more effort on assessing others rather than relying too much on signal. If people can assess others more effectively, the need to signal can be reduced. The case mainly apply for education and jobs market. (The Economist, 2018b)

People can assess other better by just spend more time to get know about others. By withholding the judgment, we may treat other indifferently regardless of the signal they provide. This will reduce the incentive of others to spend on signaling. A more accurate evaluation will improve the situation, especially in case of discrimination. Black people are discriminated so they need to spend more on conspicuous consumption.

6.3. Ethical concerns for marketing

Mason (2000) argues that marketing for conspicuous consumption is harmful because it promote positional externality. He also state that marketers denied promote the sense of envy in the society. However, later marketing literature explicitly suggest for promoting social envy. If marketing increase the level of envy in the society, it is likely that it increase positional externality and therefore potentially harm the society.

However, social comparisons and envy can still remain the same without advertising, and advertisement just make people switch from buying one type of positional goods

to the others. If this is the case, then it is better for companies to advertise positional goods which are more beneficial for the society, for example, environmental friendly products.

7. Conclusion and suggestions for further research

7.1. Summary of findings

The result shows the existence of positional externality in income and clothing consumption, illustrated by hypotheses 2 and 4. The main finding is consistent with preceding researches, which show the increase in income and level of observable goods consumption around individuals reduce their level of happiness. The hypotheses 1 and 3 confirm people are happier if they have higher income, higher perceived position on wealth ladder or higher clothing consumption. The two hypotheses show people are beneficial from higher social position. Furthermore, the first hypothesis also shows the increase in income may also non-positional.

From the analysis, other factors related to perceived positions and income distribution can also influence life satisfaction. The result also suggests the impact of income comparisons in one country negative correlates with GDP per capita of that country. It indicates that economic growth can make people care less about relative position. Furthermore, the perceived position on wealth ladder in the past negatively affect life satisfaction, while a high perceived future position increase life satisfaction. A high Gini coefficient, which shows the inequality of income in one country, reduces life satisfaction.

7.2. Implications for International Business

While most of the implications of this study is for policy-makers, the study also has implication on the ethical side of corporations. With the existence of positional externality, firms should rethink about the values contributed to the society. Acknowledgement of positional externality can be used in corporate decisions making, for example, investment funds can avoid funding for corporations which produces conspicuous goods the same way that they avoid funding for oil corporations. Decisions on making new business or marketing project may take also take into account the positional externality they may create.

As individuals, we have the choice to set our moral standard and act accordingly. This means individuals have the change to choose where they can work, and avoid joining corporations which encourage envious behavior.

7.3. Limitations and suggestions for further research

One significant limitation of this research is the validity of cross-sectional data. The causation links cannot be easily specified, as in the cross-sectional regression model we cannot directly control for unobserved characteristics of the individuals. The cross-sectional analysis from Easterlin (1974) also shows correlation between happiness and GDP per capital, however, when he used longitudinal data, the increase in GDP per capital does not lead to increase in average happiness.

Some national data, such as GDP per capita, average clothing consumption may not reflect the real impact of positional externality on people. The distribution in income and cloth consumption can significantly change the way people compare with others. Some other variables are included to mitigate the influence of the distribution, for example, Gini coefficient, median income and urban status. However, those variables cannot fully remove the effect of difference in distribution.

In addition, the research limits to 9 EU countries with certain characteristics. The readers should be careful when applying a generalized conclusion to other countries, for example, Asian countries since they may have different results due to differences in cultural, economic and political tendencies. An example is most of Asia countries are collectivist cultures while EU countries are not.

Future researches should focus more on obtaining longitudinal data to avoid the limitation of cross-sectional data. More researches on different countries and regions are also very important to make the theory become general. In addition, more researches on applying the theory on government policies and corporate social responsibility should be taken to provide a more practical application in real world.

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