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**PLANNED OBSOLESCENCE: A QUESTION OF
CONSUMERISM AND PRODUCTION OF WASTE**

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<p>In nowadays world people do not realize the extent to which consumerism has soaked their lives. The way they are controlled by professional marketers in order to make them consumers is often beyond one's imagination. Fundamental tool on which consumerism bases on is Planned Obsolescence.</p> <p>Planned obsolescence is the idea of controlling product's lifecycle in order to control revenues. Without it the present economy would not sustain in the form as we know it. However it does not consider Earth's resources as finite, thus through constant production it also creates waste that we cannot cope with.</p> <p>This work is created to realize and analyze advantages and disadvantages of planned obsolescence. To gain full spectrum of the case both sides will be taken to account: the impact on economy and impact on ecology.</p> <p>Work is constructed in a way to help firstly understand fundamentals of the term and all inter-dependencies in order to be able to understand and follow the analysis and their bases.</p> <p>In this work I will try to give a full picture of situation and find possible solution to arrive at final conclusions.</p>		

<p>Key words Planned obsolescence, consumerism, environment</p>
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1 INTRODUCTION

The general knowledge about capitalism in today's society is insufficient. Among the people I have met and discussed this matter, many of them do not realize capitalism's basis and its dependence upon consumerism. Thus almost no one has ever heard about Planned Obsolescence, which is the fundamental element of consumerism and throughout past decades it has sculptured our economy into the shape that we exist in nowadays. The system in which you live has developed using small steps technique, thus unknowingly for the common user, such as me or you.

Judge yourself – have you ever wondered why, after many decades of automated, highly efficient production industry it is not common to inherit almost anything? How it is possible that we continuously produce in huge amounts, yet still there is ever growing demand? What kind of gimmicks does industry apply to make us buy things that we completely do not need? Maybe you never thought about it, but these questions are very important nowadays since, whether you realize or not, you are part of consumerism. Consumerism, which in coexistence with Planned Obsolescence is the base of our economy in the form you face it. In this work I will try to answer above issues and explain much beyond. But firstly let's understand what the Planned Obsolescence is; I will explain it from the roots.

Generally when hearing word *control* our reaction is rather negative. We do not like being controlled in any way, we intuitively neglect it. If, for instance, a government implements any change concerning control, people's response is almost never bright and positive. It is not surprising – we are all individuals living our own lives and we want to be the architect of our own fortune.

However, we all do realize, or at least should realize, that in the present world, everything needs to be controlled in order to keep things running smoothly and

without collisions. Without any system there would be no bonds to hold together the population of over 6 billion people. As most people would imagine the world without a system could be defined as chaos.

It should be quite obvious that some of rules decrease comfort of the individual, but are crucial advantage for society. Most of such rules are for the common safety and stabilization. Probably nobody enjoys sight of police while driving, and as many people complain about CCTV in every corner of urbanized areas around the world. It is also not rare that many of us search conspiracy in anything that is to control us. The same thing is about the Planned Obsolescence, the engine of consumerism, which in the present capitalistic system of economics was, is and will be the basis for further development and general prosper. Probably most of people have never heard of it and if they had, they find only sinister plots around it. But as without police we would have highly unstable society as without Planned Obsolescence, our nowadays economy would be drastically different from what we know.

Let's stop being mysterious and get straight to the point – Planned Obsolescence is an idea to design a product so it will become obsolete after uneconomically short period of time. Producer in order to stimulate the market and increase the sales uses P.O. so that the consumer will buy more. How does he do it? That is one of aim of my work – to explain the story beyond Planned Obsolescence: how it ever started, its importance for our economy and the influence on our everyday life.

As mentioned above Planned Obsolescence is fundamental for existence of consumerism, which further is a base of capitalistic economy. It provided a massive boost to many economies providing abundance for many, but behind consumerism, fancy shopping malls and self-indulgence that can be fed easier than ever, there is another story. Consumerism and Planned Obsolescence are wasteful poli-

cies and do not consider the fact that resources are finite. Besides they have rather bad influence for people's perspective upon values. In capitalism all are individuals, selfish and insensitive; people under influence of consumerism seek for self-indulgence, not for living in synergy with others. In the present time this problem is very sensitive and significant, therefore I consider it as very important to be understood, analyzed and cleared out. Thus besides the informational approach, this thesis will provide you with understanding of the problems concerned with society and environment: wrong perspective upon the values of our lives and bad impact of P.O. and consumerism upon our behavior, poor efficiency of material and power utilization. With fundamental understanding of these issues and all other connected with them, this work will provide with ideas and possible bases for solutions organized in 4 chronological steps.

2 BRIEF HISTORY OF PLANNED OBSOLESCENCE

Before Planned Obsolescence and consumerism were invented, at the end of XIX century fundamentals for these conceptions were created. In the opinion of subject's experts like Giles Slade, Jeremy Bulow or Vance Packard it all begun with development of automated industry and introduction of first disposable products. While automated production lines increased the output in tremendous style, the introduction of disposable goods have conditioned people to buy and throw away – it prepared grounding for consumerism.

A first thought about implementation of planned failure on a big scale was at the beginning of the 20th century. It might be seen as ironic, but the biggest problem of economy in 1920's and 1930's was overproduction (London 1932, 3; Packard 1960, 14; Slade 2006, 21). Warehouses and surpluses were overfilled with food and goods, while there were people on the street starving and freezing to death. New technologies of production increased factories' efficiency so much that demand was not sufficient to sustain the supply. Logically the problem lay within wealth distribution and insufficient money circulation. Economist Bernard London, who understood the matter, came up with interesting yet very radical idea using implementation of Planned Obsolescence of Failure on a global scale.

Bernard London's point is accurate: because of technological progress, production increased so much that there is no problem in amount of goods, but in people who do not want to buy them.

Overpopulated surpluses and warehouses were increasing the costs and the effect was deepening as there was no demand. It was vicious circle leading towards the 30's great crisis (London 1932, 3; Packard 1960, 14; Slade 2006, 21). People were not

purchasing because they wanted to save money, however without revenues companies were cutting costs including wages, which only developed the effect.

The first stage of implementation would include massive buy-out of everything that would be worn off – automobiles, furniture and all kinds of appliances by a government:

Wouldn't it be profitable to spend a sum of—say—two billion dollars to buy up (...) outworn junk, and in their place create from twenty to thirty billion dollars' worth of work in the construction field and in the factory? (London 1932, 3.)

Second part would include manufacturing products with expiration date. People would need to return their 'outworn' furniture, appliances or automobiles before the expiration date; otherwise they would suffer a penalty in a form of fee.

We must work on the principle of nature, which creates and destroys, and carries the process of elimination and replacement through the ages. (London 1932, 5.)

London saw abundance of people as a threat for economy – once capitalistic machine stops; factories do not have a market to create revenues. And that means millions of workers laid off.

Nevertheless, his idea was seen as too radical and it was rejected by government and economists. But that does not mean that Planned Obsolescence was not used at all. As you already know, disposable products are the ones that conditioned people for consuming. Society's practice of keeping everything until last moments of usability has turned into *throw-away* habit. It is worth to mention such companies like Gillette, and their disposable razors, or Kimberly Clark, with sanitary disposables (Slade 2006, 13-18). Their products were innovative through their easiness of use and reliability. Seemingly brands started developing and branded products became trusted for their uniformity, no matter in where purchased. What

is more – in spite of their convenience, they actually were cheaper in long run in comparison to traditional goods.

Society's sympathy towards simplicity of obtaining product and throwing it away has developed rapidly. Later on the *throw-away* habit concerned also products that were not meant to be disposable. It was achieved by Planned Obsolescence and this kind of trend we can see until today.

Once consuming society was created, manufacturers realized the advantage of minor changes in their products to make them look new – they created fashion. Fashion made people want to purchase a new generation of the product no matter if one they possessed was still functioning. The key to success was marketing and advertising. At postwar time, Dr. Cheskin and Dr. Ditcher introduced purely scientific approach on marketing and its affection onto society. The branch of science invented by them was called M.R. – *Motivational Research*. The research upon M.R. and development of advertisers' skills led to culture of consumerism. The belief in significance of this culture evolved immensely and became so great in USA that every economist and even president Eisenhower when asked how to develop economy of the country, answered simply: Buy, consume! America just ignited this behavior and the influence upon whole world was just a matter of time. (Packard 1957, 38-45.)

In 1950's ubiquitous banners, TV ads and social pressure led to situation where throwing away concerned not only disposable razors or paper cups, but also products that were previously were supposed to last for generations, like automobiles or furniture. In fact, the situation became so radical that the thrift was considered as harmful and economy as waste of life and these definitions were generally avoided. (Packard 1957, 50-53.)

A consuming ideology with all three kinds of Planned Obsolescence (discussed in chapter 3) is still up to date and below quotation visibly illustrates evolution of conception:

For quite some time telephones did not break because there was a huge market to be satisfied and, over decades, the companies that created the equipment would concentrate on improving real service and efficiency rather than issuing new designs and other unneeded extravagances. Over time though, it was realized that the technique had reached quasi-perfection, that there was little more left to be desired... and that the market was satisfied. (Crow 2009)

3 TYPES OF PLANNED OBSOLESCENCE

Manufacturers and marketers developed several various techniques for persuading consumer to replace their products before they become practically unusable. Planned obsolescence is an idea of making a product obsolete tangibly, such as failure or technological archaism, or by instilling its artificial oldness in consumer's mind by outmoding it. I have found several obsolescence types and techniques, but all of them are included in three main types of Planned Obsolescence that can be distinguished: technological, psychological and manipulated failure. They all influence each other; they are inter-dependent to some extent and sometimes can be confused. Often marketers build up this confusion to make consumers believe that a new introduced product has new features, technologies, is faster or more functional, while it is only illusion. The order of obsolescence types is constructed basing on chronology:

3.1 Technological obsolescence

It is first, earliest and most constructive kind of Planned Obsolescence also called obsolescence of function. It occurs when product becomes obsolete with introduction of improved successor on the market. The reason of becoming obsolete comes from technological advance. It can be at better functionality, reliability, of a new feature, new technology applied or all of those. Like fire stoves were replaced by electric ones, and cars started manually with a crank were repressed by automobiles with electric starters. A consumer intuitionally and logically desires improved product, thus he will intend to obtain a new, improved one, even if his present 'old' remains functional. Obsolescence of function has rather positive impact in general as it provides technological advance and economic growth and stability. Producer when already possesses developed, new generation of the product, he chooses the most suitable time of its market premiere for manipula-

tion of sales. An existing product becomes obsolete with the introduction of new one so its sales will drop (Bulow 1985). Thus manufacturer must analyze the situation and apply the rules of managing the product's lifecycle. Obsolescence of function, because of its demanding nature is rather used only for limited product types and markets.

