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REGULATION AND PROMOTION OF AN ADDICTIVE PRODUCT: SPANISH TOBACCO BUSINESS IN THE SPREAD OF CIGARETTE CONSUMPTION (1880S TO 1930S)

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Abstract: Tobacco is an addictive product, a big business and an important source of fiscal revenues. From 1880s to 1930s tobacco consumption spread in Western World mainly in the form of cigarettes. Supply changes such as mass production techniques, mass distribution and brand advertising and demand changes such as growing GNP or urbanization levels, interacted explaining changes and convergence in international consumption patterns. However, some differences have to be found regarding the national regulation framework. Tobacco industry was organized either under a fiscal monopoly or under a highly taxed industry mainly within an oligopoly. This paper analyses in depth and on a comparative basis, the Spanish case, paying special attention on the difference made by the regulatory framework and the lack of development of modern business tools such as brand advertising on consumption patterns and business activity. Spanish consumers were behaving as expected in the economic literature on addiction (rational addiction model) without brand advertising. That has to be related with the addictive character of tobacco consumption and more specifically with industrial organization of Spanish tobacco market. This is consistent with what is found in economic literature about addiction and market structure: for oligopoly or monopoly, if marginal cost is increasing, supply of an addictive good may be as high or higher than for perfect competition. This paper concludes that brand advertising is essential for market share mechanisms but its relation with the expansion of tobacco market is not as clear as it could be found on policies banning tobacco advertising or in Business and economic history literature. The lack of branding development in the Spanish case is just a consequence of the fact that tobacco industry was organized in Spain under a fiscal monopoly, and it was the lack of competence of the monopoly that make the Spanish products non-competitive, and as a matter of fact, the opportunities for a traditional tobacco producer of exporting or becoming a foreign direct investor were lost in Spain.

Key Words: Addiction, Tobacco industry, brand advertising, regulation, fiscal monopolies, Spanish economic and business history

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Nowadays governments in the developed world are restricting tobacco consumption and advertising, and courts are acting against tobacco companies. The impression is that only consumers are addicts and only companies are responsible for spreading tobacco consumption. However, governments are also dependent on tobacco and also responsible for encouraging its use. This article deals with the period when tobacco started to be a mass consumption product in many countries, mainly in the form of cigarettes. By that time, the tobacco industry was organised either under a fiscal monopoly or under a highly taxed competitive market. So to understand how smoking became an universally consumed product, it is necessary to review the role of governments in this process. This role became more evident when the state became involved in any or all of the stages of tobacco business (plantation, purchase, production and/or retailing), usually under a fiscal monopoly, as was the case of France, Italy, Japan or Spain. In these countries, the different governments adopted active policies to promote tobacco consumption, increasing both their own dependency on tobacco revenues and people's addiction to tobacco. What difference did the regulation model –fiscal monopoly or highly competitive market- make on consumption patterns and business activity?

Comín and Martín-Aceña (1999) in their history of the Spanish tobacco company, Tabacalera, maintain the monopoly did not make any change on consumption patterns, in the sense that the tobacco monopoly did not create it new needs amongst consumers, rather it was founded on increasing levels of activity in the manufacture and sale of a product which satisfied a considerable existing demand in the population. Individuals consumed, and would have continued to consume tobacco products whether the monopoly had existed or not.¹ However, in order to fully answer this question, is it necessary to distinguish between total consumption and market share, paying special attention to the development of modern business techniques such as brand advertising. This is consistent in one hand, with the Spanish business history literature which points out that the lack of international competitiveness of Spanish firms was mainly related with the lack on international commercial channels and the no development of international brands.² And on the other hand, with the relevance given to brand advertising in the most recent economic and business literature on addictive products as it is going to be developed in the next paragraphs.

Public health advocates assert that tobacco advertising does increase smoking (Roemer 1993) and as a matter of fact, advertising bans have been the first regulation measures taken by governments in order to reduce tobacco consumption. However, tobacco producers have argued that industry

¹ For these authors, as almost always happens, the tobacco monopoly was created at a time when there were already taxes on sales of the product (known as *Alcabala*) and on its importation (called the *Almojarifazgo*). This shows that the monopoly, just as it replaced indirect taxation, could also be replaced at any moment by indirect taxation, or by fees for licenses authorising the manufacture and sale of tobacco (Comín and Martín-Aceña 1999:42).

² See Valdaliso (2002). For Spanish brands, see Cerviño (1996).

advertising has little impact on the total size of the market, and that the main effect of their advertising is on market share (Shutchberry 1992). This debate has been extended to the economic literature but there is no analysis taking into consideration addiction and brand advertising in the first decades of the 20th century when tobacco consumption through the spread of cigarette consumption became a basic consumption product in the developed countries. This paper tries to fill this gap.

Within economic literature there is recent significant empirical studies that finds little or no effect of tobacco advertising on smoking (Duffy 1996; Bardsley and Olekalns 1999). This literature is based on Becker & Murphy (1988) Rational Addiction Model that assumes interdependency of past, current, and future consumption which characterizes addictive goods and the assumption of individual rationality, that is, of far-sighted consumers who can foresee the consequences of their current actions, since consumers are not myopic as considered in previous economic literature such as the Houthakker and Taylor (1970) habits-persistence model. However, other recent studies as Chaloupka and Saffer (1999) shows through new empirical evidence that a comprehensive set of tobacco advertising bans can reduce tobacco consumption by 6.3% and that a limited set of tobacco advertising bans will have little or no effect. Advertising is an important method of competition in industries that are highly concentrated, such as the cigarette industry. Firms in industries of this type tend not to compete by price, but try to increase sales with advertising and other marketing techniques mainly branding. In fact, on a more detailed level, advertising can increase market size through its role in the brand proliferation process (Simonich 1991). A company with a large portfolio of brands can achieve a larger market share than a company with a limited number of brands. Would brands have effects also on the total size of the market or just on market share?³ The interest of a historical research lies on the fact that tobacco became a universally consumed product in the first decades of the 20th century when brand advertising developed as a main business tool on competitive markets. If current consumption is dependent on past and future consumption, to analysis this period adds a new perspective to the debate.

Business and economic history literature have highlighted the main role of branding and advertising on expanding tobacco consumption along the 20th century (Chandler 1990, Wilkins 1994, Cox 1999, Porter 1969...). But this literature is on the one hand, mainly based on the Anglo-Saxon experience and on the other hand, it has not pretended to contribute to the economic literature and policy debate about addiction. There are two aspects that make rethink the main role attributed by historical literature to brand advertising in the spread of tobacco consumption at the turn of the century: first, tobacco was an addictive product so with an specific demand function; and second, that most of the world's tobacco market was supplied by state monopolies with no competition and where

³ The meaning of the cigarette has become intimately related to the image and metaphor of its advertising. Smokers are reinforced in their choice by the images presented and there is sufficient evidence available that

the development of brand advertising proved to be very slow, as it was the case study treated in this paper, the Spanish tobacco monopoly.

Tobacco consumption appeared in western civilisation at the time of the colonisation of America, but it was already strongly present in the Amerindian cultures when Europeans arrived. Early governments realised the possibilities of such a product and started to tax it or to control its trade, production and consumption under a monopolistic regime. However, the mass consumption of tobacco only started at the end of the 19th century through new technology and the arrival of the cigarette as the main form of tobacco product. At the end of 19th century, governments, tobacco companies and social trends encouraged the addiction of consumers to tobacco. The arguments against tobacco consumption were mainly moral, and those based on medical principles lacked sufficient scientific basis. Since the link between smoking and lethal diseases was not scientifically accepted, little legislation appeared in this period.⁴ Spain established a tobacco fiscal monopoly in 1637, being the first European nation to do so.⁵ In 1887 the liberal Spanish government leased the management of the tobacco fiscal monopoly to a private company called *Compañía Arrendataria de Tabacos* (CAT), which promoted and increased tobacco consumption. The Spanish government only privatised the management of the tobacco fiscal monopoly in order to increase consumption and revenues as it happened. The CAT had the capital to invest in the modernisation that Spanish tobacco industry needed to serve mass consumption with mass production techniques, but it did not use all mass distribution techniques available, such as brand advertising. However, the tobacco monopoly and as a matter of fact, the CAT, controlled the biggest commercial network in the country. It started to develop brands initially in the 1930s just before the arrival of the Spanish Civil War 1936-9, but the war stopped the process that resumed in the 1950s, so, decades later than in the US or the UK. This case-study allows reviewing the role of governments/business interaction in understanding how smoking became a universally consumed product. The role governments is especially interesting in the past, when income for tobacco consumption was not yet confronted with health expenditure from tobacco derived illnesses (Gálvez 1999).

This paper is developed along six parts. The first part deals with addiction and the evolution of tobacco consumption in the long-run. The second part analysis the role of branding and advertising in tobacco industry. The third part presents with the organisation of tobacco industry, paying especial consideration to fiscal monopolies and the evolution of the Spanish fiscal monopoly. The fourth part

brand loyalty is extremely important. Surveys in the United States in the 1970s concluded that about half of cigarette smokers interviewed had never changed their brand ((USDHHS 1992: 41; Goodman 1993: 114).

⁴In Spain, the only restrictive legislation linked with tobacco industry was 1900 law about the prohibition of women and children to work in dangerous industries. Certain stages of tobacco manufacturing were within this category.

⁵Although the first big European nation establishing a tobacco fiscal monopoly was Spain in 1637, the first fiscal monopoly was established in Mantua in 1634.

develops the lack of brand advertising within Spanish tobacco business. The fifth part, applies the Rational Addiction model to the Spanish tobacco market from 1900 to 1935 in order to test if this market is behaving as the latest research show markets do for addictive products. And finally, the last part of the paper concludes.

1. Addiction and tobacco consumption

Tobacco is nowadays one of the most controversial businesses, especially in the last decades since the link between smoking and lung cancer and other diseases was scientifically demonstrated in the 1950s⁶. Smoking is not anymore considered a private issue but rather a serious addiction and a social problem. Social and economic costs of smoking mainly in relation with mortality and medical bills faced the profits of tobacco companies around a product that generates addiction. Even if still it is legal to smoke, one of tobacco main components, the nicotine, creates a physical dependency that laboratories are trying to combat through the invention of a vacuum. But the physical addiction is only one aspect of the smoking dependency, the social and cultural addiction is as much important as the physical one⁷. If laboratories are working in the physiological part of tobacco consumption, anti-smoking lobbies and governments, though developing countries to a lesser extend because of their own addiction to tobacco revenues, are trying to eliminate or to limit tobacco consumption through prevention campaigns or restrictions in selling, advertising or consuming tobacco in certain places. A major concern about health in developed countries explained the decrease in tobacco consumption in the last decades. Nevertheless, controversies around tobacco go far beyond health issues, economic, social, political, cultural, scientific and psychological aspects are also essential in that debate.

The physical effects of tobacco consumption were known by the Amerindian cultures that used tobacco in their rituals, to avoid tiredness and hunger, and in general as a medical plant in a society where the magic and the medicine were not clearly divided. The Spaniards introduced in Europe as a medical plant, and in fact, tobacco consumption started in Europe as a medicine, though it soon moved to a commodity consumed for the pleasure of doing so, first among sea man and marginal people and

⁶ The first study relating cancer and cigarette consumption dated from 1951, being published in 1954 under the auspices of the American Cancer society that provoked for the first time in the whole century a fall in cigarette consumption in the US. Tobacco industry reacted easily -because of it oligopolistic structure-, creating the Tobacco industry Research Committee in 1958 and launching filter-tipped cigarette as Winston with good consequences on sales. These products pushed multibranding far beyond the levels envisaged when the practice first begun after the 2nd World War.

⁷ In fact, it has been suggested that the future of tobacco business is to purify nicotine as much as possible since it is not nicotine in itself responsible for the health problems generated by tobacco consumption, but the way in which is consumed especially through cigarettes. For Goodman (1993: 245) however desirable this outcome, it fails to address the cigarette as a cultural artifact. Tate (1999) also insist in the cultural side of tobacco consumption.

soon conquered high society mainly in form of snuff tobacco⁸. Though, it was not very explicit but there are early testimonies that point out to the addictive character of tobacco consumption, Juan de Castro in his treaty about tobacco published in 1620 wrote that many people promised to abandon its consumption but that they came back to it as apologizing for their attempt (Pérez Vidal 1959)⁹. By the 19th century the medical purpose of tobacco consumption was already eliminated and an important shifted occurred in the form of tobacco consumption towards smoke tobacco. So by the 19th century tobacco was consumed for the pleasure of doing so and the fact that generates dependency was commonly admitted. The Spanish governments were aware of the physiological and cultural aspects of the addiction; for example, García de Torres, head of the tobacco monopoly wrote in 1874: “*as opium, tea, coffee are not being basic for living man turn by instinct to tobacco, impulse by physical necessity or invincible habit*” (García de Torres 1874:47). And in fact, this certainty is in the origin of tobacco taxation. But it was a particular type of consuming tobacco that turned up to be more addictive than other types and which in addition ended up being the most dangerous forms of tobacco consumption for human health. So what was different with the cigarette?

Nicotine is the most important nitrogenous compound in tobacco and in the smoke. It is an alkaloid, a plant substance of basic reaction, which produces physiological changes in the body. Following (Goodman 1993: 5) there are two facts about nicotine which are now irrefutable but which until very recently were not confirmed. They are: first, that people consume tobacco in whatever form in order to administer nicotine to themselves; and second, that nicotine is highly addictive, in the sense that tobacco use is regular and compulsive and a withdrawal syndrome usually accompanies tobacco abstinence (West and Grunberg 1991: 486). Because cigarette smoke is acidic, the nicotine in cigarette smoke can be absorbed only by inhaling it into the lungs: the nicotine in both cigar and pipe tobacco

⁸ The very first evidence of tobacco consumption appeared in Columbus first trip diary: “... *que por las calles habían hallado mucha gente que llevaba en la mano un tizón encendido para lumbres y sahumarse después con algunas yerbas que para este efecto llevaban consigo y para tostar aquellas raíces que les dieron, que eran su principal comida*”. If Columbus referred to tobacco consumption as the main meal for Indians, Fray Bartolomé de las Casas in his early *Historia de las Indias* published in 1542 introduced the physical effects of smoking. He documented that this rolled leaves that Indians called “Tabaco” and they enlightened from one side and inhaled from the other made “*flesh became asleep and combat the tiredness*”. Fernández de Oviedo in his *Historia general y natural de las Indias* documented that some Christians already started to consume tobacco while ill because during the time they are transported they did not feel the pain of its illness. Tobacco was explored by Spaniards with new world flora. However, it was the publication in 1571 in Seville of Nicolas Monardes *History of medicinal plants of the New World* that placed tobacco at the heart of European materia medica. For Goodman (1993: 38), this study was not inspired only by an intellectual challenge but for important economic considerations. One important consideration was the extend to which a colony could supply commodities that were being imported from elsewhere and medicines were perhaps the single most important commodity that Europe imported from the East, and there was every justification for the Spanish in the 16th century to promote tobacco imports and reduce their dependency upon the Venetian and Portuguese middleman.

⁹ For the development of tobacco consumption from a medical plant to a pleasure see Rodríguez Gordillo (1990). Though the therapeutic effects of tobacco consumption as relaxation will be used in the diffusion of the cigarette in the battlefields during the wars. In fact, for Tate (1999) the WW1 is probably the single most important aspects explaining the social acceptance of cigarette consumption in the US.

smoke, being alkaline, can be absorbed through the mouth mucous, the membrane lining the mouth (Russell 1987: 29). Cigarette smokers who inhale absorb 92% of the nicotine available in the smoke. Within 15 or 20 seconds nicotine has reached every part of the body. Nicotine absorption by pipe and cigar smoking, without inhalation, is slower and less intense. Nasal or dry snuff, by contrast, offers the tobacco consumer as efficient an absorption of nicotine as cigarette smoke inhalation (Russell 1987: 31-2). So it is not surprising that it was snuff tobacco the most common form of tobacco consumption in the first countries in which tobacco consumption started to be important: Spain and France, through the *Sevillian Polvo* and the French *Rapé*. But snuff tobacco was a luxury product, expensive and not easily available, while the cigarette, especially since the innovation of the Bonsack machine in 1880s was cheap and available. In fact, the interaction between changes in supply and demand of tobacco have to be taken into consideration in order to understand the expansion of the cigarette as the main tobacco product consumed all over the world.

It is hardly to do not exaggerate the effects of the Bonsack Machine in the development of the tobacco industry and to the smoking addiction. During the 1880s this fundamental invention was made in the field of tobacco manufacture and the success with which this was innovated upon had truly revolutionary effects on the subsequent development of the industry (Alford 1973: 139). Based on previous machines that did not constituted a big improvement over hand made cigarettes, in 1881, James A. Bonsack of Salem, Virginia, US, patented his cigarette-making machine, which was a major advance on anything available at the time. The first tobacco manufacturer to install the machine for full-scale cigarette production was Wills in the UK. A number of tobacco firms in the US had shown an interest in the invention and among them was W. Duke & Sons of Durham, North Carolina. This firm experimented with the Bonsack in 1884 and eventually, in 1885, decided to bring it into full operation. The new machine produced 200 cigarettes per minute, the joint production of 40 cigarette makers¹⁰. Both producers assured preferential rights with Bonsack Machine Company. They knew very well that cigarettes accounted for a minute fraction of total tobacco consumption and, although the fashion of cigarettes smoking was obviously spreading, none of them, believed cigarettes would ever offer a serious challenge to pipe smoking (Alford 1973: 155). Nevertheless it was the competitive advantages created by the use of the Bonsack machine, as first comers were the superiority of those two manufacturers remained.

¹⁰ For Porter (1969:69), the machines brought about a tremendous reduction in the cost of manufacturing. By 1884, the Bonsack machine was producing from 100,000 to 120,000 cigarettes per day, the equivalent of the production of forty to fifty hand workers. The exact amount by which production costs fell is unclear, but one scholar estimates that the cost of manufacture was reduced from 80 cents per thousand to 30 cents. For Porter, Duke's introduction of machine production was clearly the most significant innovation he made in the industry.

The cigarette was not a new product, though it is easily to find it described as so in the literature, but the mechanic cigarette represented such a difference in cost and availability that the Bonsack Machine was an inflexion point. The origin of the cigarette is common to the origin of the cigar. It was introduced in Europe by the Spaniards. It was soon spread to Portugal that introduced its consumption in Japan, and for the Mediterranean to Turkey and Russia where apparently was transmitted to British soldiers who brought back to Britain, and from Britain to the US. However it was in Spain where the consumption but mainly the production of cigarettes was early developed. It seems that Napoleonic soldiers helped in the diffusion of the cigarette from Spain all over Europe. Ford, in 1844, while telling about his travel through Spain describes cigarette rolling (*papelillo*) as the most natural thing for a Spaniard. In fact, it was only in Spain where the manufactured production of cigarettes seems to be important before the turn of the century (see table 1). That particularity had important consequences in the slow modernisation path of the Spanish tobacco industry and in the labour organisation of the industry mainly based on a skilled and flexible female workforce (Gálvez 2000).

Table 1. Percentage in Kilograms of each type of tobacco product over the total produced in the different European monopolies in 1894-95 (France 1892 and Portugal 1892-3)

Monopolies	Rapé	Rolls	Chewing	Cut	Cigars	Cigarettes	Expendit./income %
Spain	-	-	-	47,51	21,16	31,33	31,29
Hungary	0,25	-	-	82,42	12,00	5,33	41,40
Austria	5,14	-	4,00	68,20	17,23	5,43	33,62
Italy	16,28	-	-	38,46	34,33	10,93	24,70
France	14,69	2,03	1,42	69,98	8,50	2,93	18,40
Portugal	13,47	24,80	-	16,00	39,76	6,06	20,03

Source: Delgado (1892)

In the United States cigarette consumption was indeed marginal and that in part explains the development of an anti-smoking movement against that “new product” that was considered immoral. While Duke started his advertising campaign in the 1880s cigarette consumption in the US in 1900 over the total consumption of tobacco products was still only 2%. Although little evidence was available, simple observation suggested that cigarette smokers were more dependent on their habit than other tobacco users (Tate 1999:7).¹¹

¹¹ Tate (1999:25) illustrates that with a quotation from Oscar Wilde’s *The Picture of Dorian Gray*, where Lord Henry Wootton, who lives by the philosophy that “the only way to get rid of a temptation is to yield to it” is rarely

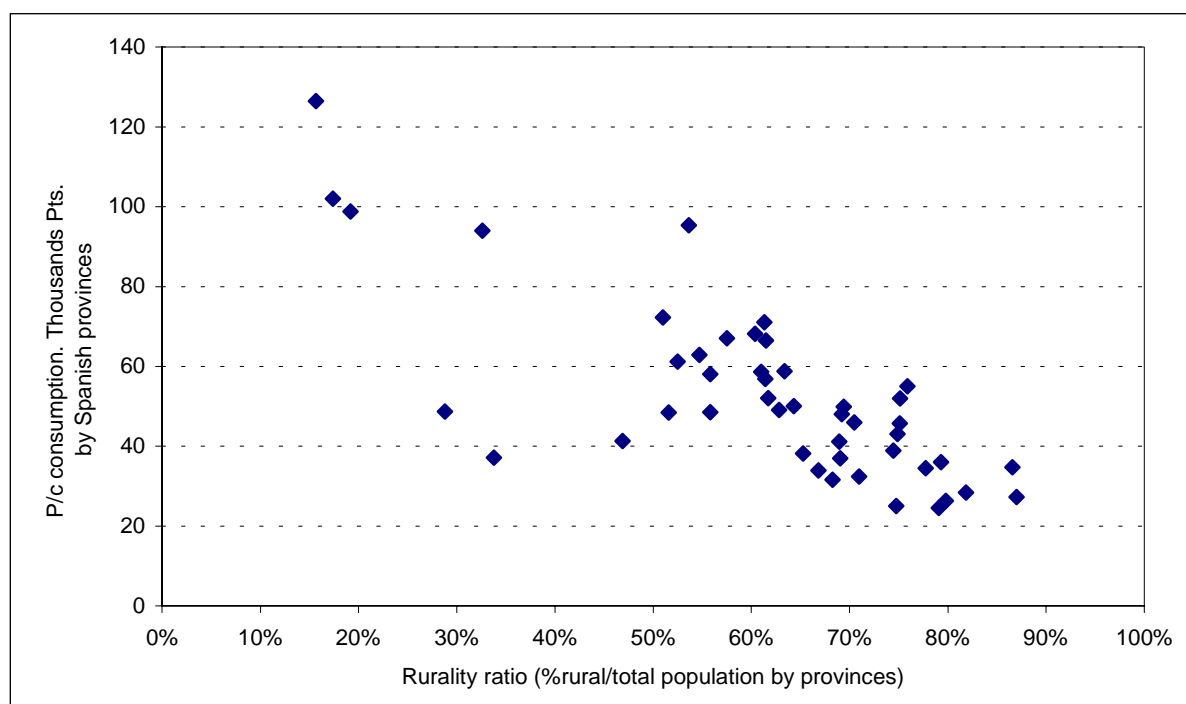
Probably it was the pleasure or the freedom that the cigarette consumption represented and the lack of scientific evidence that explain why the core arguments against the consumption of cigarettes were based on moral more than in health ideas or evidences. Though health reasons were also drawn within the Darwinism ideas and the survival of the fittest (Tate 1999:20), as the anti-Spanish publicity previously and during the Spanish-American War shows: "The outcome of the Spanish-American War seemed to offer further proof of the debilitating effects of cigarette smoking". American news services quoted a member of the British Parliament as saying, flatly, that Spaniards had lost the war because of its national appetite for cigarettes. In publishing this story, the editor of the Chicago Daily News hastened to add, "The argument is, of course, directed against cigarettes, not against smoking generally". William Randolph Hearst reprinted the British report, along with the Chicago editor's comments, in an anti-cigarette tract that concluded Spain might not have reached its present state of deterioration if it had prohibited cigarette manufacturing before it became a national occupation and misfortune. In 1884, The New York Times published that the Decadence of Spain began when the Spaniards adopted cigarettes, and if this pernicious practice obtains among adult Americans the ruins of the Republic is close at hand. In the US, even in an Opera Carmen representation her job as cigarette maker at the tobacco factory of Seville was substituted by a dairy worker (Tate 1999:12).