3.1.1 Expensive and demanding technique

Technological obsolescence is common on competitive market, because a monopolist would not bother using this type of making product obsolete – it requires more money and efforts than creating just new design (obsolescence of desirability) or creating shoddy product (obsolescence of quality). On competitive market companies producing durable products, like automobiles, cellphones, etc. will have to continuously advance the progress in order to preserve or increase their market share. And if they will be late, consumers would choose a more modern product from competition, of course taking a price factor into consideration. Good example for that is Nokia's situation that started in 2007/8, when executive suit underappreciated smartphones (GRAPH 1).



GRAPH 1. Nokia on New York Stock Exchange (NYSE) (Google Finance 2013.)

Probably the reason of such attitude was their experience from 1997, when they introduced Nokia 9000. It did not face big enthusiasm as the market was not ready for this kind of product yet: the operators could not support all its features in ad-

dition to the price of 300 British pounds just prevent the sales to boost (Evans 2007). Nokia's leadership has been created on reliable phones and they abandoned idea of smartphones. A decade later competition, like Samsung, Apple and Research In Motion (RIM – manufacturer of BlackBerry) noticed potential demand for smartphones with introduction of iPhone. In 2007 they started building strong groundings for this particular market and resulted with great increase of their profits. As visible on stock value diagram (GRAPH 1), Nokia lost its value for the sake of e.g. RIM (GRAPH 2), in moment of popularization of smartphones (c.a. 2007/2009). This relatively small mistake of Nokia's executives' suit will continue to reverberate over next few years.



GRAPH 2. Research In Motion on NYSE (Google Finance 2013.)

Technological type of Planned Obsolescence is usually expensive and in addition it is not so easy to be achieved. It requires technological development and insightful analysis of market's reaction. Depending on market and type of good, its significance and opportunity to be applied varies much. Most likely obsolescence of function is applied only for durable products, like automobiles, appliances, mobile phones and computers. For achieving this type of manipulation of lifespan, a manufacturer must invent a new feature or innovation in order to make a new good more attractive than an already existing on the market. Significance of this type of manipulation depends upon market and type of good. Some markets like

India or Nigeria are not responsive enough to follow latest technology trends and they rather stick to existing, cheaper and simpler products. But even on most responsive markets a manufacturer will not be able to apply the obsolescence of function if new technology is not yet invented or the cost of developing such are uneconomically high, thus unprofitable. A marketer might however persuade the consumer on the improvement over older generation, even if there is none. Many producers do so, but of course they have to do it in clever way not to be accused for fraud.

3.1.2 Often undistinguished

Marketers often lack the possibility to create obsolescence using real technological advantage. Besides it might be a manufacturer's incentive to take advantage from the fact that the border between psychological and technological obsolescence is shady. Smaller costs included in changing minor, insignificant facets of product will tempt companies to create new generations of products and advertise them as improved over predecessor.

Thus they developed the idea of confusing consumer by making him perceive technological advance in new generation of product that has nothing but only changed design (Packard 1960, 80-91). Confusion between technological and psychological obsolescence is wide-spread and many people do not realize it. Automobiles as best example have not changed much in past century. Principle ideas of combustion engine and air-tube tires are still unchanged. Yet since 50's and growth of consumerism, new generation of cars are introduced averagely every 2-4 years and since then there were only few significant changes introduced with a new generation of a car: airbags, seatbelts, traction control and Anti-lock Breaking System (ABS) in 1973 (Mercedes-Benz in its S-Class), hybrid drive in 1997 (Toyota Prius) proceeding computerization and decrease of emissions (Berger 2001). So within over 60 years, most of important features could be introduced in 5-6 new

generations. Yet, basing on mean value, there have been around 20 premieres for each major car producer. That fact brings us to the assumption that 2 out of every 3 newly introduced cars, are bringing nothing more than just new design. Of course many might argue that there is constant development of engines, in matter of their efficiency and ecology. This is an undeniable truth, but in concept of purely technological obsolescence, it does not require building a new car from the basis. More efficient would be basing on already tested chassis and suspension, rather than creating new that require testing for beginning. Try to figure out technological differences between BMW e60 and its successor F10. The only crucial difference comes with minor development of engine, yet only with introduction of whole 'new' car, manufacturer can expect significant increase of sales.

3.1.3 Engine of progress

Because of costly procedures of achieving technological progress each next generation of product is sold for increased price. Consumers are used to ever growing prices and inflation, but seemingly, subconsciously the more they pay for example for TV, the more freely they will be willing to pay for servicing without haggling (Packard 1960, 125). This means bigger opportunities for service development and this trend might bring positive results for the future. Thus services unlike production do not consume much of resources – it focuses clearly on labor.

Obsolescence of function creates strong competitive market and it is most vivid on electronics market, where technological milestones appear practically every year. Taken from previous case; Samsung, Apple, BlackBerry and Nokia are nowadays leaders on cellphone market. Market is indeed so dynamic that Nokia, when slowed down their technological progress and underestimated value of smartphone market it did not take longer than 2 years to drop from leader position into almost forgotten brand (GRAPH 1).

Technological obsolescence provides clearly technological advance and economic stability hence it is surely the most constructive and beneficial before two below types.

3.2 Psychological obsolescence

Another form of manipulation is that of the “counterculture” appeal. Certain products are advertised and pushed as an alternative to “mainstream” items. Ironically people who participate in this theory and lifestyle are creating a mainstream all their own that becomes just as conformist as the original “mainstream” trends, beliefs, and mannerisms. (Crow 2009.)

This type of product’s life length manipulation technique is called also progressive or dynamic, where consumers are persuaded by marketing and visual aspects – fashion. This is second type, after technological, where manufacturer seduces customers to buy, however instead of technological, producer uses visual improvements. It is said that such an idea came from executives from textiles branch (DuPont) and it further spread into automobile industry (General Motors) (Slade 2006, 20-25). And it seems that actually until today fashion, which is basic of obsolescence of style, has the strongest influence on both mentioned industries. Before it is possible to fully understand the way psychological obsolescence works, it must be understood how it started.

Borrow. Spend. Buy. Waste. Want. (Business Week 1959.)

3.2.1 Motivational Research and the irrational consumer

The idea of psychological obsolescence was popularized in 1950’s. It is still not certain who really came up with this conception, but there are two opts – Dr. Dichter and Dr. Cheskin. They both started using the term already in mid of 1930’s, however just two decades later, readiness of the market for consumerism and threat of upcoming crisis have forced and endorsed such implementation

(Packard 1957, 43). People had everything and they were not keen to obtain anything new, so executives needed to look for new way of persuading people for purchasing. Executives shifted their focus from production to marketing, in order to create in people the needs they still did not realize. Tremendous amount of money, estimated at \$1 billion in 1955 was invested into psychology of marketing which scientifically was called, before mentioned, M.R. – Motivational Research (Packard 1957, 45). It was a breakthrough in marketing science and principles of consumers' logic they believed in have turned upside down. Analysis revealed that people tend to be very irrational and the way of persuading them should base more on subconscious rather than conscious emotions and needs. This only meant that people are very easily manipulated even without letting them know about it. Such a fact created a vast area of options for marketers. This was fundamental knowledge to condition people to become consumers.

3.2.2 Rise of consumerism through fashion

It is said that this particular type of convincing customers has prevented economy of capitalistic countries from getting into new crisis after 30's. The promotion of consumption was on such big scale that even president of USA, Eisenhower, encouraged people to buy for the sake of economy (Shmoop 2010). The icon and biggest promoter of this ideology was Brooks Stevens, who by designing attractive products, seduced consumers to buy them no matter if needed or not. He was not creating products of bad quality, or built-in failure, but his creative strategy pushed customers to buy products more frequently than necessary (Packard 1957, 50-55). Combined with advanced and well planned marketing, people were buying everything that was handed over to them. In the 50's society has already learned to throw away, thanks to disposable products so unlike in beginning of XX century, implementation of this idea with non-disposable goods like TV's, clothes or automobiles was not a big deal. With all at the above combined, society became so much instilled with consumerism that buying a new product is, until

today, some kind of update of your social status. For many of us it is common to feel embarrassed when noticed with out-fashioned cellphone in out-fashioned clothes, so we buy a new, more modern model, in order to update the social status.

Fashion is a form of ugliness so intolerable that we need to have to alter it every six months (Wilde 1880.)

Psychological obsolescence is also about creating a strong brand, to which a consumer will become loyal. It has powerful influence and many experiments have proven that package and branding are more influential than the product itself. A person that prefers only one brand of cigarettes could not distinguish his favorite over different brands during blind tests. Housewives are so much under package design's suggestion that during a test, in which one hundred twenty women, participating in a survey regarding bleach quality (Packard 1960, 71-79), were for one week they were using three following bleach types. The results were as follow:

- Bleach in solid yellow bottle has been reported as being too strong. Some housewives even reported broken fabric.
- Solid blue packaged bleach, in opinion of participating woman, was too weak. In the survey some reports said that some stains were not cleaned off.
- Bottle of solid yellow with blue splashes that was given to participating woman on the last week, has been chosen as the perfect one, strong enough to clean the stains, yet not destroying the fabric.

Worth to mention is fact that all three different bottles contained the same bleach. Branding is very important for consumerism because it provides wide spectrum of manipulation options for a company. Having a loyal customer brings many advantages.

(...) established companies may try to leverage their brand image to get away with unusually short warranties. Apple's iPod digital-music player offers just 90 days -- against a full year for many lesser-known MP3 makers. (Spencer 2002)

3.2.3 Children marketing

While developing their knowledge and skills, marketers have realized that weakest, thus the easiest target is children and teenagers group. According to experts over 700 billion USD was contributing to American GDP related to children (Consuming Kids 2008). It is an amount of money equal to summed GDP's of 115 world's poorest countries (Central Intelligence Agency 2013). And that number considers only direct sales for children, like toys, appliances, services etc. This is only the peak of an iceberg, because children have big inflective power, what probably all parents around the world have experienced. For instance, T. L. Stanley in his article 'Kiddie Cars' has estimated that children influenced \$9 billion worth of car sales in 1994 (nowadays the number surely is many times larger). One car dealer explains: "Sometimes, the child literally is our customer. I have watched the child pick out the car.

Kids represent an important demographic to marketers because in addition to their own purchasing power (which is considerable) they influence their parents' buying decisions and are the adult consumers of the future. (Poulton 2008.)

Marketers know that children are easily manipulated. An unquestionable fact is that kids get so easily influenced by brand, package or suggestion of any other kind, that without any real experience with product they assess products quality based only on assumptions. Cinemas and amusement parks are places that beside obvious revenues from tickets, brings another advantage of promotion. After a show that made a child charmed, it is enough that their favorite cartoon character will be drawn on package to 'buy him off' as a consumer, or more likely, as persuaders for parents.