Anti-cigarette movement was more active than those articles and opinions, incurring in actions as Henry Ford policy of not hiring workers who smokes cigarettes. Nevertheless the cigarette started to triumph as the main tobacco consumption product in the US and everywhere. Important changes in the society and lifestyle are essential to explain demand changes: the triumph of the cigarette. Did it was mainly a question of the cigarette itself as a product, or the advertising campaign which explains the triumph of the cigarette?. Changes in life styles, especially urbanisation and industrialisation and rising living standards matched with the arrival of the mechanic made cigarette that make tobacco fashionable, available and most importantly: cheaper. It was the mechanisation that made cigarettes available and cheaper all over the places. Other aspects as the comercialisation of a safe match made easier smoking, that it was already easier to consume than other forms of tobacco. In addition, cigarette consumption was cleaner than other tobacco products, so more convinient for the urban society. By 1890 more than a third of the American population was living in cities. Urban standards of hygiene and decorum discouraged spitting, a necessary adjunct to tobacco chewing that was the most common form of tobacco consumption in the US. With the innovation and the use of the Bonsack machine by the pioneers: Duke in the US and Wills in UK, the relative efficiency of large tobacco factories was substantial and they strongly support the emphasis given to economies of scale (Burns 1983:462). A

without a cigarette that he describes as "the perfect type of a perfect pleasure. It is exquisite, and it leaves one unsatisfied".

product, the cigarette, that was more adaptable to the new life style, and more addictive, appeared available and to a cheaper price. Both Duke and Wills were first movers and the advantages that the use of the Bonsack machine in exclusivity for few years seems to be essential in reducing the unit costs and putting a cheaper product in the market. Cigarette consumption spread with industrialization and urbanisation and because of the application of the Bonsack machine to cigarette production.¹²

Graph.1 Tobacco consumption and “rurality” ratio in Spain in 1920



Source: 1921 CAT Annual Report and 1920 Spanish National Population Census (Only Male Adults)

The graphic 1 and the appendix one show the correlation among tobacco consumption and urbanization in the different Spanish provinces for 1920. The correlation is positive except in some cost provinces. Since the data of tobacco consumption is official data, smuggling tobacco is not included. That is the reason of that anomaly. If the rational addiction model applied in the fifth part of this paper is accepted, and the weight of past is essential when explaining current consumption on addictive product, Spaniards should have a bigger consumption per head compared with other countries with different urbanisation degrees. Nevertheless, up to the end of 19th, the entire world have converged towards one type of tobacco consumption: the cigarette from 8% of total tobacco consumption in 1900 to 57% in 1950 to more than 80% in 1980.

¹² Goodman (1993: 94) maintains that the statistic evidence –without providing it- does not support any correlation between the level of industrialization and per capita income of cigarette consumption.

Tobacco is a commodity that creates addiction especially if it is consumed in form of cigarettes. This particularity is in the basis for taxation and show governments were aware of tobacco consumer's behavior. So what role did play the development of brand advertising in the expansion of such an industry?

2. Branding and Advertising in Tobacco Industry

Already in 1940 before the Cancer controversy, tobacco industry came to be one the industries spending a bigger % of their sales in advertising, around 12%. In 1940, tobacco companies were only surpassed by cereal preparation and pharmaceutical companies (Chandler 1990:148-52). However tobacco companies investment in advertising increased from the 1950s onwards. Before tobacco companies targeted developing countries market and started to diversify their business, it was on brand advertising where they concentrated their efforts and investments to limit the effects on tobacco consumption of the publication of the reports linking smoking with fatal diseases and dead¹³. And it was advertisement the first field of tobacco industry where the governments started to restrict tobacco companies activities up to ban tobacco advertising in many countries¹⁴. Opposite to restrictions in tobacco advertising, anti-smoking lobbies and government are using advertising to end with smoking habits. Also the importance of brands for tobacco business has been extensively highlighted. In the debate especially pursued from the 1980s, about brands adding value on balance sheets, the Marlboro brand, a cigarette brand, the product of one of the most successful marketing campaigns in history had been hailed as the world's most valuable brand in the early 1990s (Kay 1993: 258). The benchmarks in the evolution of tobacco consumption during this century could be followed by some brands as Camel in 1913 that started the advertising war among tobacco companies, Marlboro campaign in 1927 showing a woman holding a cigarette was essential in the conversion of women to cigarettes, or Winston that was

¹³ Tobacco manufacturers responded to the medical threat by denying the conclusions of the studies linking cancer and smoking by launching a particularly aggressive counter-attack through advertising. Cigarette advertising expenditure grew in the US from 47 \$ million in 1939, to 148 in 1959, to 361 in 1970, to 491 in 1975 and to 1900 in 1983. (Goodman 1993: 114). On the publicity agencies created by the British and American tobacco companies after the Cancer crisis, see Courtwright (2003).

¹⁴ The Cigarette Advertising and Labeling Act in the US is from 1965. In 1971 it was already forbidden to advert tobacco in radio or TV in the US. In October of 1992 the UK's Department of Health published the report: *Effect of Tobacco Advertising On Tobacco Consumption: A Discussion Document Reviewing The Evidence* (Also referred as the Smees Report after Clive Smees, the Department's Chief Economic Advisor) concluded that even if they did not found that advertising has a statistically significant effect consumption the great majority of studies point towards that advertising does have a positive impact in consumption; "brand advertising may lead some people to start smoking", and in the countries in which a ban in tobacco advertising was introduced, "the banning of advertising was followed by a fall in smoking on a scale which cannot reasonably be attributed to other factors" (being the countries taken for the study: Canada, Finland, New Zealand and Norway). See Luik (1994) where different reports and studies on tobacco and advertising are treated. Especial analysis is deserved to the Smees Report. The review made by Luik (1994) tries to show how the relation between advertisement and tobacco consumption is more complex and how the ban in tobacco advertisement is only one cause of the falling of tobacco consumption.

launched in 1954 becoming the most successful filter cigarette and, at that time, a symbol of a more secure form of smoking for consumers. Multibranding or the transformations suffered in one brand as Marlboro from a luxury cigarette to a female cigarette to the masculine cowboy image are privileges examples of the transformations suffered by the tobacco industry during the 20th century.

It was in the late nineteenth and early twentieth centuries, when as a consequence of major advances in technology and the rise of the modern corporation, the role of the trade mark dramatically altered and made it for the first time in history a particularly valuable intangible asset. Branding preceded advertising and it involved the consumer and the manufacturer in association with images. For Wilkins (1994:18-9) for producers who sold their output in quantity over distance to consumers who did not know them personally, the brand helped consumers to identify the good with the individual maker and to differentiate the product from alternatives. For producers, the brand name gave them the possibility of using intermediaries and developing modern means of distribution. In fact, company advertising and brand marks went in tandem. For Wilkins, advertising did not make sense if there were not differentiated products.

Brands add value to products and fill the gap between the commodity and its image (Fine & Leopold 1993:30). Brands enable firms to expand their markets and thereby achieve economies of scale and scope, and to use and develop modern means of distribution (Jones 1994:2). In Economic theory, brands inform the consumer about product differentiation, quality control and producer reputation and on doing so enhance consumer choice and improve the quality of consumer information. Though, branding can be used to suppress information instead and manipulate consumer demand through the transmission of various cultural characteristics (Casson 1994:42). In fact, a brand is just a label which indicates that all products carrying that label have a common manufacturer, distributor, retailer or country of origin. It does not necessarily give any information about who that manufacturer, distributor or retailer is, nor about the quality characteristics of the product. A brand is often intended to convey information on, or persuade the consumer about the quality, reliability, social status, value for money or safety of a purchase (Bowbrick 1992:29).

The origins of tobacco branding are unclear but there is little doubt that branding evolved from trade cards used in tobacco distribution from as early as the first two decades of the seventeenth century (Brongers 1964: 277, Goodman 1993: 99). By the late eighteenth and early nineteenth century a brand name began to take prominence over the maker's name, as evidenced by extant trade cards and wrappings of the period. Not surprisingly, manufacturers of snuff were the first to exploit this early form of marketing because manufacturers prided themselves on providing snuff of different snits and colours (Alford 1973: 27-8). So it was on a luxury product where branding first started on tobacco and completely coincident with economic theory. Also the luxury Cuban and Philippines cigars were among the first products to be branded. In the United States branding tobacco was widespread since

manufacturers were typically distant from their customers and distribution was handled not by the manufacturers but by agents and jobbers located for the most part in New York City (Robert 1938: 222-6). British manufacturers also turned to branding. Ricketts, Wills and Company began the practice in 1847 with brand names such as Best Bird's Eye, Bishop Blaze and Stansfields (Alford 1973: 97-8). The distribution of tobacco products by Wills in Britain, though operating on a different system from that in the United States nevertheless allowed the firm to gain a national as opposed to a local reputation (Alford 1973: 100-7; Goodman 1993: 100). Probably it was the role of the colonies and the degree of internationalisation of the British economy and British business at that time that explain the early development of brands in British tobacco industry. However, probably one of the most successful and modern because of the extensive advertising of that early brand was developed in the US: Bull Durham launched in 1866 by W. T. Blackwell and company of Durham, North Carolina. The way that brand was advertised on a national scale was the example followed by Duke with his first cigarette brand: Duke of Durham, in 1881. He advertised nationally, offered premiums to consumers and special deals to jobbers, sponsored games at which free cigarettes were presented (to men only) and he introduced the cigarette card, using at first the picture of a popular singer of the period and in time extending to actresses, presidents of the US, royalty and other important figures.

Advertising did not come cheap and Duke probably spent more on it, as a proportion of turnover, than did other manufacturers (Porter 1971: 43). According to Duke himself, the costs of advertising in 1889 accounted for 20% of sales. In the same year it was estimated by a trade magazine that manufacturers could easily incur a cost of \$250,000 by introducing a new brand on to the market (Porter 1971: 41, Goodman 1993:103). Duke structured his business around the twin concerns of mass consumption and mass production, and in this laid this particular genius (Chandler 1977: 382). In fact, Chandler groups tobacco industry within Branded and Packaged product industries and shows especial admiration for the figure of Duke in the creation of the American Tobacco Company. For Chandler, Duke's marketing skills could be the explanation for the American Tobacco Company success¹⁵. In fact, Duke himself once said that if manufacturers would simply advertise extensively enough, they could make smokers out of all American (Tate 1999: 7).

One of the major characteristics of the cigarette industry in both the US and the UK before the 1st WW was the large number of brands available to the consumer. Madsen (1916) in his work showing the inefficiency of monopolies for organising tobacco market and on collecting fiscal revenues compared to a competitive market, maintained that the main difference French tobacco consumers

¹⁵ In fact, Chandler explain the growing of those companies mainly through marketing: Chandler (1990:155) argues that as the second decade of the century came to a close, the producers of branded packaged products began to expand by capturing markets abroad and by moving into related product lines. For that author as might be expected, such growth was based on organisational capabilities developed in marketing and distribution more than on those developed in production and research did make important contributions.

noticed when arriving to England was the quantity of brands available in that country. In fact “another aspect of the State price-list is the meagre number of varieties and brands it comprises, a matter of much importance in the case of an article like tobacco, which, lending itself to the skill of the blender, can be adapted to suit every difference in individual tastes. The Government monopolies work in the opposite direction by standardising production as far as possible and manufacturing according to stereotyped recipes. They forbid the retailer to manipulate the tobacco in any way” (Madsen 1916: 31). In fact, that control was the monopoly way to guarantee the quality and the producer reputation. The Austrian monopoly with a price-list including 133 different tobacco of Austrian manufacture and 42 imported brands, mostly cigars made the best in that respect, though altogether insignificant by the thousands of brands offered to the smoker in the United Kingdom (Madsen 1916:31). But probably, more important than less brand supply was the fact that taxation was higher. In addition, prices were fixed and more correlated with financial needs of the treasury than with changes in the market, and as a matter of fact, consumption was smaller.

Nevertheless, it is necessary to insist that consumption statistics in monopoly countries only refer official consumption. It is difficult to know how important was the consumption of smuggling tobacco, and its changes over countries and periods, but by the money invested and resources invested on their fight looks like it was very high.¹⁶ Enemies of tobacco monopolies as Madsen (1916) also said that the quality was lower in those countries than in competitive market countries. This is even more difficult to demonstrate than total consumption differences, since products from public monopolies as the Spanish one, did win prizes in the international exhibitions. In fact, quality control was rigidity established in Spanish tobacco factories. In addition, the consumer knew in which factory the tobacco was manufactured and products from all factories were distributed all over the country even if the same was produced in more closely geographic areas. That way of assure quality control and product differentiation while informing the consumer within a non-competitive market explain the slow brand advertising development in monopoly countries as Spain, even if from 1887 the management of the tobacco monopoly was under private hands, but nevertheless still under a situation of monopoly. Even if that provided a bigger choice to the consumer, it incurred in high transportation costs for the producer. As a matter of fact, when the mechanisation arrived, a standardisation of tobacco products was reached and preferentially each factory have to distribute to their assigned zone. That was one of the improvements of the CAT in reducing production and distribution costs.

In addition, advertising could exist without branding, in situations of co-operation as cartel (the diamonds) or under a monopolistic regime that has been for the last century probably the most common form of organisation of tobacco business. In fact, the link between tobacco consumption and

¹⁶ See Comín and Martín-Aceña (1999: 160-1) about the money invested by CAT on prosecuting smuggling.

brand advertising is more complex than what it seems after reading American and British economic history literature. In fact, social and cultural history when dealing with business try to fill the gap between the enterprise and the society and on doing so, this literature have trouble in valuing the importance of tobacco advertising as shows the following paragraph from Goodman (1993: 106-7) about the role of advertising and the conversion of women to smoking: “*Tobacco companies were not slow to realize that changes were occurring and through the 1920s their advertising became clearly targeted to this new and growing group of consumers. Whether the advertising was itself responsible, to some degree, for the increasing number of women smokers or whether it was capitalising upon a discernible trend is a moot point. It is also irresolvable since the complex culture of tobacco consumption precludes any analysis in simple terms of cause and effect (Schudson 1985: 178-208; Waldron, 1991). There is little doubt, however, that even if the rise in women’s consumption of tobacco rested on other social and economic changes, the tobacco companies, in their cigarette advertising provided new images to which women might aspire or be confirmed by smoking*”.

The fact is that even in the US where Duke built his giant corporation, the role of marketing and brands in the spectacular growth of tobacco consumption in the early decades of the 20th century especially cigarettes -from 2% of total US tobacco consumption in 1900 to 40% in 1930- has been recently reconsidered. Tate’s study of the American anti-cigarette movement from the late 19th century and first decades of the 20th century, maintains that advertisement may have made cigarette more acceptable simply by making them appear to be more commonplace but still these are indirect and secondary influences, in themselves they do not account for the shift swift advance of the cigarette after the 1st WW. In fact, for Tate (1999) the War itself made more for the expansion of cigarette consumption than any cigarette campaign or cigarette brand, making an immoral habit an important companion of American soldiers. The link between brand advertising and tobacco consumption is clearer with the conquest of the women in the 1920s and with the persistence of smokers in the 1950s and 1960s after the cancer studies were published. However, in order to establish the responsibility of brand advertising in the spreading of tobacco consumption at the beginning of the 20th century, no matters how important the role of brands and advertisement became afterwards in tobacco business. If tobacco industry is considered historically within its *own system of provision*¹⁷ two peculiarities appeared

¹⁷ The terminology: System of provision is taken from Fine and Leopold (1993) and seems particularly useful to highlight the differences established in the production and consumption process of each industry in historical perspective. Each commodity or commodity group is best understood in terms of a unity of economic and social processes which vary significantly from one commodity to another and from one period to another, suggesting the possibility that consumer behavior has played a more determining role in some periods of history and in some commodities than in others. Their definition of system of provision runs as follows: “For some social theorists the consumer is king. The tastes and preferences of the individual, communicated through the magic mechanism of the market, dictate what is produced and whether producers succeed or fail. For others, consumption traps the individual in a fetish-like devotion to goods that can never satisfy real needs (...) The authors argue that individual commodities create their own distinct systems of provision, processes by which production, distribution, marketing and consumption are vertically integrated. Hence the function of marketing in

that help to review the role of branding and advertisement on tobacco addiction and the spread of cigarette consumption in the last decades of the 19th century and the first decades of the 20th century. First, the addictive component of tobacco developed in the previous section, and second, the organisation of the tobacco industry: strong multinationals and national monopolies, where branding was not as developed as in competitive market countries, as it is going to be treated in the next section. If these two aspects are included, the evidence found in the business and economic literature about the main role played by brand advertising on expanding tobacco consumption is not sufficient to affirm that brand advertising not only affect market share but it does affect as well the total size of the market.

3. Spanish Tobacco Fiscal Monopoly

Nowadays, tobacco industry is one of the most oligopolistic sectors, being divided among strong multinationals as Phillip Morris or BAT-Rothmans, and national monopolies¹⁸. The highly concentration of tobacco industry is not without importance. The addictive character of tobacco business pushes governments to tax it from its introduction in Europe. From the 17th century to nowadays tobacco industry has been organised either under a highly taxed competitive market or under a fiscal monopoly. That structure was also true hundred years ago when companies generated in states under a free-market regime started a concentration and internationalisation process and new state monopolies were created in order to assure tobacco revenues of a growing industry.¹⁹ State monopolies existed also in other addictive product as the Indian Opium Monopoly, which may be said to exist, not for the sake of revenue, but as a means to prevent the excessive consumption of a harmful drug. Though tobacco was not considered as a drug, the maintenance of tobacco monopolies was not only justified in terms of revenues, and normally, countries with non-progressive fiscal systems established and maintained tobacco fiscal monopolies still during the 20th century.

Spain established a tobacco fiscal monopoly in the 17th century, but then, the industry was not directly controlled by the state. It was only in the 18th century when Spanish Bourbon monarchy promoted the tobacco consumption from an entrepreneurial role, enlarging and creating state-owned factories, called Royal Factories, that were mainly created to exploit directly its fiscal monopolies. In fact, tobacco monopoly was not the only fiscal monopoly owned by the Spanish Crown, other products

the fashion industry is better explained by the function of other aspects of this industry than by comparison with marketing in the food industry”.

¹⁸ Multinationals and state monopolies controlled in 1988, 80% of tobacco market. Goodman (1993:7) shows that state monopolies controlled 60% while multinationals controlled a 35%. Recently, the picture has apparently changed. Anti-monopolistic legislation as the EU one has not altered that much the composition of that industry worldwide. Former state companies running under a monopolistic basis that have now being privatised have followed a concentration trend as it was the case of SEITA of France and Tabacalera of Spain that have merged in 1999 creating Altadis, short after their privatisation and the theoretical end of their monopolies, though, in many areas, *de facto* monopoly still remains, because of the control of key aspects as distribution.

¹⁹ For the internationalization strategies of tobacco companies see Cox (1989, 1995, 2000) studies about BAT.

like salt or powder were under a fiscal monopoly which was a common tax tool in the Ancient Regime. Indeed, neither fiscal monopolies nor tobacco monopolies were an exclusive taxation arrangement of the Spanish Crown. Other European countries established as well tobacco fiscal monopolies. In France it was established by Colbert in 1674 to increase French fiscal revenues and Austria created a tobacco fiscal monopoly in 1670. Although the figure of a fiscal monopoly could be considered typical of the Ancient Regime, there were countries such as England or Holland that never established fiscal monopolies and other countries such as Japan or Sweden, which did it in the 20th century. In fact, the consideration of tobacco as a fiscal monopoly is more related with the degree of intervention of the State on the economic arena and with the particular situation of the national treasuries than with the historical period as a whole. Individually, the introduction of a fiscal monopoly has always been a measure to guarantee the collection of money in a short period of time as it was the case of Japan that established a monopoly in 1904, as a consequence of the wars Japan was involved in the previous years.²⁰ For Comín and Martín-Aceña (1999: 41-2), the reason for the traditional success of the tobacco monopoly in Spain are both practical and ideological. On one hand, it was the pragmatism of the Treasury Ministers who regarded fiscal monopolies as an efficient means of gathering taxes for the Treasury when the public administration was poor, lacked resources, and suffered from outmoded management systems. Certainly, gathering taxes from a stagnated industry was easier than indirect taxation, since it only had to be collected from a single body, the monopoly itself. It also reduced internal tax evasion, though it also inevitably generated illegal trafficking. This crime also appears, however, when the specific taxes on tobacco are very high. On the other hand, the tobacco monopoly in practice arose almost spontaneously because of the classic reasons of greater scale generating greater profits in production and marketing and strategic domination of the raw material. There was thus no economic reason for allowing private interests to appropriate the exceptional profits generated by the monopoly as a whole. Since it was inevitable, in the 19th century it was still believed that the State, and thus society as a whole, could partake of the exceptional profits produced by tobacco monopoly. The fact that did indeed happen, in any case, was the result of the prevailing ideology of the governments, which were very mercantilist and interventionist in the 17th and 18th centuries. Once it was owned by the state, the monopoly could regulate itself so as to reduce its cost to society (that is, the revenues of the monopoly, selling in conditions close to perfect competition), or keep them as state revenues, thus

²⁰Tobacco was not subject to taxation in Japan until, as late as, 1876 when the Government imposed a business tax on manufacturing and wholesale businesses, and on retail trade. It remained in operation until 1898, at a time when Japan was burdened with the costs of the 1894-5 Chinese War and in urgent need of funds for various public works. The business and revenue taxes were abandoned and the government established in 1898 a State Monopoly in the purchase and re-sale of Japanese leaf. The monopoly was extended to the foreign leaf towards the close of the fiscal year 1899-1900. The final step in the direction of the existing complete State Monopoly over purchase, manufacture and sale, was taken in the law passed in April, 1904, when the need for increased

creating a fiscal monopoly with merely tax-raising ends. This latter option, was the one generally adopted in Modern Europe.

A fiscal monopoly means that the State exploits an economic activity under a monopolistic regime, installing a collect procedure and a system to fight against smuggling. Typically fiscal monopolies are both a fruitful source of public revenues and a provider of goods and services. Through a fiscal monopoly the governmental intervention and responsibility in business is more explicit than in a competitive market. Although certain regulatory frameworks or even the lack of regulation could be as effective as the monopoly in explaining the spreading of tobacco consumption, the role of governments in spreading tobacco consumption is easier to isolate in countries where tobacco was constrained under a fiscal monopoly.²¹ Fiscal monopolies are normally imposed over products of "universal" consumption as salt, tobacco or petrol, having a rather inelastic demand to price variations. A tobacco monopoly was possible to maintain because there is not an easy substitute for tobacco. A monopoly is difficult to maintain when there are substitutes to the monopolised product and, in fact, although a fiscal monopoly does not charge consumption, the consumer is a real tax-payer (Albiaña 1987:379). Fiscal monopolies were profitable for the Treasury because they collected consumer taxes and shared in the monopoly's profits and because the alternative at least in the tobacco case was very risky for the weak Spanish Treasury.