I Like Being Thought Of As A Toymaker Who Makes Films (Lucas 1971.)

There are many advertisements over TV and on the Internet directed to teenagers and kids. YTV Report has gathered data about influence of children onto family's decisions and the results are surprising (Media Smart 2010):

- Breakfast choices (97% of the time) and lunch choices (95% of the time).
- Where to go for casual family meals (98% of the time) (with 34% of kids always having a say on the choice of casual restaurant).
- Clothing purchases (95% of the time).
- Software purchases (76% of the time) and computer purchases (60% of the time).
- Family entertainment choices (98% of the time) and family trips and excursions (94% of the time).

The results are for Canadian families, but since this market is more close to European than to American, we might expect similar influence of kids in EU and even higher in USA.

Once a youngster sees something fashionable or, even worse, some of his/her friend will obtain such, there will be big pressure to buy it. Society pressure is a usual force that most people obey, thus they buy things under it. Besides, everyone knows and experienced the natural urge to become mature. Children with their yet fragile mentality are more exposed for being forced to buy something everybody has. And if he will not have it, this can lead to depression or even more dangerous mental disorders. Center for Disease Control and Prevention statistics states that ADHD percentage within the youth has grown by 1/3, from 6,9% to 9% and over a quarter of teenagers between 13 and 18 years old suffer from anxiety

disorder – surely nowadays consumerism has big share in increasing these unfortunate statistics.

The problem increased, when Federal Trade Commission (FTC) declared they do not contribute themselves into advertising for children. It only encouraged companies to enforce their emphasis on this particular purpose, thus money pumped into children marketing jumped tenfold within less than three decades from 4.2bln in 1980 to 40bln in 2009 (Consuming Kids 2012). Influence is intensified by fact that nowadays children do not spend much time outside for the sake of sitting online. According to a New York Times, in 2010 the average kid spends over 7 ½ hours a day using technology gadgets. With internet being so easily accessed, almost whole of these 7 and half hours are being spent online. That gives vast possibilities of children marketing. Facebook and ads placement by Google can aim the advertisement so precisely, that affection is surely massive.

Of course the big interest of marketers towards children does not bring only bad things. Over the years there is positive growth of healthy diet promotion over the children, using above techniques. Besides, if channeled properly, children can develop their passion and even create grounding for their future career as engineer or chief, while playing with constructive toys.

3.2.4 Confusion as receipt for success

Marketing experts do not play only with children minds. They also know how to confuse the adult consumer to make him spend more. The very common technique considers prices, discounts and special offers. I am sure that almost all of us have had a situation of going to the mart for obtaining only what you particularly need, but going out with massive shopping, sometimes containing majority of things we did not intend to buy. That is influence of special offers and discounts – we are persuaded that we gain for producer's loss. If we buy something discount-

ed by e.g. 50% we subconsciously consider it as a bargain and our win over the seller. No matter if we need the purchased product or not. This actually reminds me marketing lessons of The King, main character from "King Rat" by James Clawell. He was the most successful person in war prison and within over 10 thousand starving soldiers that wore nothing but old rags; only he could afford anything he wanted. His secret, he explained was the way he was selling treasures of the inhabitants (by their request) in such way, that he will create the image of himself as a loser for both supplier and customer. By this he gains psychological advantage over them – they consider themselves as winner, so their bargaining power will decrease and will be keener to stand by King's offer.

The King's cunning is just a more basic and simpler version of what the 'society' of marketing experts is dosing us with. We only feel ourselves as winners, but the winner is only one – you can guess the odds. Aside from fake discounts and special offers, marketers also have realized that higher price of product creates image of higher quality and the best example is cosmetics market. If the base price of Hugo Boss perfume would be at 10€, which is economically still including massive profit margin as to the cost of liquid, depending on information source, varies between 20 cent and 2 euro (Thau 2012), the sales would drop drastically for sake of other, more expensive scents. Why is that? Firstly, most obviously, the package (including bottle) and marketing costs are often tenfold higher than scent's production cost, thus it would not look attractive for customer. Second, more important point states that a style-aware customer does not only buy a perfume. He buys prestige and buying cheap perfume clashes with that perception. The perfume example is very saturated, but the idea of uneconomically high price in order to attract customer applies to vast variety of products, including daily products. How does it apply to any product that is not considered as luxury? Professor of social psychology transparently explains the reason:

In markets in which people are not completely sure of how to assess quality, they use price as a stand-in for quality. (Cialdini 2012.)

Nowadays we do not buy perfumes, we buy prestige; we do not obtain strawberries but vitality; a new smartphone is not just a communication device, but a *cool factor*. That is the essence of consumerism at the moment.

Fortunately there are prudent people that buy his new products just before the new, restyled models are to be introduced. He does not care about packaging but about real quality. And such conscious consumers make marketers' life more difficult. Besides nowadays consumer protection institutions around the world, like for example Federal Trade Commission (that includes Bureau of Consumer Protection) get more persuasive power for controlling marketer's ideas. Already back in the days, when Motivational Research barely started developing, FTC was preventing companies from false advertising and other forms of fraud. Quite known and illustrative is a case of subliminal advertising – flashing advertisements (usually some simple slogans) in split of a second, so that person subconsciously will perceive it. This kind of practice is banned in most of countries and it is treated as immoral.

Psychological obsolescence creates benefits from clearly economical point of view. It creates more demand and speeds up cashflow, thus develops industry, creating more workplaces and increasing general prosperity – a chain reaction. It is clearly superb as a financial factor, but unclear as to ethics and surely not positive for environmental aspects. Personally I have an uncomfortable sensation that the more knowledge I acquire concerning marketing methods and their development the more I realize that marketers know more about us and our behavior than we do ourselves.

3.3 Manipulated failure

There is generally an incentive for oligopolists to collude to reduce durability, below noncooperative levels (Bulow 1985).

3.3.1 Unfair yet almost undetectable

Manipulated failure, called also obsolescence of quality is a technique where manufacturer builds failure into a product by decreasing quality of materials used in product, or modifying it in way that after certain period time it will fail. In most cases and in most developed countries it is illegal practice and the manufacturer cough up might pay a tremendous fine to consumer association and consumers themselves. But on the other hand a build-in failure is very difficult to detect, since most products' durability is unobservable prior to purchase, thus firms may have incentive to create goods of shoddy quality or deliberately build the failure in.

First known, however not really proven case of implementation of this kind of controlling the life time of product is cartel of light bulb manufacturers, named Phoebus founded in Geneva in 1924 (Metze 2004, 3). It was a contract between all biggest producers obliging them not to exceed pre-designed life length of light bulb, it was 1000h. Companies producing products with durability above the limit paid fees, because they were threatening other party's good. That is very vivid example meant in Jeremy Bulow's quotation from above.

Manipulated failure probably is the least popular among both consumers and manufacturers for many reasons. Customers obviously are not delighted with this idea, because they do not get any advantage from obtaining product meant to be broken or obsolete after the specified, yet unknown duration of time. They might feel cheated; firstly because they spend they hard-earned money on junk and, secondly because the product they purchase is not reliable in dimension they would have wished. For manufacturers this strategy is bringing benefits and higher reve-

nues, nevertheless it is quite a risky business – unless they are not monopolist or colluded oligopoly, they might be losing customers' trust and thus they will eventually decrease their sales. As already mentioned, it is also forbidden by law. Yet the problem is that the border line between decreasing variable cost and controlling the life time of product is quite undefined, thus hard to be detected.

3.3.2 Built-in failure in real life

Besides Phoebus, which was very powerful (and still there are not many proofs that such institution ever existed), there are widely-known cases such as:

- Apple's iPod and shoddy battery: quite recent situation, when Apple was sued by thousands of consumers, because life length of battery was very short, plus access to it was impossible (as in any of Apple's product) and the company only suggested to the owner to purchase new Apple's product. Company lost the trial and had to provide every customer with new iPod and extended warranty for it. However they still make it impossible to access a battery, which is likely to be the least durable part of any electronic product. (Paul 2012.)
- Printers of most manufacturers: it is known that printers are useless after certain amount of time. In most cases it is caused by super expensive dye toners, actually once container gets empty it is cheaper to obtain a new printer. I believe most of printer owners have ever experienced this. But there is also second way, by which manufacturers force us to purchase new machine: every time while printing, dosing head gets dirty and there is special device for cleaning them. The dirt is stored in sponge in the bottom of printer and to prevent excessive ink dirt our desks manufacturers insert special chip, stopping the machine after programmed amount of pages printed – usually 5000. Sounds like fair play, but on the other hand, why sponge/container cannot be replaceable? Obviously printer producer will

not bother and it is his incentive for customer to buy new printer. More technical-oriented customers will search for 'chip resetters' and actually there are already professional companies specializing in this field like ink-supply.com.

- Printer manufacturers had previously also so called 'clever chip', which prevented customer from refilling cartridges and forcing them to buy a new one, however EU banned such practice. (Humphries 2002.)
- Nylon pantyhose are another product, which became victim of manipulated failure. Once nylon was introduced, it was very strong material and pantyhose made of it was durable. For manufacturer DuPont at the beginning it was big success – ladies who participated in tests were very satisfied with both quality and durability. However company realized that durability of this product will be killing the revenues – once ladies will buy their panties, they will not need to repurchase them for many years. So before introducing them to the market, quality of nylon had to be decreased. (Slade 2006, 12-14.)

Above cases are examples I found over the Internet. Nevertheless I believe that unfortunately still many cases of manipulated failure are implemented around the world, as it surely is a seducing technique of boosting the revenues. A monopolist will prefer to rent, rather than sell its output, if goods produced are durable. That is why on imperfectly competitive market, consumers have rather a big chance to purchase product with build-in failure.

If debasement of the product is not obvious to the owner, or if he has low expectations, there is no serious complication in selling him a replacement. On the other hand, if the debasement becomes suspicious, the seller is in trouble. (Packard 1960, 60.)

3.3.3 Wide spectrum of gimmicks

In addition to manipulation of product's durability by decreasing quality of material or weakening a crucial part, making whole product obsolete, manufacturers use also gimmicks with accessibility for reparation. As Apple does make it impossible to replace the battery without specialized tools, as e.g. automobile company makes it very difficult to access a light bulb, which logically could be replaced by anyone. At the present companies put more emphasis onto services than they had half century ago, which from environmental perspective is very positive (further it will be explained). Nevertheless from a consumer's perspective it is another trick to make him pay for what he should not, an expense that easily could be omitted. In the past, when consumerism was not yet so popular, companies were even encouraging the customer to repair the product by himself. Henry Ford was selling his famous Ford T with a set of tools, sufficient to repair majority malfunctions (Packard 1960, 80-81); in Soviet Russia, clear from consumerism, cars and all appliances were made not only to last, but also with easy construction so that normal user could repair it himself. Coming back to the inaccessible battery or a light bulb, nowadays' companies try to make their products as complex as possible and they have several reasons for that. A product with lot of gadgets and features is more likely to be attractive for style-oriented consumer; in addition that complexity increases the rate of failure, naturally; and, coming to the point: inaccessible elements of product make reparation impossible with home tools. Therefore the user has two choices only – either hand it to professional service, including purchase of genuine, hilariously expensive spare parts; or obtain a new product.