To provide income was the main objective of state monopolies although they have been justified, mainly since the triumph of liberal regimes in the 19th century, through secondary objectives as strategic reasons, as industrialisation promotion or as a way to avoid undesirable moral or health consequences. Historically, all parts of the tobacco industry have been very important for the Spanish economy, except cultivation as a way to restrict smuggling under a monopoly regime.²² In Spain, tobacco was the most important revenue collector and the longest lasting of the fiscal monopolies. Following Comín's data from his study of the Spanish Treasury, this share evolved from 13% in 1850, to 12% in 1900, to 7% in 1935, and to 2% in 1970 (Comín, 1989:404). In graphs. 2 and 3, the supply of revenues for the Spanish Treasury are calculated for the first third of the 20th century. In addition, the control of the tobacco fiscal monopoly was not only a source of economic resources but a strong political tool: the person or company controlling the tobacco fiscal monopoly also controlled the

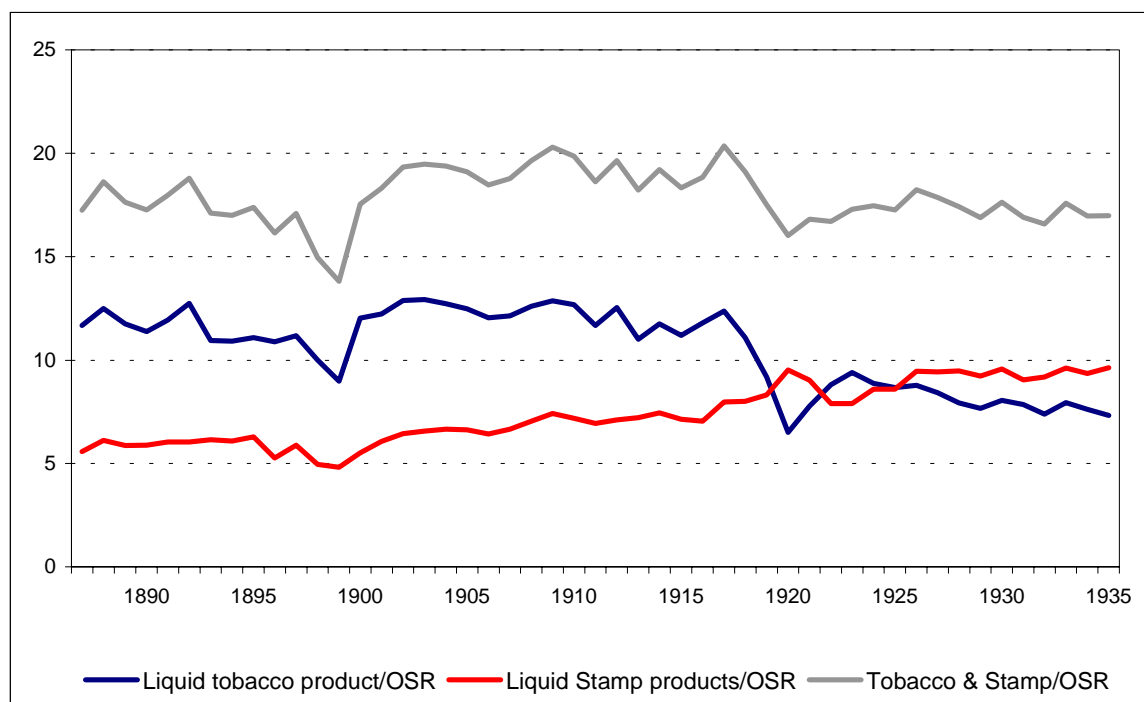
revenues had again become imperative, owing this time to the costs of the Russo-Japanese War (Madsen 1916:149-167).

²¹Madsen (1916), tried to demonstrate that consumption and state revenues were greater in countries like the US, UK or Holland than in countries having a tobacco fiscal monopoly, in order to show the superiority of competitive markets.

²²Tobacco cultivation was finally introduced officially in Mainland Spain in the 20th century but in a very restrictive way. It was the Treasury who obliged the CAT to introduce tobacco cultivation in Spanish mainland in 1919 as a consequence of farmers' pressure and the increasing economic nationalism on Spanish politics. The CAT was contrary to this measure because of the low quality of Spanish grown tobacco and the potential intensification of smuggling.

most important distribution network of the country, and the possibility of delivery to any single town or village. And finally, the role played by tobacco industry in the Spanish labour market was essential to maintain the social order (Gálvez 2000).

Graph.2 Percentages of Tobacco and Stamp Revenues in the Ordinary State Revenues



Source: CAT annual reports and Comín (1989)

The maintenance of tobacco monopoly was justified on the basis that *tobacco was not a basic product; it was not used as a raw material for other industries; and finally, it was a luxurious product that was also considered dangerous by many people* (Pita Pizarro 1840:325-26). The Spanish fiscal tobacco monopoly needed justification within the liberal regime because the different governments always arrived at the same conclusion: from a purely fiscal point of view, the monopoly needed to be maintained, despite incurring on an ideological contradiction. The head of the tobacco monopoly, before the foundation of CAT maintained that "*from a pure scientific view, to liberalise the tobacco trade and consumption is preferable to monopoly but from a pragmatically view, the state monopoly is simply necessary. Only when it will be shown that the tax revenues under competition system could cover the revenues coming under a monopoly system, the government has to think in the abolition. To put under a fiscal monopoly a basic article is injustice, but a whim product is licit and it must be done until it will be profitable for the state revenues, independently of any scientific consideration*" (García de Torres, 1874:47). However, between the abolition of the State monopoly and the public management of the tobacco industry a third possibility existed. Because of its economic and political principles, the Spanish liberal government believed in the superiority of a private management to increase profits and as a

matter of fact, to increase state revenues, its addiction objective. So the government actively looked for an increase in tobacco consumption.

Table 2: Comparative Statement of Tobacco Consumption and Tax Revenues in State monopoly countries and free-market countries (c.a. 1913)

State monopolies	Total Con. (lb)	Per head Con.	Total revenues in £	Competitive market countries	Total Con. (lb)	Per head Con.	Total revenues £
France (1912)	94,971,100	2.41	16,534,900	U. Kingdom (1912-13)	102,747,900	2.25	16,865,700
Spain (1913)	40,828,600	2.06	6,111,050	N. Zealand (1912)	3,029,100	2.75	623,510
Austria (1913)	84,980,000	2.95	8,366,100	Australia (1912)	13,864,950	3.00	1,993,430
Italy (1912-13)	42,934,400	1.22	10,075,400	Canada (1912-13)	29,009,200	3.81	2,241,000
Japan (1912-13)	74,000,000	1.41	5,698,200	U.S(1912-13)	550,061,000	5.71	20,846,240
				Germany (1912-13)	251,878,900	3.76	8,670.150

Own Elaboration, source: (Madsen 1916)

From the liberal point of view, to lease the management to a private company was a second best strategy or compromise taking into consideration the difficulty of the Spanish governments collecting the same amount of revenues without a monopolistic market. This solution came from the separation of the two functions the fiscal monopoly had in Spain: to tax tobacco and to provide tobacco. Before the decision was finally taken in 1887 several alternatives were tried during the 19th century. Until the political arena became stable with the Restoration of the Bourbon monarchy in 1874, the measures that were implemented over the tobacco monopoly normally coincided with the liberal revolutions that happened in Spain during the 19th century.²³ Its lack of success was a guarantee to justify the maintenance of the monopoly but the mismanagement of the tobacco industry under the direct control of the Treasury was clear. The Spanish tobacco industry was only directed by fiscal principles instead of commercial principles. The political system of the *Restauración* that functioned in Spain from 1874 to 1931 consisted of two parties that alternated in power and no one wanted to take the risk of changing the tobacco monopoly, taking into consideration its share in ordinary state revenues –see graph.2-.

²³The tobacco monopoly was abolished in Spain in 1813 and 1820 but rapidly restored in 1814 and 1822 respectively. Also the lease of the monopoly management to a private company was tried before the Government succeeded in 1887 in doing so. In 1844 the monopoly management was privatised, but a change in the government re-established days after the tobacco monopoly under direct state control.

It was clear that the tobacco industry and tobacco market were under exploited in Spain and that the government could optimise its addiction to tobacco or increase it. The pressures from the Spanish parliament were frequent and its proposals clear. They focussed on what seemed to be the solution to the public mismanagement of the tobacco industry. It was necessary to produce more and more cheaply, to control the national market and to sell to other countries in order to expand sales and to collect more revenues. If the direct management was unable to do so because of its lack of capital to make the reforms, a private management with the required capital would be the solution to accomplish the reforms. In fact, the reforms that the CAT introduced, and the way in which the tobacco monopoly needed to be challenged were already planned by the government. Before the CAT management, the purchase of raw material was rigid and expensive, production was fully manual and the gap between production and potential consumption was very big with the subsequent increase in smuggling tobacco. This gap could be explained because of the lack of co-ordination between the market and the State factories that manufactured products not demanded by consumers and they were not manufacturing new products introduced in the country through smuggling. The main contribution of the new company was its available capital to make the reforms and the right management to accomplish these reforms. The Spanish government secured and increased its dose of tobacco revenues through the increased tobacco consumption of its population due to the modernisation of tobacco industry accomplished by a private company. The CAT made possible to attend a mass consumption product with a mass production business, however it did not use all the available tools for mass distribution, it only developed brand advertising when the product was already a basic consumption product within the Spanish society. Under the CAT direct management, the tobacco industry increased its profitability and as a matter of fact increased the state revenues and both consumers' addiction and government addiction. Especially, since the profit-share mechanism between the company and the state evolved favourably to the later –see table 3 and graph.3.²⁴

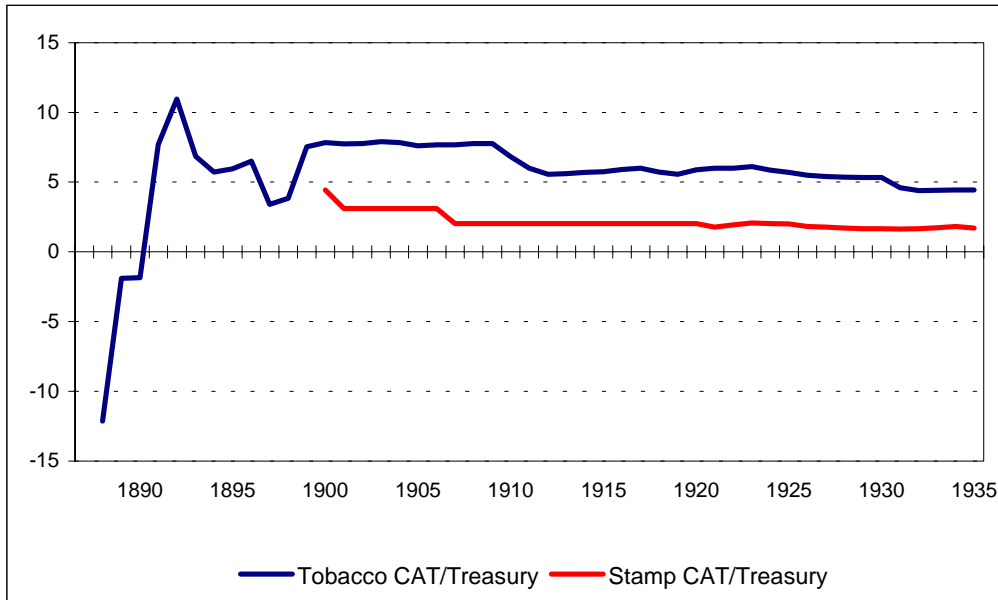
Table 3: Profit-sharing between the Spanish government and the CAT

Lease contract and modifications	Expected profits by the government	CAT percentage of profits
1887 lease contract	Fixed annual charge of PTAs 90 million	
1900 modification	Up to PTAs 140 million	5%
	Up to PTAs 160 million	10%
	More than PTAs 160 million	15%
1921 modification	Up to PTAs 150 million	3%
	More than PTAs 150 million	4%

Source: Lease contract and contract modifications (Archivo Histórico de la Fábrica de Tabacos de Sevilla)

²⁴ Parallel to the government increasing its share of profits and the government intervening in tobacco industry, CAT's profitability declined. CAT profitability evolved from 10-13% between 1890-97, to 16.6%-22.6% between 1898-1909, to 14-15.5% between 1910-19, and finally to 8-6% from 1921, after the 1920 contract modification. On the contrary, the percentage of CAT revenues in the total tobacco treasury income decreased from 7.7% on 1890-91 to 4.4% in 1935 (Comín, 1991, p. 162).

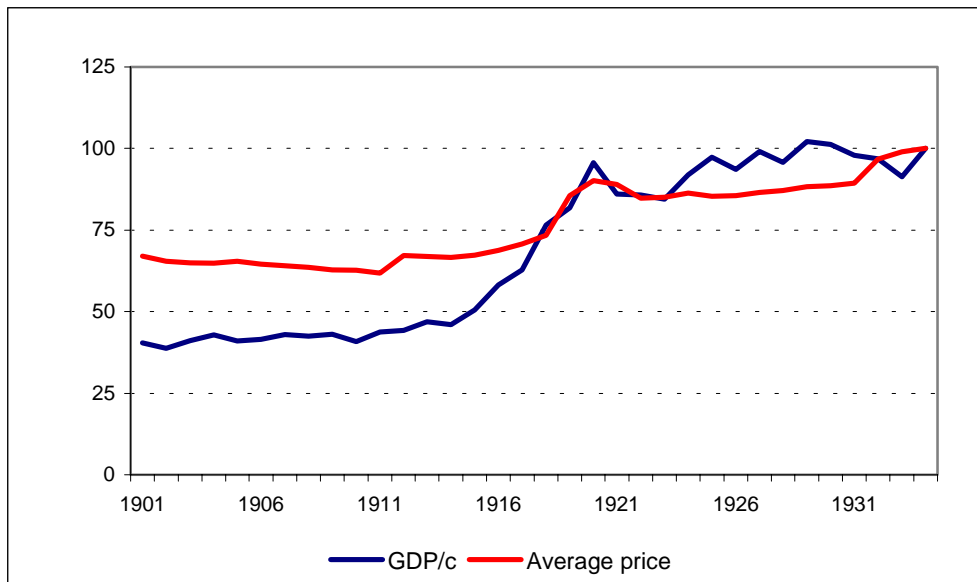
Graph.3 Revenues received by the CAT as a percentage of the revenues received by the Treasury



Source:

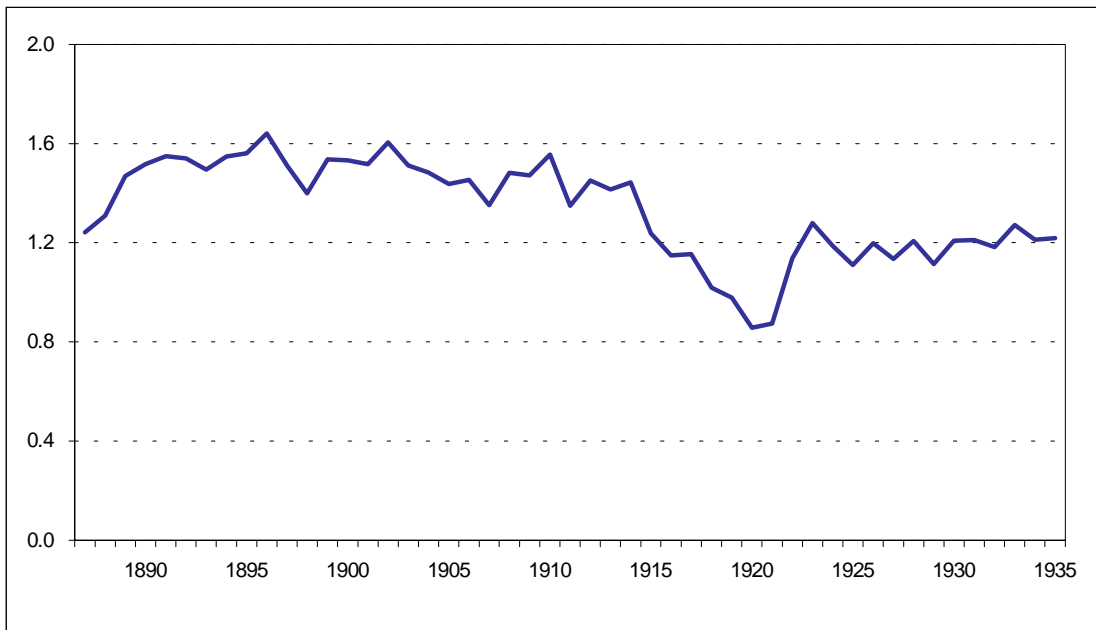
CAT annual reports

Graph.4 Tobacco medium prices and GDP/c in Spain, 1901-1934, Num. Index 100=1934



Source: CAT annual reports and Prados (2003)

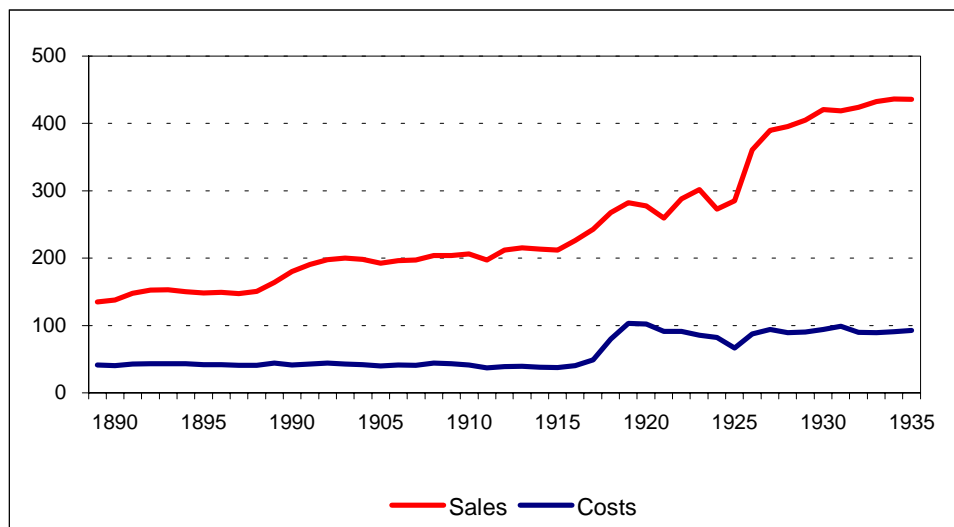
Graph.5 Tobacco Consumption as a % of Spanish GNP (1887-1935)



Source: CAT annual reports and Prados (2003)

This increase was due first, to an increase in tobacco consumption, as new consumers were conquered. It was directly related on one hand with an increase in the GNP per capita –see graphs. 4 and 5- and, on the other hand, with the improvements introduced with the CAT management –see graph. 6-. The CAT accomplished a better balance between supply and demand of tobacco through a major product differentiation and a closer and faster answer to consumer’s demands, a better distribution system and a more effective smuggling persecution. Second, the increase in profitability was directly related to an increase in productivity through the mechanisation and the imposition of cigarette consumption that was a more standardised product than cigars. Third, the CAT management witnessed also a rise in tobacco prices as showed in the fifth part that did not decrease tobacco consumption, showing how consumers were addicted to tobacco and it had become a basic product for the population, and demand was rather inelastic to price variations.

Graph. 6 Sales and Costs of Spanish manufactured products, 1888-1935 (Millions Pts)



Source: CAT annual reports

However, the modernisation brought by the new management failed on introducing brand advertising within Spanish tobacco market. Was enough the modernisation of the industry providing a cheaper and available product in order to increase consumption and to fight against smuggling? Or were essential other new business techniques as brand advertising? The modernisation developed by the CAT was enough to lower tobacco production costs and to make profitable a product that was subject to rising taxes and to produce enough to provide tobacco to Spanish consumers and as a matter of fact, expand the size of the market. However, would have the company followed the same the strategy within a competitive environment? Following the recent economic literature on addition it is the interrelation among past present and future consumption as well as price in the long-run the main responsible for explaining tobacco demand function. The evolution of Spanish tobacco consumption seems to corroborate it, however brand advertising seems to be an essential weapon for increasing market share. In fact, in competitive markets the arrival of the Bonsack machine in the 1880s made an inflexion point giving important advantages to the first movers that soon moved towards vertical and horizontal integration creating a highly concentrated industry. Contrary to monopoly, oligopoly gives incentives to the development of brand advertising as mentioned in the introduction, since brand advertising is an important method of competition in industries that are highly concentrated, such as the cigarette industry.

4. Brand advertising in Spanish tobacco industry

If marketing techniques as branding or advertising were frequent in free market countries as the U.S. or U.K., they were very slow developed in countries where tobacco industry was organised under a state monopoly. However, consumption had a similar pattern of growth in both types of

countries. As it could be observed in table 3, consumption was normally higher in non-monopoly countries but other things could explain these differences as the fact smuggling is not accounted for in monopoly countries and that most of those countries were coincident with countries showing slower industrialisation and urbanisation patterns and non-progressive fiscal regimes. On the contrary, competitive market countries were among the most industrialised nations or among the new world nations with high percentages of immigrant population. In addition, by the beginning of the 20th century the consumption had not yet converge towards cigarette consumption and national particularities remained important as it was the case of Spain. Since past consumption determine current consumption, high cigarette consumption levels of Spaniards during the 19th century explains why cigarette consumption was very high in Spain at the beginning of the 20th century despite the slower per capita income growth and the slower industrialization and urbanisation level compared with leading industrialised countries. In fact, the percentage of tobacco spending of the GDP was bigger at the beginning of the 20th century than after the First World War when Spain increased its GDP per capital. Giving this high “consumption capital” and the lack of a fiscal reform in Spain, tobacco monopoly was maintained in order to secure state revenues and a hybrid solution was found with the privatisation of the management.

In Spain, despite the limitations provided by the monopoly, the private management started to manage the monopoly with a more commercial approach than the public management introducing first a correlation between the production price and the market price of the different types of tobacco, followed by a product differentiation in order to full fully the needs of different types of consumers. This product differentiation which is in the origin of the subsequent development of brands was meant to match the different rents, the money the consumers could pay and wanted to pay in order to have a more quality and distinguished tobacco. In fact, the main distinction in products responded to a class differentiation between *superiores* –superiors- and *comunes* –commons-, independently if it was cut tobacco, cigars or cigarettes, the three main products manufactured and consumed in Spain. These three main tobacco products and these two types of quality were the main distinction made by the tobacco monopoly at the time of the consumption expansion. Another distinction was size, and afterwards, one more distinction came to be, hand made or mechanically made. However, the main difference remains in the quality of the tobacco and the type of tobacco used to make one or another type of product. On quality, the particularity of the *comunes* was the use of the vein of the leaf that make the product cheaper, that was so, because tobacco leave was still the most expensive component of the production equation. In relation with main type of products, cigars were the most elaborated ones,

afterwards, it comes cigarettes, and finally, cut tobacco, that was at the same time a product in itself and a semi-elaborated product for cigars and mainly for cigarettes.²⁵

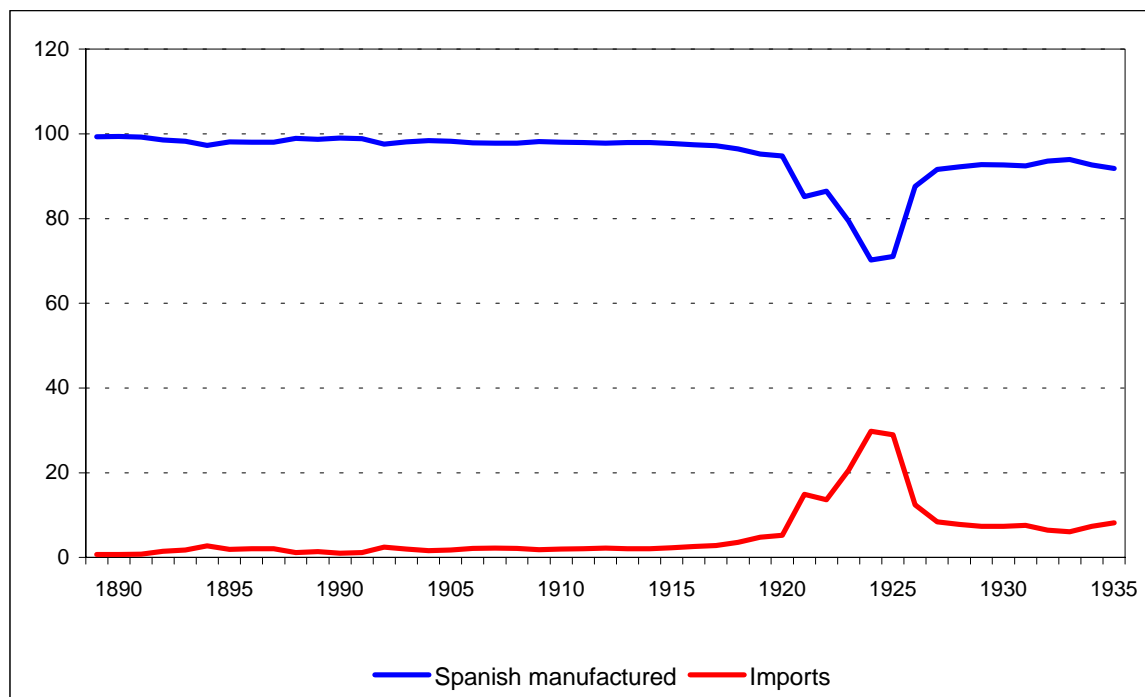
Price and quality were the most important aspects to increase consumption. Another differentiation related with price and quality remained on the raw material used it. The new management also started to study the possibility of mixing different tobacco, and to try them in the market. The CAT established some general criteria for the perfection and creation of the different mixtures. First, the products had to taste well and have a good aroma, good combustibility and diverse strength degree. Second the mixing should be simple in order to facilitate the substitution of one tobacco for another similar to react to the changes in the market. Third the mixing required continuous essays and testing of tobacco from different origins to diversify the provisions of tobacco. And fourth any mixing must be preceded by different essays.²⁶