The last option for manufacturer is basing on statistics and tuning them up using, sometimes very interesting, tweaks. A very good example comes with potato peelers. On the International Society Color Council in New York, a color consultant from Toronto has explained his experience, when, for his client company, he came up with hilarious, but ingenious idea. Puzzled executives (of Client Company)

wondered how come that average American household buys their peelers every two years. Investigation revealed that accidentally they are thrown away with potato peels. Thus color consultant suggested potato-colored peeler to make it less distinguishable. Color not so attractive, but the package could easily recover that issue. We are surely surrounded with such hilarious solutions, yet usually we do not notice them in daily life. (Packard 1960, 52-53.)

Marketers and manufacturers have a vast area of options. Whatever the choice will be, the company will achieve their incentive and get more money.

As the time allotted to designing electronics has dropped from years to weeks, testing cycles, too, have been compressed. "No one that I know exhaustively tests anything that's built," says Prabha Gopinath, executive vice president at TestQuest, which creates testing software used by Handspring, Palm, Motorola and Nokia. "That goes for PDAs, cellphones, any software that's out there. (Spencer 2002.)

4 CAPITALISM AND MARXISM: SYSTEMS WITH AND WITHOUT P.O.

There is a vivid difference between economic policy of capitalism and socialism. In many various books and articles definitional difference between economies of both ideologies is with regard to the resources or the ownership of production. In Karl Marx's idea, the community or society solely owns the resources or the means of production, while in Adam Smith's capitalism, the resources or the means of production lies with a private owner. (Heilbroner 1999.)

Because of capitalism dependency on constant expansion through consumerism consisting planned obsolescence, and socialistic ideology of equality and common good of society, comparison of these two systems can provide clear image on Planned Obsolescence through obtained differences. The main emphasis of the following chapter will be on the ownership of production which leads to different strategy of sales – while capitalism focuses on golden arrow of consumerism using, inter alia, Planned Obsolescence, socialistic system will rather focus on proper distribution of wealth without artificial boost of sales. Thus first conclusion is that capitalism creates intention to decrease life length of product, while socialism other way around. So basically this comparison will be about system with P.O. against system without P.O.

Advantages and disadvantages of both ideologies can bring general picture of Planned Obsolescence in regard to historical facts and statistics.

Any real-life economic utopias that man could devise quite probably would soon prove to be dull, if not unworkable, to consumer and seller alike. (Packard 1960, 174)

4.1 Capitalism and consumerism

4.1.1 Ever growing system

Capitalism as economic system already existed in XIX century. Capitalism as a word means something of a value. Its fundamental idea is to promote individuals and handing production power over private sectors. People owning businesses and having freedom of purchase operate on so called free market. This concept origins from great economist Adam Smith, who stated that the production and distribution of wealth could work most effectively in the absence of government interference. Capitalistic economy of United States was depending on consumerism since fall of XIX century (Heilbroner 1999). At that time disposable products like Gillette razors or Kimberly Clark tissues were introduced, creating habit of buying and throwing away – basis of consumerism (Packard 1957, 35; Slade 2006, 45). After World War II, because of threatening crisis, actions of authorities, described in previous chapter promoted consuming as necessity and people have been instilled with buying everything faster and in bigger quantities than they needed (Higgs 2005, 5-8). This behavior has fueled economy, which boosted with amazing speed. Yet as speeding jet needs constant supply of jet fuel as capitalism requires continuous growth through consumption in order not to collapse.

They must learn to consume more and more or, they are warned, their magnificent economic machine may turn and devour them (Packard 1960, 18)

4.1.2 Liberal attitude

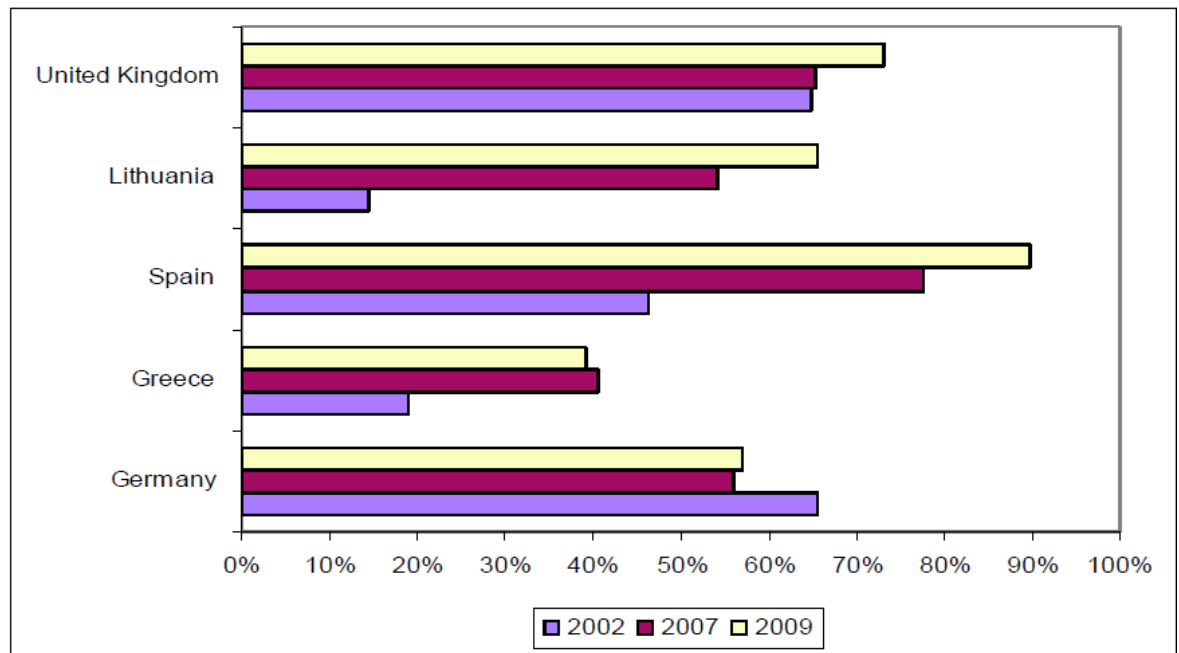
In theory capitalism is a great system because of its liberal practice. People are allowed to settle their own business, expand and with a 'big brain' colluded with will for hard work, it should not be a problem to advance as an individual. Besides consumerism makes people buy, keeping demand high, companies produce to sustain that demand, creating work places and taxes from all these transactions

flow to governmental treasury. Sounds like a utopia, but of course in reality every ideology has some disadvantages, usually omitted in plans and consequently not considered. The reality is that the biggest power in capitalistic world is corporation, from 100 world's biggest economic entities, 51 are corporations (Anderson 2008), and its highest priority is to sell as much as possible to consumers (often named as *golden arrow of consumption*). On one hand this system creates a good economic situation, with big money rotation, moderate flexibility of the market, opportunities for starting a business and it creates big market for consumers – so called competitive market, where customer has bargaining power and companies compete to become most attractive. But on the other hand big corporations mean smaller flexibility, bigger manipulation power and by devouring small companies, the market becomes less liberal. In times of Karl Marx, creator of Marxism, in first quarter of XIX century 75% of Americans were self-employed (Heilbroner 1999, 7). Nowadays, in USA, this rate is smaller twentyfold even after recent remarkable growth as it barely exceeds 6%: c.a. 10mln in the labor force of 155mln (YourEconomy 2013).

4.1.3 Life on credit

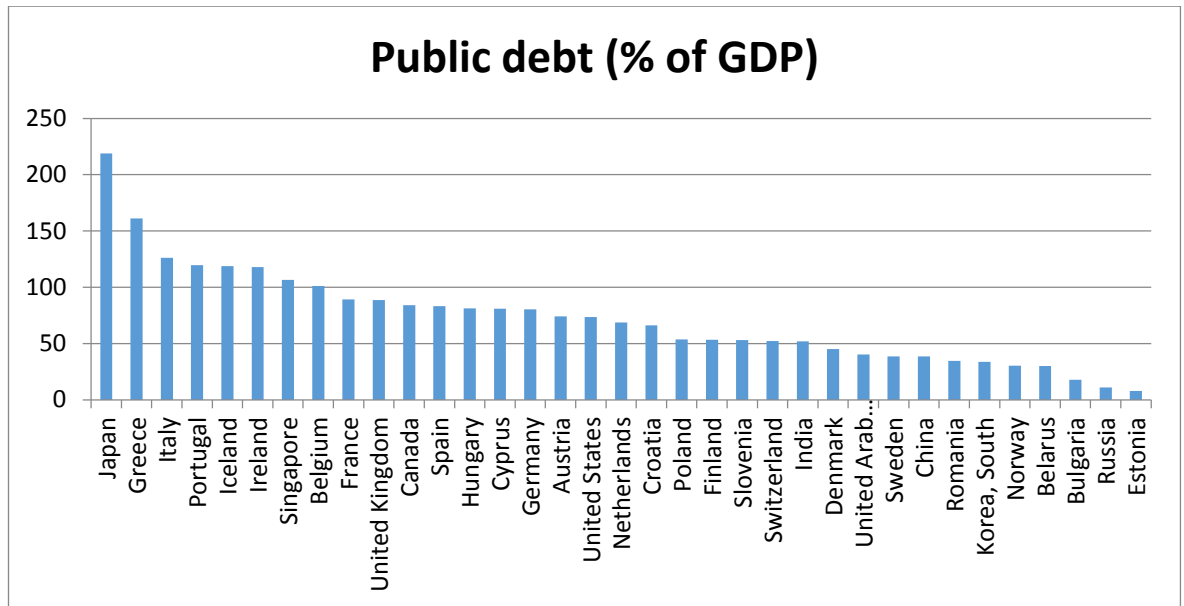
Capitalism in real world is based on credits. On credit economic growth and capital can be artificially increase and actually in developed countries everybody are drowning in debts, both public (internal plus external) and private. The idea of credit card was ingenious, making financial transactions very convenient and comfortable, thus increasing the rate of global cashflow. Fashion for going into all kinds of debts to create imaginary wealth, became popular in all capitalistic countries in 1960's. It boosted the economy in very big scale. That fashion even got through Iron Curtain. When in 1960's Yugoslavia started living on the credits, Moscow chided them for this reason yet later Russia started supplying them with goods, growing their profits (Packard 1962, 9). It did not last long because speculative bubble has broken thumping the artificially developed wealth. The same hap-

pened to western world: in 1970's survey insurance companies revealed that average American family was about 3 months from bankruptcy and average payment for the debt was 18% of after-tax income (Packard 1960, 147). This led to 1970's crisis. Nowadays living on credit is more popular than ever (GRAPH 3).