The interesting thing is how CAT's strategies changed when they tried to conquer foreign markets, competitive markets. Of course, they did not have much success even if the company acted with more commercial view. In 1894 they tried to export to England, Belgium and Switzerland and it did present its products in the different exhibitions in Ambers, Brussels or Chicago where the CAT products and the company received different prices mainly related to their quality. However, foreign sales were not important. The experiment only last from 1894 to 1901 when the company decided to center in the domestic market and restricting at the same time the sales of cheap types of tobacco from abroad, only luxury products from the outside were admitted. In fact, as it is possible to see in graph 7, the percentage of import tobacco sold in Spain was not important until the production crisis suffered by the CAT during the First World War, when the shortage of machinery supply and raw material supply slowed national tobacco production.

²⁵ A tobacco demand function should take into consideration the differences of each kilogram of these products. In a next version of this paper it will be necessary to take into account prices and quantities of the different products-.

²⁶ Just five years after the beginning of the CAT management, so in 1892 the CAT products were divided in four groups: a/ Cuban and Philippines tobacco, b/ Cuban, Boliche and Philippines, c/Philippines with Virginia or Kentucky, and d/ only Virginia or Kentucky. *Comunes* or *superiores* were divided in soft and strong. When Cuba and Philippines were independent from 1898 a bigger diversification on tobacco supply happened and as a matter of fact, a bigger diversification in production. In fact, already in 1900 Hungarian or Brazilian tobacco were commonly used. Both Philippines and Cuban products had from the very beginning brands because they were sold all over the world and have occupied the niches of quality tobacco.

Graph.7 Tobacco Rent Net Revenues in % (Spanish manufactured products and imports)



Source: CAT annual reports

Was the lack of brand advertising the reason of its failure or was the fact that prices are higher within a monopoly since price is not equal to marginal cost? CAT only tried to introduce brands in the Spanish market not when its products failed in foreign markets but when the cigarette triumphed in industrialised countries during and after WWI, and especially in the 1930s when American branded cigarettes increased their presence in the Spanish market, both by imports and by smuggling. That strategy was directly related with changes in consumers tastes and in the socio-economic conditions in the twenties and thirties. Brands development intended to substituted imports and to fight against smuggling tobacco. In fact, when the average price rose, consumption decreased in relation with the GDP. Though CAT products evolved from a bunch of cigarettes to a pack, by 1922 the CAT only had registered in Spain the packs of two types of cigars: *perfectos* and *entreactos*, and it was only then when they were advised to registered all the different brands or types they were producing in the factories. It was also, only in 1922, when the brands were registered in Switzerland in the international office of industrial property. However in the late 1920s the CAT has not yet imposed a brand policy. The different products were still sold under names describing the product with long word chains difficult to memorise. Some examples are the following: *Peninsulares marca grande semimecánicos en carteras de 20, especiales emboquillados al cuadrado en cajas de 200*. Exception of one class of cigars, the *Farias*, the cigars have not a brand name, but just a generic name as *Peninsulares, Entrefinos y Comunes* followed by specification combined among them as *finos, manuales, semimecánicos, mecánicos, marca grande, marca chica,*

marca media, corrientes, cortados, entrefuertes y fuertes. In addition, they were distinguished by its commercialization in boxes of 50, brunches of 20 or 40, and in *carteras* of 20. Within the Spanish market, an important variety could be found by consumers, but the lack of branding made more difficult product differentiation. However, at the same time this variety made more difficult to profit from economies of scale of mass production.

It was only in the 1930s when the company reacted to smuggling of branded cigarettes and started to introduce new products manufactured by the CAT's factories. But it was on high quality products where this strategy was implemented. These new products were luxury cigarettes as *Americanos, Ideales* and *Bisonte*, and cigars such as *Nacionales, Predilectos, Cazadores, Selectos* and *Exquisitos*. So the CAT followed its strategy of using brands only for luxury products while the American companies were using them for mass consumption products. The CAT, as the government, were aware of the addictive character of tobacco that makes consumers to keep consuming tobacco especially cigarettes independently of the trade mark. In fact, Spanish consumer's reactions to price changes along this period are consistent with this hypothesis, since normally an increase in prices was followed by a shift from high to low quality –and then cheaper- products (Castañeda 1945). That was tobacco demand elasticity. This reaction to price changes is developed in the fifth part and it is consistent with the addictive behavior of tobacco consumers.

CAT branding policy started in the 1930s as a reaction to the introduction by smuggling of American branded cigarettes stopped with the advent of the Civil War (1936-9). During the conflict packages only showed if they were manufactured on the National side or in the Republican side. Proliferation of international brands were frequent in Spain during the Civil War, mainly German, Italians, Russian and from the countries of origin of the members of the International Brigades. The great change to branding was accomplished in Spain only from the 1950s with the introduction of filter cigarette, being *Ducados* the most important brand. This shift is consistent with changes of the Spanish economy from 1959, economic growth, increasing urbanization and the opening of the Spanish economy to the international economy.

However, our estimation is based on the first third of the 20th century. To study these years is important because: first, these are the years consumption is expanding and the cigarette which is the most addictive of tobacco products became the most common form of tobacco consumption; second, because it is the period when brand advertising develop and became an essential tool in competitive market for modern business, but it was not present in monopoly markets as the Spanish tobacco market; and third, because consumers were not fully aware of the medical problems derived from tobacco consumption so it is not as clear as now that consumers were behaving rationally and not myopically.

5. Estimating a tobacco demand function in Spain, 1900-1935

Once the historical evidence have been presented concluding it seemed to be a link between brand advertising and market share but not between brand advertising and the total size of the market as the recent economic studies based on rational addiction model shows, this model is going to be apply at the Spanish case, as a very first econometric approach for estimating a tobacco demand function in Spain from 1900 to 1935. The most complete estimation of the Spanish tobacco demand function was done in 1945 by Castañeda as a topic for his Phd. His work was a benchmark on economic theory and econometrics in Spain. And it was as well used by the Spanish tobacco company, then Tabacalera, the refunded CAT from 1945.²⁷ His major findings were to calculate a demand function for tobacco, taking into account the prices of superior classes of tobacco products, and those of common ones, individual rent and a price index. He highlighted the role played by urbanisation and industrialisation in consumption patterns by provinces, and that consumers shifted to lower classes when medium prices increased. And finally, that tobacco prices were over that period bellow the optimal price for a monopoly. Though, Castañeda work is still valid, it was done in 1945 and it did not take into consideration the addictive character of tobacco in the sense, new models do.

These new models are based on a seminal article from Becker and Murphy (1988) where they developed a theory of rational addiction, in which rationality meant that consumers maximize utility from stable preferences as they try to anticipate the future consequences of their choices. Utility depends on both current consumption and what they called “consumption capital”: a weighted average of all past levels of consumption.²⁸ For particular parameter values of a quadratic utility specification they showed, that some consumers can exhibit addictive behaviour: Given a constant price, an increase in current consumption increases future consumption since consumers of addictive goods are rational and not myopic as considered previously. By the definition of highly habitual goods, each increase in consumption of these goods raises futures consumption by relatively large amounts. Therefore, it is not surprising that the long run price elasticity of demand between steady states is larger, not smaller, for the most strongly habitual goods (Becker and Murphy 1988). To distinguish between short run and long run elasticity is indeed important. Moreover, short-run changes in demand are misleading since the

²⁷ See Villar (2002: 263).

²⁸ For many goods when the time periods compared are not very close, greater consumption earlier stimulates greater, not lesser consumption later. Following common usage, habitual behavior is defined as displaying a positive relation between past and current consumption, economists call these goods complements. Well-known examples include smoking, using heroin, eating ice cream, or Kellogg’s Corn Flakes, jogging, attending church, telling lies and often intimacy with a lover. A Full discussion needs to consider both. On one hand, short-term, substitutions in consumption; and on the other hand, longer-term complementarities (these are the responsible for the habitual behavior). There are degrees: habits are harmful or bad if greater present consumption lowers future utility. Similarly habits are beneficial if greater present consumption raises future utility (Becker 1995). Addiction is a strong habit technically, a habit becomes an addiction when the effects of past consumption on present consumption are sufficiently strong to be destabilizing.

ratio of short-run to long-run elasticity is smaller for the strong habits (Becker, Grossman and Murphy 1991). When the interdependency of past, current and future consumption is accounted for, the results change with respect to price sensitivity (Ferguson 2000; Baltagi & Griffin 2001). Tests of the rational addiction model have focused on cigarette consumption. The most prominent studies are those of Becker, Grossman and Murphy (1994), Baltagi and Griffin (2001) and Chaloupka (1991). All these studies reject the myopic model of addictive behaviour and find support for the rational addiction model based on the statistical significance of future period's consumption as a determinant of current consumption. In myopic models of addictive behaviour, only past consumption stimulates consumption because individuals ignore the future. Bardsley and O'Leary (1999) has also tested the model for cigarette consumption in Australia from 1962 to 1996 paying especial attention on the effect anti-smoking policies have on cigarette consumption. For that they use the Becker and Murphy (1988, 1994) model augmented by data on advertising, regulatory intervention and demographic factors. Their main findings are that over the past 35 years of the making of the article, price (including tobacco taxes), real income and demographic effects –especially related with the life-cycle and the population age structure- explain most of the variation in tobacco consumption.

In this last section the rational addiction model is applied to Spanish tobacco consumption from 1900 to 1935. This very first approach to this model has been done through the application made by Bentzen, Eriksson and Smith (1999) about alcohol consumption in Nordic countries where the commercialisation of this product is under a monopoly. The aim of this model is to analyse the influence of past and future consumption and current prices on tobacco consumption. Past and future consumption should have a positive effect on present consumption and prices should have it negative. In order to do that, a regression with retarded variables is developed:

$$C_t = \beta_0 + \beta_1 (C_{t-1} + \rho C_{t+1}) + \beta_2 P_t + \beta_3 e_t + \beta_4 e_{t+1}$$

In this estimation is possible to appreciate the effect on present consumption marginal utility of an increase on past consumption. Equally it is possible to know the influence of future price on current price. Where P is the price of C, consumption, and β_1 measures the effect of an increase in past consumption on the marginal utility of current consumption. By symmetry, it also measures the effect of an increase in future consumption on the marginal effect of current consumption on utility in the next period. Hence β_1 is a measure of the degree of reinforcement of addiction. A very important implication of that equation is that the response to permanent price changes differs between the short and the long term.

Table 4
Estimated equation about tobacco consumption in Spain among 1900 y 1935²⁹
 Dependent variable in log.: tobacco consumption in pesetas.