GRAPH 3. Debt to disposable income in selected Member States (European Central Bank 2013.)

Besides growing private debt, which in many countries already closes up to annual income of household, governments also are very keen to spend more than budgeted allows (GRAPH 4).



GRAPH 4. Public debt in selected countries (adapted from Central Intelligence Agency 2013.)

Countries that depended on capitalism for a long time nowadays have big troubles with public debt, showing real extend of how unstable the economy is. Countries that are self-dependent and more socialistic-oriented have visibly lower contribution of public debt in their GDP, what certainly have more positive influence on economy's reliability. In all countries with high debt, the future is not bright, because of maintenance costs, like interest rates are only increasing expenditures leading to further incline rather than decline of that indicator.

4.1.4 Linear material flow and poor distribution of wealth

Besides above, capitalistic economy has the problem that is clearly environmental; the Achilles heel is linear flow of materials. What does it mean? Firstly that this system would work very nicely either if we would live on planet of size of Jupiter, assuming that we would not overpopulate it or if we develop enough advanced technologies to continue our expansion outside of our mother planet. Earth resources are limited and with the intensity we exploit them we will soon end up not only without materials for creating new goods that we demand so badly, but

also living on landfill with polluted air, soil and water. Earth does not keep up with tempo we use its resources and produce pollution. Especially when it comes to fossil fuels, like oil, gas or coal, the situation is very drastic. It is forecasted that with our present usage of oil and taking into account that we still find new oil springs, Earth can supply us only for next 54 years (British Petrol 2012). And as fossil fuel energy production share is 86% (Energy Information Administration 2013) plus whatsoever it does not seem this number to be dropping (there is constant growth of fossil fuels usage on every continent except of EU), the future forecasts for economy that we base on look rather grim. We have very limited amount of time to basically swap whole fundamentals, the fuel of our economy – the energy source – and yet we do not see it coming. Authorities continuously until today want us to buy more, spend more and use more. Additionally influential power of oil corporations is still too overwhelming to let new technologies of power generation be introduced on market.

On the other hand governmental organizations like United Nations Environment Programme (UNEP) or European Environment Agency (EEA) encourage us to use less energy – good start, yet how it is supposed to help if household share of energy usage is just above 10% of total energy consumption: in US 10^{15} Btu –British Thermal Unit, against total of 98^{15} Btu (World Bank 2013)? The biggest efforts ought to be made to make changes in the roots of global supply chain management: extraction and production. About that will be more in chapter: Impact for environment.

Bad distribution of priority means that the pressure on keeping consuming flow at its highest makes people at other links of the chain (especially labor included in extraction and production – look GRAPH 7) exploited. To keep the price on an attractive level, companies use cheaper workforce from third world countries; it is common that children are assembling the goods we later buy in Europe and USA.

The fact is that countries with developed capitalism exploited their own resources and now they exploit other's. In 1960 statistics showed that Americans used more of the world's resources in 40 years than whole planet's population in the previous 4000 years (Packard 1960, 184). In that time average American used 18 tons of materials a year and that was tenfold as to world's average (Packard 1960, 186). Surely present data shows more grim facts.

4.1.5 The future, time of changes

But even in our developed world, companies try to decrease expenditures and governmental organizations have ever growing power. European Union creates annually several restrictions, controlling waste generation and pollution emissions. Many countries, with Scandinavia on the lead, started socialization, where bigger emphasis is on common advantage rather than on individuals.

In addition even in executive suits uneasiness about manipulative techniques started spread out. Survey of Harvard Business Review revealed that the majority of business executives feel that too large part of our present economy is based on superficial product obsolescence.

Changes in capitalistic world have started to appear on horizon and these changes were predicted and described by Karl Marx. Let's only hope that these changes will be accomplished on time and more important – that these changes will not be repetition of our past mistakes.

4.2 Marxism

Marxism is a concept created by Karl Marx and Friedrich Engels. It is basic idea of socialistic community, where everyone has same rights and possess same amount of wealth.

4.2.1 Concept of equality and quality

Marxism promotes all social qualities: equality, employment, health care, and the general welfare of society. In this system, division of society into classes does not exist, thus crime intensity decreases by great value. Everybody have similar amount of personal possessions and there is no reason to steal unlike in capitalism. Under Marx's ideology there is no unemployment, because all means of production belongs to government, to the society, thus it can regulate the employment rate easily. For the very same reason quality of produced goods are automatically intended to last rather than to become obsolete in uneconomically short time. Everybody has equal access to health facilities and education opportunity, no matter of one's profession. Economic systems under Marxism will be channeled for benefits of society as whole, not only for individuals. However emphasis on benefits for society and treating everybody equally brings lack of freedom for an individual. It does not allow advancing himself any further than the others and as not all men are not the same it is not absolutely fair. Some smarter person could create more outputs than the other hence his benefits should be respectively assessed. And this is not considered in Marx's idea. Another, the hardest of Marxism's flaws is implementation issue. It is almost impossible to find a leader who will lead society towards successful socialism and not try to use gained power for his benefits.

4.2.2 Implementation failure

The governments that have tried Marxism have failed because of the greed of the ruling party (Hook 1988).

In real life Marx's idea was famously implemented in Union of Soviet Socialist Republics. In 1917 days of Tsar Nicolas 2nd were numbered (Hook 1988). Workers were striking and war weariness has been spread among whole country. Thus in February his rules have ended and a new chapter begun. After October revolution people celebrated winning and they expected democracy to come, nevertheless the

leader of revolution, Vladimir Lenin, wished for more revolutionary change. He was very obsessed with Marxism and he modified it for ideology that shaped Communism (or so called Marxism-Leninism), which he wanted to implement on global scale. 3 years later on International Communist Congress in 1920, Lenin announced that alliance of Communists grows everywhere and he promised its spread over Europe. His main point was to decrease power of bourgeoisie for the sake of proletariat – society of workers. Besides that, his plan was to increase emphasis onto education, hospitals and to instill in people value of productivity. First years after revolution brought big development – people, especially the youth was very enthusiastic with Lenin’s concept and work was provided everywhere. They believed that they will work hard now to create fundamentals for prosperous future. Communist ideology in society’s belief was a synergy of nature, society and man. However, future did not appear so bright and neither Stalin with his bright conscience and endorsement from youth, nor Khrushchev and his reforms could make Marx’s ideology come true in the shape that was primarily intended. And aside from human’s greediness, there is another reason for this. A country needs to be already on certain development level in order to successfully implement socialism. Nowadays, for example, North Korea is very vivid example of social system implemented in the worst of possible way. (Communism: The Promise and The Reality 2000.)

4.2.3 Socialism – next step for capitalism?

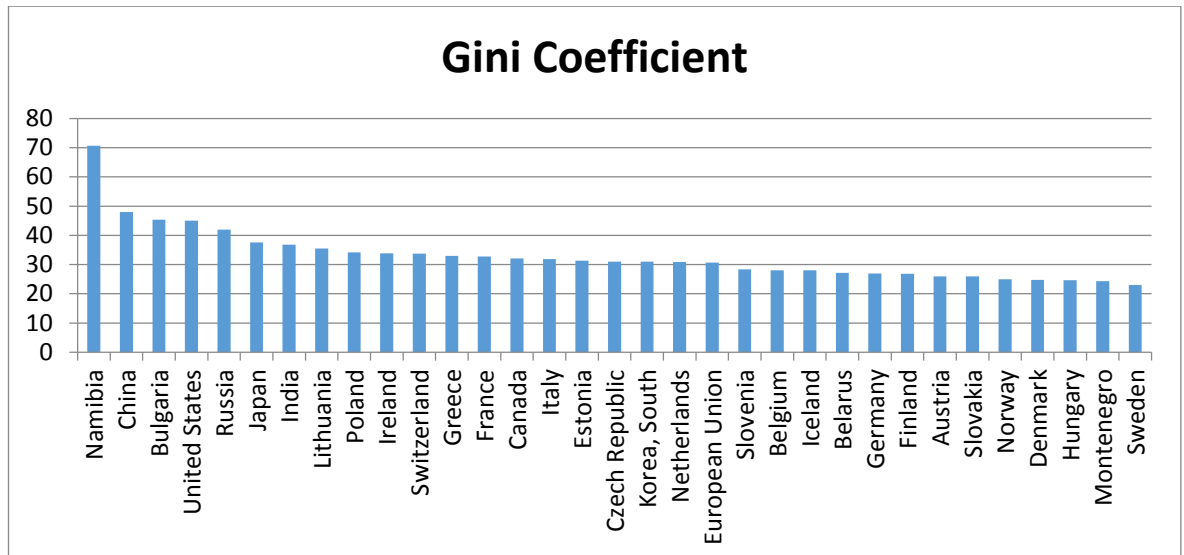
Marx already predicted that his concept is suitable to be implemented only in countries with highly developed capitalism and with advanced economy. Moreover Marxism is supposed to be implemented peacefully and without a dictatorship as in USSR. Karl Marx himself has given USA, Germany and Holland as examples, where his concept could be implemented. Friedrich Engels, also person closely connected with the ideology, has said:

Yes of course, we do believe in the dictatorship of the proletariat, but that can easily be brought about through ordinary bourgeois democracy (Hook 1988).

He meant that if socialist would come to power politically, they would enact the economic laws favoring working class above other social stratum. That was to be achieved only in a country that, according to Marx and Engels, had been maximally developed under capitalism.

As Soviet Russia was yet undeveloped and according to Marxism principles, it was one of the last regions of Europe. Hence unprepared for this system trial of implementation has brought only misfortune. In 'The German Ideology' Marx stated that an attempt to collectivize industry in economy of scarcity would achieve nothing but socialization of poverty.

With understanding the causes of failures with preceding implementation and highly developed capitalism in number of countries, today it is more realistic and reasonable to start setting socialism into life. Scandinavian countries are famous for having highly developed social systems. Gini coefficient, which measures distribution of wealth, is a perfect indicator of how much socialistic approach does a particular country has.



GRAPH 5. Gini coefficient in selected countries (adapted from Central Intelligence Agency 2013.)