Explanatory variables	Coefficient	Robust Standard Error	t-student	P > t
Constant	-0.341	0.903	-0.38	0.709
Current price	-0.066	0.156	-0.42	0.677
Past consumption	0.525	0.095	5.55	0.000
Future consumption	0.527	0.157	3.36	0.002
Coefficient R ²	0.937			
Observations	32			
Statistic Durbin-Watson	1.843			
Statistic F (3, 28)	509.31			
Prob > F	0.0000			
Root MSE	0.0461			

Source: Memorias de la CAT, and Anuarios Estadísticos de la Renta del Tabaco

In this very first econometric approach of the Rational Addiction Model, results about tobacco consumption in Spain does not differ very much from the results obtained in the economic literature about recent and present tobacco or alcohol consumption. Explanatory variables: past and future consumption are significant at 95%. And in relationship with prices, although they have the expected sign (-) the t-student value shows it is not a significant variable. Using logarithmic while estimating this tobacco demand function it is possible to say that if past consumption varies on 1% the present consumption does on 0,525%. That allows to interpret tobacco price elasticity. Globally the model reach a 93% R² which corroborates the previous hypothesis. Apparently, and in relation with the tests applied, the estimation does not present problems of multicolineality, heteroelasticity and autocorrelation.

The application of the model to the Spanish case between 1900 and 1935 shows a similar result that the one found it in the literature, basically a positive effect of past and future consumption on

²⁹ There are five types of products: *Labores peninsulares*, *labores extranjeras vendidas en comisión*, *labores extranjeras vendidas directamente*, *labores de Canarias* and *labores de comiso*. The most important ones are the first ones and they ones that have been taken in this first econometric approach in order to simplify the exercise. In addition the medium price has been calculated on a very simple way since it has been taken by dividing the total amount by the total quantity, however, a relation must be established among quantity and price of the individual products. That is has to be done in the future in order to have a better approximation to price. In fact, it is possible that once this calculation is done, the price will become a more significant variable in the regression.

present consumption and a negative effect of prices on present consumption. However, the variable prices, does not seem to be significant and that must be related with problems of price series.³⁰ The data is not panel data so it is not possible to play with the life-cycle of consumers; The product at the beginning of the 20th century it was not as standard as it is now; The binomial: monopoly/smuggling explains why there is not: good consumption data; information about competence mechanisms; and supply does not adjust to demand and neither to marginal cost. It is necessary to know more about smuggling because it is not only or not always competing in prices since sometimes there must be a competition in differentiated products.³¹

Price data needs to be improved since tobacco demand was not completely inelastic. It has already been said that it is not inelastic in the long-run and Becker, Grossman & Murphy (1990) have studied empirically the demand for cigarettes in the US which found price changes to be significant. They find cigarette demand to be rather strongly habitual, a not very surprising conclusion, but the responses to price changes are not small: a 10% permanent fall in the pack of cigarettes increases smoking by 4% one year later, and by almost 8% after few years. In the Spanish case, since tobacco is not a unique product, price changes provoke a shift towards lower quality products. This behavior is consistent with the fact that tobacco is an addictive product since consumers do not abandon its consumption, they keep consuming the same quantity of tobacco by the price they want to spend on tobacco but on lower tobacco quality.

Prices rose continuously during the period studied although production costs decreased. While prices were increasing all over the period, unitary cost per worker went down while capital stock per worker increased, but the monopoly and the political cost of downsizing the biggest industrial working force of the country made that process slower than in other countries (Gálvez 2000). The price increased continuously because fiscal pressure rose. In addition, the company, as showed in table 3, had a smaller share on benefits compared to the Spanish government. Since they were related with taxes, they were officially published and it is easy to see the effects of those changes on consumption – however, without smuggling data it is just an approximation- as Castañeda did, showing a shift from higher to lower quality products after a price increase. Prices rose 17.935% in 1900, 13.272% in 1912 – related to 1909-, and 18,66% in 1933. Changes on prices are more related with state financial needs than with changes on production costs or competition. For Castañeda (1945) changes on the demand of tobacco in Spain are only explained on 22% in relation to price. Other changes as industrialization and urbanisation, income changes and modernisation of tobacco industry that made the cigarette more available and cheaper than earlier are in the center for explaining tobacco consumption.

³⁰ In fact, in future extensions of the model prices must be one of the restrictions to evaluate its sensibility on present and future consumption, so it will be necessary to estimate a new set of equations.

The important peaks in consumption and the increase of medium price were:

-after 1911 and 1912 price increased, it is possible to observe a decrease in consumption. That was the most important reaction to price variation in this period

-during 1916-18 because of the GNP increase and especially with changes related to the international situation created by the war, which provoked a decrease on tobacco smuggling in Spain. As a matter of fact, the stock of national products decreased enormously and due to CAT strategy of changing gradually production process in the factories, the stock could not be augmented as much as it was needed, and many products were imported –see graf.7-. Shift to more expensive products contributed to an increase in the medium price. The consumption resume in the early 1920s when the CAT finally accomplished the mechanisation of the workshops.

-the increase on tobacco price on 1931 and 1932 provoked a decreased on consumption. It is possible to argue that an increase on smuggling could be found in these years. It is in the 1930s when the CAT starts to develop a branding policy in order to fight against American and British products arriving through smuggling. The political changes suffered in Spain during these years must be also of interest since the biggest Spanish contrabandist, Juan March, did have an important relationship with the previous regime, especially with General Primo de Rivera, and did have a conflictif relation with the Republican government that started in 1931.

Conclusions

Within a historical study of tobacco addiction and state and business interaction, supply and demand changes must be taken into consideration. Physical addiction interacted with changes in life style and cultural patterns as well as new technological advances, the development of the modern corporations and the role of government promoting or at least not limiting tobacco business in spreading tobacco consumption and addiction. At the beginning of the 20th century tobacco became a basic consumption product. It was a product, the cigarette, and a technological innovation, the Bonsack machine, that make them available and to a cheaper price more than a brand or advertisement the responsible for making tobacco a basic consumption product. The special characteristics of the cigarette: cheaper, easier to produce, to consume and to sell, cleaner and more adaptable to urban lifestyles and population groups that were not until that moment strong tobacco consumers as women, and the stronger addiction generated by it, explains in first instance the spread of tobacco consumption and addiction. The expansion of cigarette consumption is very much related with changes in the GDP per capita and with the urbanization path. Nowadays the picture has started to reversed, and higher income groups and countries will consume less tobacco per capita.

³¹ Smuggling should have affected differently CAT costs since the money investing in the “resguardo” –smuggling vigilance- changed along the period studied.

Spanish consumers were behaving as expected in the economic literature on addiction in a market and in a period without brand advertising development. That has to be related with the addictive character of tobacco consumption and more specifically with industrial organisation of Spanish tobacco market on a fiscal monopoly. The privatization of the management of the tobacco fiscal monopoly achieved a better efficiency than during the direct state management which permitted to fully supply the domestic market. This is consistent with what is found in economic literature about addiction and market structure: For oligopoly or monopoly, if marginal cost is increasing, supply of an addictive good may be as high or higher than for perfect competition (Driskill, R. and McCafferty, S. 2001: 412). Governments were aware of that particularity and indeed in countries where tobacco was organised under a fiscal monopoly public managed brand advertising was a secondary business tool until very recently because they were aware consumers were hooked and there was no competition to fight for market share. That means that no brand advertising was needed by the CAT to extend the market, however when the market share of the company –even if it was a captive market because of the monopoly- was threatened because of the introduction by smuggling of branded American cigarettes in the 1930s, the company reacted including brands

So it is possible to conclude that brand advertising is essential for market share mechanism but its relation with the extension of the market is not as clear as it could be found on policies banning tobacco advertising or in Business and economic history literature. The lack of branding development in the Spanish case is just a consequence of the fact that tobacco industry was organised in Spain under a fiscal monopoly, and it was the lack of competence of the monopoly that made the Spanish products non-competitive, and as a matter of fact, the opportunities for a traditional tobacco producer of exporting or becoming a foreign direct investor were lost in Spain.

The slow development of marketing techniques as branding and advertisement in monopoly countries shows how their responsibility on tobacco addiction is limited as it is the responsibility of business over tobacco addiction in this early period. So if the effect of brand advertising were limited in explaining the increases in tobacco consumption, that means, restrictions on tobacco advertisement are not enough in limiting tobacco consumption as it has been recently recognised.

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Appendix 1: rurality

Ratio of Rurality and Tobacco consumption per Capita, 1920

Provinces	Working population (male over 21)			%rural/total	Annual Consumption	
	Rural	Urban	Total		Total (thousands Ptas)	per capita (Ptas)
ANDALUCIA	625892	453779	1079671	58%	67776	62,77
Almeria	39710	31406	71116	56%	3455	48,58
Cadiz	46438	91037	137475	34%	5109	37,16
Cordoba	93350	59747	153097	61%	8983	58,68
Granada	100540	44336	144876	69%	7232	49,92
Huelva	45521	43781	89302	51%	6456	72,29
Jaen	105601	33544	139145	76%	7661	55,06
Malaga	88528	58091	146619	60%	9996	68,18
Sevilla	106204	91837	198041	54%	18884	95,35
ARAGON	189710	92597	282307	67%	14012	49,63
Huesca	50432	25042	75474	67%	2564	33,97
Teruel	55300	14622	69922	79%	1716	24,54
Zaragoza	83978	52933	136911	61%	9732	71,08
ASTURIAS	106706	66825	173531	61%	11538	66,49
BALEARES	20878	51572	72450	29%	3527	48,68
CANARIAS						
Las Palmas						
Tenerife						
CANTABRIA	30994	42098	73092	42%	5858	80,15
CASTILLA-LEON	411226	187512	598738	69%	23373	39,04
Avila	41445	11821	53266	78%	1547	29,04
Burgos	62923	25743	88666	71%	2878	32,46
Leon	70560	31631	102191	69%	3779	36,98
Palencia	32459	20156	52615	62%	2742	52,11
Salamanca	56118	25274	81392	69%	3351	41,17
Segovia	29790	13854	43644	68%	1380	31,62
Soria	28941	9769	38710	75%	971	25,08
Valladolid	38476	34820	73296	52%	4483	61,16
Zamora	50514	14444	64958	78%	2242	34,51
CASTILLA-LA MANCHA	319090	113626	432716	74%	18521	42,80
Albacete	59471	19738	79209	75%	3620	45,70
Ciudad Real	68920	40789	109709	63%	5384	49,08
Cuenca	60044	13309	73353	82%	2083	28,40
Guadalajara	44351	11213	55564	80%	1460	26,28
Toledo	86304	28577	114881	75%	5974	52,00
CATALUÑA	268652	435835	704487	38%	56724	80,52
Barcelona	70580	335493	406073	17%	41436	102,04
Gerona	51976	43066	95042	55%	5971	62,82
Lerida	70039	23469	93508	75%	4034	43,14
Tarragona	76057	33807	109864	69%	5283	48,09
CDAD VALENCIANA	295074	195743	490817	60%	29203	59,50

	Alicante	75426	59719	135145	56%	7852	58,10
	Castellon	66417	22808	89225	74%	3473	38,92
	Valencia	153231	113216	266447	58%	17878	67,10
EXTREMADURA		210363	74777	285140	74%	12037	42,21
	Badajoz	125669	52654	178323	70%	8190	45,93
	Caceres	84694	22123	106817	79%	3847	36,01
GALICIA		341517	118910	460427	74%	19110	41,50
	Coruna, La	93942	54253	148195	63%	8715	58,81
	Lugo	95824	14313	110137	87%	3008	27,31
	Orense	80762	12519	93281	87%	3234	34,67
	Pontevedra	70989	37825	108814	65%	4153	38,17
MADRID		44091	237945	282036	16%	35669	126,47
MURCIA		101062	63499	164561	61%	9359	56,87
NAVARRA		40712	46173	86885	47%	3593	41,35
PAIS VASCO		54222	138245	192467	28%	17384	90,32
	Alava	13585	12743	26328	52%	1277	48,50
	Guipuzcoa	21321	44091	65412	33%	6152	94,05
	Vizcaya	19316	81411	100727	19%	9955	98,83
LA RIOJA		32742	18153	50895	64%	2549	50,08