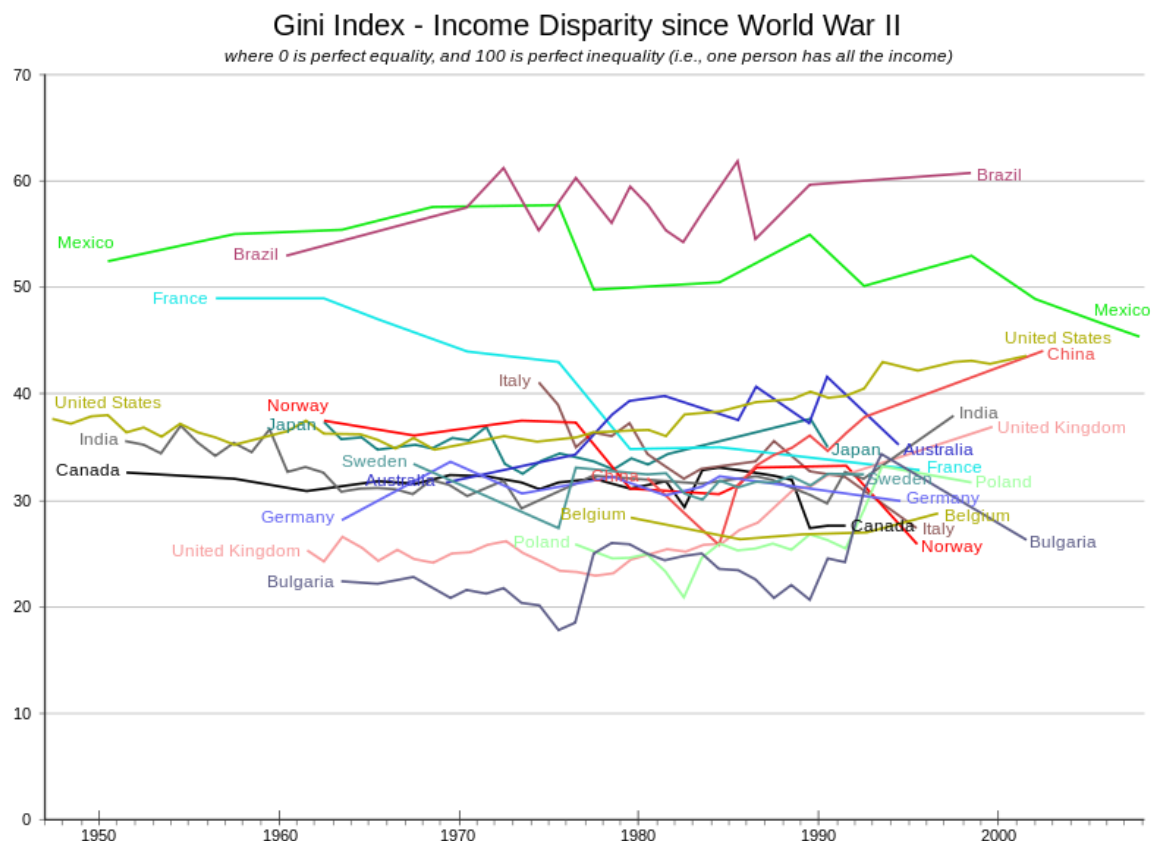
As visible on GRAPH 5, in Scandinavian countries like Denmark, Sweden, Iceland, Norway or Finland's result is close to 25 – the lowest rate over the world (closer to 0 means perfect distribution of wealth, closer to 100 means perfectly unequal distribution). In addition their GDP per capita belongs to one of the highest hence their welfare is on high level. However their spending behavior varies much from typical consumerist countries. Unlike typical consumers, they are more likely to spend less money on constant change for the sake of fashion. It is common in Finland to see old cars; nevertheless they are usually in very good shape. Socialistic community brings back habit of taking care of own possession. Besides that the emphasis on services and their popularity is much higher and it is more standardized. Nordic countries are great example for socialistic system implementation, where main focus is onto social benefits yet still gives freedom for an individual wanting to advance himself. Such market is much less consumerism-oriented, thus planned obsolescence has less influence and products are made with better quality.

4.3 Differences

The main, most evident and prominent difference between above two systems is distribution of production possession: private ownership in capitalism and social ownership in socialism created by Marx. This fundamental difference seemingly is followed by two opposing ideologies instilled in people. Capitalism makes people believe, to find their main satisfaction of life in consumption, not productivity. Socialism treats proletariat with highest priority and purely put highest priority onto production (or providing services) and productivity of workers. Socialism praises them and appreciates their efforts. Marx has thought of workers as value that can be exchanged so their services will be more justly evaluated.

Capitalism's emphasis is very strong onto developing economy and individuals. It lacks of social point of view and with consumerism it is quite degrading. Consumerism changes perception of values and makes society insensitive, materialistic oriented and psychologically weakened. Socialistic idea of equality is more people oriented. Its assumption that people can be more satisfied from production efficiency creates more real values in them. I mean that values of being productive are certainly more positive than values of being good consumer. Besides socialistic ideology treats everybody equally and distributes wealth in such order. That equality brings another benefit – people trust each other more and do not envy possession of the others. Therefore crime rate significantly drops when compared to capitalistic world of differences, where people consider wealth as their right and driven by envy they are more likely to rob someone's property. The problem of equally distributed wealth in socialistic system is how to judge the equality, how to value the labor? It is quite evident that doctor's profession requires higher education, intelligence and provides more stress at work when compared to a taxi driver, thus it is clear that his wage must be higher. But according to Karl Marx they both should be earning equal amounts. Pure Marxism would result with Gini

Ratio lying very close to 0, however in real life this cannot and should not be achieved as eventually such ratio would not bring positive outputs considering example of taxi driver and doctor. Thus in my opinion Scandinavian countries, already mentioned while disputing in chapter 4.2 have reached very optimal value of ~25%. Below you can see changes of Gini coefficient in few different countries throughout 50 years:



GRAPH 6. Gini Index over decades (wikipedia 2013.)

As quite visible, countries with sudden boost of economic development since 1990's, like China, India, Poland or Bulgaria (effect of privatization occurred after end of Soviet bloc and quitting communism) have experienced abrupt disproportion of wealth distribution. It means that only minority of people have gained benefits from becoming capitalistic. However the growth of pollution and extortion of

resources usage have overwhelmed positive effects of more efficient economy eventually lowering the welfare, providing this disadvantage equally to everyone.

Aside from above facts, the big problem with capitalism is about tax collection and people's attitude toward tax-paying. Everybody certainly understands what they are for and obviously without such contribution for common benefits any system would ever exist. However the problem lies in the way that taxes are collected and about the lack of proper education for people in the context of above issue. People, once they earn their money consider it as their property. When they have to pay the taxes, after already enjoying the money, people intuitively get the impression that they have lost their possession for something that will not return to them and something intangible. Taxes collection would be more effective seemingly with higher welfare of people if different, more sophisticated and sensitive way of collecting would be implemented. Besides, the government should provide transparent information and education for people in regard to tax payment and what are the benefits from them. The government could become more social friendly by an effective use of mass media; advertisement can become a powerful social player with developing social values for the improvement of man.

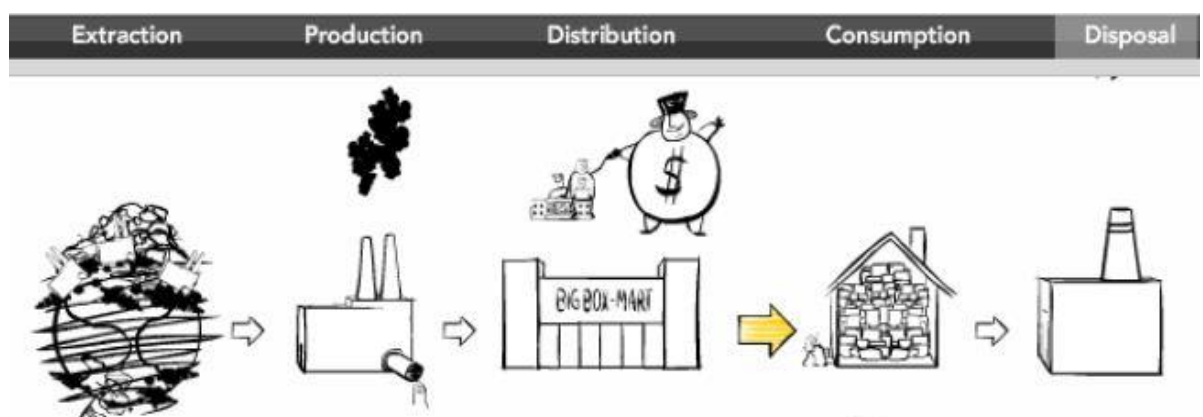
5 IMPACT FOR ENVIRONMENT AND PRESENT ACTION

Idea of controlling product's life cycle is strictly connected to technological progress and stabilization of world's economy, however with awareness how wasteful idea it is, I believe we should prepare for innovation, or at least improvement in order to maximize effectiveness of resources usage.

(...)resources of our Mother Earth are limited and biggest disadvantage of Planned Obsolescing products is increasing waste, as mostly still usable good is going to garbage because customer buys his improved successor (The Economist 2009).

As for economy, Planned Obsolescence is an easy way to keep going forward with general wealth and prosperity, technological advance and stabilization of global market. People constantly buy, so manufacturers can constantly produce, thus they can employ people, who earn money to spend it on another purchases. All seems fine, until we take natural resources and environment into account.

The problem of consumerism, including Planned Obsolescence is about resources limitation and yet poor system of waste disposal. At the present moment, general and simplified supply chain management is illustrated on scheme below:



GRAPH 7. Illustration of golden arrow of consumption (The Story of Stuff 2007.)

The illustration explicitly shows how the flow is constructed and what its limitations are. The chain consists of five general links; *extraction*, which stands for extracting resources like mining, drilling, harvesting and so on; further *production*, *distribution*, *consumption* and *disposal*. Above the chain there is a symbolization of government standing next to the swollen corporation. These entities have the biggest interest in pumping up the consumption and this priority is visible on above scheme as a golden arrow. Popular name for this emphasis onto consumerism stands for *Golden Arrow of Consumption*. Golden arrow is the most important part of the flow and it represents the whole idea of consumerism and obsolescence of any type –people must consume! Consume no matter of resources, workers and waste.

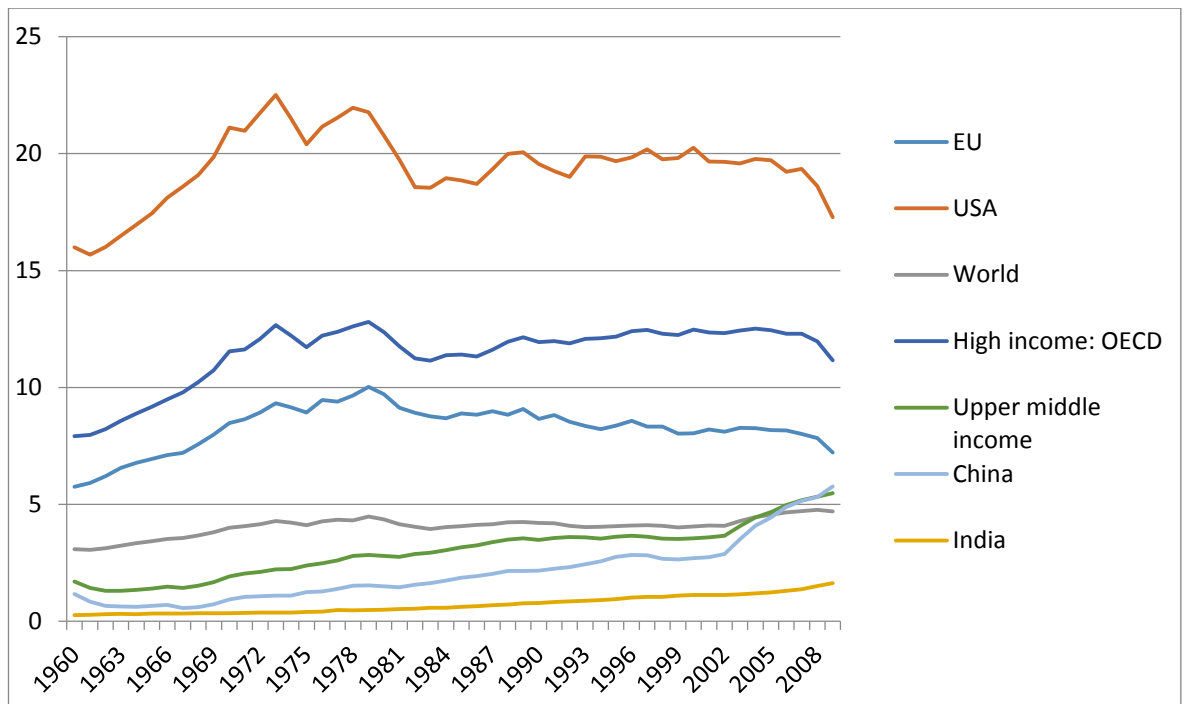
How would we imagine the world without technological progress? Of course majority of world's population wouldn't enjoy living in Stone Age but idea of Planned Obsolescence sounds dreadful for them. Not many realize but Planned Obsolescence is strictly connected with that progress and it is basic engine that pushes it forward. Planned Obsolescence is important for stabilization of our economy as it is right now. (The Economist 2009.)

This sound like economical *perpetuum mobile*, however as in physics in reality theory always differ from theory and such a model is not a perfectly closed cycle. Our economy is not only thing keeping us alive and yet it also depends on natural resources. Theory of Planned Obsolescence does not consider that earth's resources are finite and someday we will run out of materials for producing further goods. Whatsoever space for storing the waste is limited as well and without further control we would simply cover ourselves with trash that we throw away every day. The idea of producing, selling, consuming and throwing away does not necessarily need to be so dreadful. If the circle of flow is closed and energy that is used for reprocessing the materials origins from non-fossil energy sources, we could stimulate our economy and not worry about the environment of our planet. At the present time we produce waste at all links of the chain:

- extraction (e.g. mining waste);
- production and distribution (industrial, hazardous and packaging waste);
- consumption of products and services (municipal, and electric and electronic equipment waste);
- utilization (e.g. sorting residues from recycling facilities, or incinerator slag).

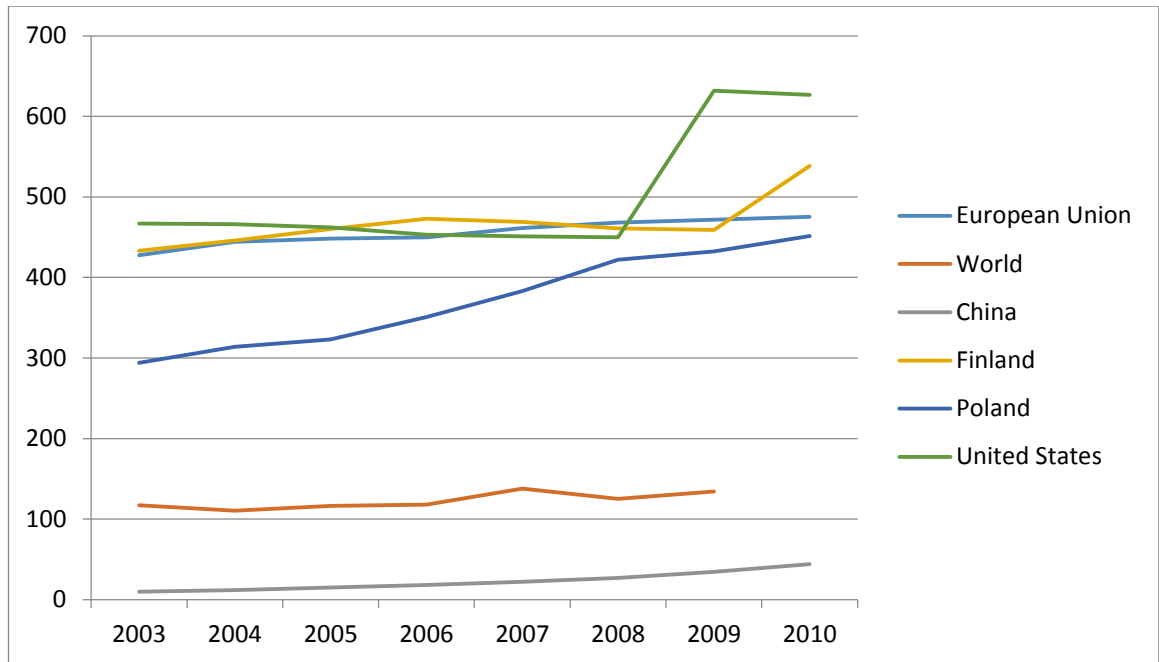
We blindly proceed forward in not exactly the right direction and common awareness about above facts is still quite low. We just throw away and thrash simply goes somewhere, disappearing from our consciousness. Nevertheless everything we dispose of is going somewhere and we are not concerned about it anymore. Even worse, we are conditioned in such order that when hearing about Green Peace actions we rather have the wrong impression of them as declining speed of our economic growth.

The reaction and velocity of change to improve the system is not sufficient and probably many of us have heard already about it. We do not see these environmental issues in our daily live so we are not feeling bothered by this, but if we will not start use our resources more effectively, we will encounter serious trouble. The efficiency of material in North America is 1% after 6 months (Hawken 1999, 81) – after this time 99% of things Americans bought are thrown away! It considers also the waste created while producing, transporting and storing – all mentioned links; the fact is that even the most efficient economy nowadays has efficiency of just couple percent.



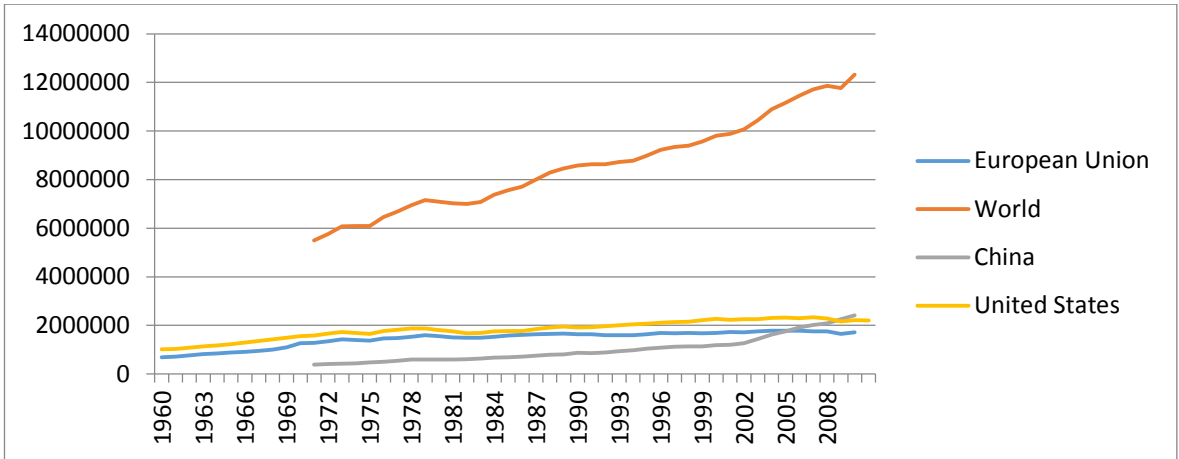
GRAPH 8. CO2 emissions in metric tons per capita (adapted from World Bank 2013.)

In matter of carbon dioxide emissions per capita, what is clearly visible (GRAPH 8) is its connection to economic growth connected to consumption in 1960's. People having bigger access to goods are more likely to generate bigger pollution. Fortunately the awareness and stronger restrictions in developed countries cause decline of this indicator. Topic of global warming became top in 2005/6 and since then there occurs a big drop. Until now world's average level just remained stable and appears to have decreasing trend even though China experiences big growth of emissions. If India will repeat China's development explosion, the situation might become unstable, thus it is important to spread awareness and share experiences of highly developed countries.



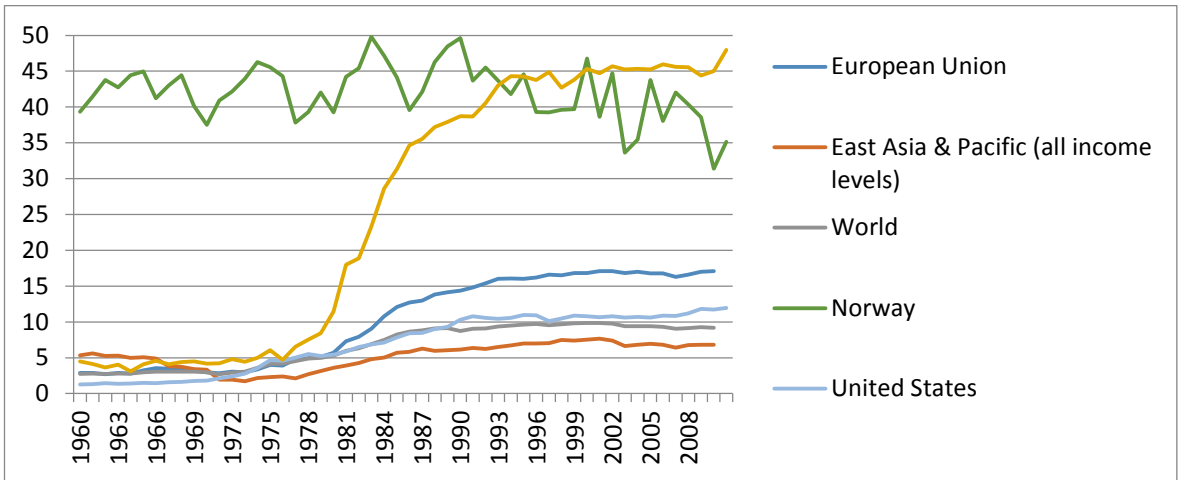
GRAPH 9. Passenger cars per 1,000 people (adapted from World Bank 2013.)

During the past decade, sudden growth has occurred not only in China (it is not very visible on GRAPH 9, but the value grew fivefold) or in developing countries like Poland (35% of growth) but also in countries like USA or Finland (respectively 34% and 24%). Nevertheless thanks to countries like Germany (-5%) and other Highly Developed Countries (HDC) the European level is unchanged. The world's level is stagnant probably because still percentage of cars in highly populated countries like China, India, Nigeria and multiple other African and Asian countries is still very low, not exceeding 5%. This fact in addition to ever hardening restrictions for manufacturers about CO₂ emissions for each new generations of cars, the overall emissions of automobiles will tend to fall and never grow again. In this situation obsolescence of style and, more importantly, obsolescence of technology, brings positive outputs related to pollution. Every next new car produces less greenhouse gases, thus being more ecologic. Of course this does not include waste connected to production and disposal of old cars.



GRAPH 10. Energy use in kilotons of oil equivalent (adapted from World Bank 2013.)

Energy use over the world grows in linear fashion, but HDC's with growing ecologic awareness seem to become more energy efficient. This behavior connected with our main fuel as fossil fuels still is not enough. It is a natural aspect of civilization that over the time energy use will constantly grow and it is unstoppable as fact that computers double their computing power every 18 months - Moore's law. However as already mentioned, the contribution of fossil fuels in our power consumption is almost 90%. Therefore emphasis on alternative power sources including atomic power seems to be yet too weak:



GRAPH 11. Alternative and nuclear energy as % of total energy use (adapted from World Bank 2013.)

6 POSSIBLE SOLUTIONS

Before finding the solution we should thoroughly consider what the problems are; are what their roots. We need to understand what the prosperity is and what factors build it. What balance should be applied to achieve general well-being in synergy with nature?

Besides true understanding of the problem's nature, it is essential to recognize what really means social prosperity and welfare. Are people happier by being socialistic creators or capitalistic consumers? What factors play the biggest role, to what extent it is money and what is the balance between freedom and control of preventing people from making bad choices? A very important question to be answered is: can abundance exist without waste, or can people live without the abundance of wealth?

Because each of solution is interdependent, the order below that I suggest is arranged in the form of steps that could be chronologically implemented: implementation of these solutions with suggested queue would be more efficient.

6.1 Step 1: Increased power of governmental organizations over the corporations

To start any change, it is important to decrease power of corporations. Lobbies like pharmaceuticals of oil industry surely prevent progress that would harm their interest. More powerful social-based organizations are needed to end up capitalistic and harmful rules. In European Union the alliance between several highly developed countries create possibility of creating sanctions and regulations that work for people, not for corporations. These are channeled onto environmental protection as well a consumer protection.

Hopefully this trend will continue in such direction and such behavior will spread also outside of Eurozone. For this is the most important part to implement changes. With social power over the corporations, the general progress need not be slowed, but even increased if used properly. This is a fundamental step to allow implementation of changes considering consumer education regarding values, release of technologies possibly stopped by lobbies, development of recycling restrictions onto manufacturers and preserving consumer rights over companies.

6.2 Step 2: Development of utilization of power extraction

On each of the chain's elements there is waste generated. Cost of utilization is very high. Therefore nobody wants to take responsibility of what happens to scrap or to the final product once it is consumed, no matter whether it is still usable or not. However restrictions concerning utilization and disposal can be standardized. Certainly most of the waste is created during industrial processes like extraction and production, thus the waste problem should be prevented from the roots. In the end it will be people who all together will cover the costs, by buying products with increased prices, but who are these changes for if not for us, the people?

Recycling becomes more popular in Europe and it is visible as special trash bins appear in many places. Separate utilization of each elementary material like paper, plastics, glass, metal and biowaste, bring many advantages not only from environmental viewpoint. General implementation cost is expensive and it might be too high for many companies, but why each of us could not contribute to this cost? It is very common that when we buy a beer in glass bottle, except of liquids price, we pay 'deposit' for the bottle. So we do care more to return it. However except of Scandinavian countries I have not met such well implemented system of returning. Basically any beverage package, no matter if it is glass/plastic bottle or a metal can, can be easily returned in each and every shop. It is made in a convenient way that encourages every consumer for recycling. Most of governments have a recy-

cling system, but not so convenient, thus people are not so much encouraged for returning. For instance in Poland, usually you need a receipt in order to return a bottle and retrieve contribution that you paid with purchase of beverage. Besides, it does not concern any other package than glass bottle – plastic bottles and metal cans litter many parks, because people do not see any possibility or reason for returning it. In addition to the above, people’s mentality is an issue, which is a next step.



GRAPH 12. Circular global chain management (The Story of Stuff 2007.)

Consumerism is a culture of waste and pollution generation, but it does not necessarily need to be such. With efficient waste utilization and alternative power

sources, we can close the global chain management (GRAPH 12) and preserve our abundance and race towards self-indulgence.

6.3 Step 3: Instilling in people need for good quality and skill of judging it

Until today citizens of capitalistic, high developed country carry the burden of past consumerism education. Consumerism and marketing are based in majority on psychology of the man. Without conditioning obsolescence of style would not be possible, because it is against the rationality and thrift. People have been mentally modified through marketing education and conditioning to buy and consume. However this trend could be changed using the same technique that created ever voracious consumers. Marketers, under influence of consumer-oriented organizations, could change their strategy and 'teach' people that quality, not the quantity, is a real value. From the environmental point of view, emphasis on quality is a positive one. To create good quality there is a requirement of better material and more labor work, including design, processing, assembly and packaging. But this only brings more work possibilities while the amount of resources used would be less. From economical viewpoint it also means good outputs. A product of a good quality certainly is more expensive, thus it includes more workforce and use of better raw materials, nevertheless customer obtaining such product will enjoy it for a lifetime. Obsolescence of style is not really necessary for neither of it. In the future only required obsolescence is concerned with technology, as it empowers the advance of civilization.

Nowadays, usually when a consumer possesses a fancy, however, malfunctioning product, he will rather complain to his friends than to a producer or distributor. Consumer's education is still too low to call him sovereign. Therefore it is very important to teach people from the very beginning how to assess quality and how to protect his/her own rights, how to understand planned obsolescence and how to avoid buying a product with built-in failure or obsolescence of style. Once more

Scandinavia with its social system is a good example in this matter. People here are not so much concerned about style. They drive their old, yet well preserved cars; their houses look almost the same, because standardization of furniture and appliances allows keeping good quality in par with an affordable price. Nevertheless, abundance in these countries is one of highest in the world, while distribution of wealth is very moderate.

6.4 Step 4: Bigger emphasis on services

With higher quality and extended durability, the demand for production will decrease over time. Even though producing such goods will require more labor and probably would sustain employment in manufacturing for some time, there will be necessary substitutes to create more places for work. This can be easily and rightfully implemented with a bigger emphasis on service industry. Services unlike production do not require much natural resources for making the customer satisfied. In addition service industry might have a bigger potential nowadays than production. If people were already instilled with need for a good quality, the manufacturing industry eventually would decrease its share of the market. The amount of time required to accomplish Step 3 should be sufficient for companies for adaptation to new market environment. Rebranding from manufacturing to service industry could occur in natural fashion and if people upon the time will be conditioned not to purchase and consume, but care and keep on servicing this could bring only advantages.

With present techniques of marketing that developed during past century, this should not be a big challenge for marketers. Once the tendency of such trade change will reach a scale big enough, it will be quite compulsory for all industries to adapt. Market of services would eventually reach such a scale that buying new products would occur only if reparation was uneconomically expensive or if product with sufficient technological advance was introduced on the market.

Durable goods mean also development of a second hand market, what could bring additional revenues without producing waste. Standardization of such a market could bring profits for government and companies. Such behavior is most visible in automobiles, when a saloon offers also used cars; however it could be implemented into appliances of a kind that does not go obsolete as fast as e.g. computers or cell phones. Nowadays the second hand market is highly defragmented and uncertain. A consumer obtaining used product cannot be sure about quality and condition of obtained products and, in addition, because often it happens aside from the controlled market, he usually cannot ask for help from consumer federations in case of fraud. With a well-developed and, probably centralized, second hand market, such issues could be avoided.

This approach with emphasis on services includes also science and education, thus by giving a bigger share of GPD to these fields, would provide technological boost in every field, eventually leading to an alternative for providing the prosperity without exhausting our planet – improvement of all links in the global chain management and closing the circle with superefficient recycling, utilization and eco-friendly sources of energy.

7 CONCLUSIONS AND ENDING WORDS

Most of the world's economies are just vicious circles; GDP growth is in par with growth of inflation, in some countries increase of prices is even faster than growth of wages. Constant economic development is just psychological manipulation at the people to convince them that consumerism is good and, that they should continue buying. However, the truth is that in the present system, including Planned Obsolescence as an engine, in addition to the current technologies, basing on fossil fuels that go inexistent in a few decades, we go nowhere else but to self-destruction.

The system in which we live is becoming obsolete, just as products that we constantly buy and without changing the policy of manufacturers plus further instilling new, more actual values for the society we might find ourselves in a dead-end. It has been forgotten that the ultimate goal of our economy is not to infinitely increase production and consumption, but to provide an environment in which every citizen can have a house for good living and shelter, a good school from which his children will receive a proper education, good transportation infrastructure and opportunities for cultural and spiritual benefits.

The changes might cost us a huge amount of efforts, self-control and it might require global promotion for the leaders to understand the reasons. The change comes always slowly and requires engagement on all social levels. This means that political leaders, industrial managers and common people must start from themselves to show the example for the others. But this time of fighting off consumerism, understanding the Planned Obsolescence and channeling it for right purposes might bring fruitful outcomes with scientific advances showing us the perspectives we do not realize yet.

With implementation of four steps in our world, we might achieve more than becoming coexistent with the nature and its resources. Such change will also provide further advancement for both welfare and science – abundance of a wealth and abundance of a mind. People until now are mostly concerned with materialistic abundance; nevertheless the time when desire knowledge will become popular it will indicate that changes for better are surely coming.

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GRAPH 4. Public debt in selected countries (adapted from Central Intelligence Agency 2013.)

GRAPH 5. Gini coefficient in selected countries (adapted from Central Intelligence Agency 2013.)

GRAPH 6. Gini Index over decades (wikipedia 2013.)

GRAPH 7. Illustration of golden arrow of consumption (The Story of Stuff 2007.)

GRAPH 8. CO₂ emissions in metric tons per capita (adapted from World Bank 2013.)

GRAPH 9. Passenger cars per 1,000 people (adapted from World Bank 2013.)

GRAPH 10. Energy use in kilotons of oil equivalent (adapted from World Bank 2013.)

GRAPH 11. Alternative and nuclear energy as % of total energy use (adapted from World Bank 2013.)

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