

Key Drivers In Stock Growth Of “Big Tobacco”

Abstract This study attempts to determine some of the key drivers in stock growth of BAT, IMB, JTI and PMI (“Big Tobacco”) which have seen strong growth in stock pricing from 2000 to 2016. The study uses a combination of financial statements and market related metrics to determine key trends. The results show that “Big Tobacco” has increased its share in the global market through acquisitions and diversification into the vaping and logistics markets. Share buy backs and increased margins have helped offset the decrease in cigarette consumption and have encouraged a bullish view of the industry. However, increasing dividend pay-out ratios, a falling cash conversion cycle and an increased tax burden suggest future difficulties. The market continues to price growth into “Big Tobacco” stocks, and while risk is low in the industry the same level of growth cannot be expected in the future without some changes in the sector. Further consolidation of the industry could provide more opportunity for investors.



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Introduction

From 2000, a \$1 investment in “Big Tobacco” offered a 900% return if one held the stock for just 16 years. This paper aims to identify some key trends in the corporate strategy of “Big Tobacco”, and whether or not tobacco growth is likely to continue to be as robust in the future. It examines some of the trends that have contributed to the industry’s success over those 16 years. The findings are based on an analysis of the four major tobacco companies: British American Tobacco (BAT), Imperial Brands (IMB), formerly Imperial Tobacco, Japan International Tobacco (JTI) and Philip Morris International (PM). These will be referred to collectively as the “big 4” companies or as “Big Tobacco”. The first part of the paper investigates official press releases and financial reports emanating directly from “Big Tobacco”. Corporate acquisitions are compiled and analysed as are changes in financial statements over the period. This includes changes in leverage, margins and dividend analysis. The second part of the paper deals with market-related ratios and methods of analysis. Finally, the study offers its own estimate of the true share price, and discusses price volatility.

Chapter 1: Tobacco history and company formation

The origins of the two types of tobacco plant—*Nicotiana tabacum* and *Nicotiana rustica*—date back 18 000 years. They originally grew in areas of Peru/Ecuador. Although other plants found there (such as tomatoes, potatoes, maize and cocoa beans) may have been considered more important as foodstuffs, tobacco began to be cultivated as early as 5000–3000BC (Musk & De Klerk, 2003). The plants grew throughout the Americas, but it was Christopher Columbus who brought back stories of tobacco smoking to Europe after 1492. Tobacco reached Europe in 1558, and subsequently spread to the rest of the world via colonial expansion (Goodman, 2005). By 1560 it was being used in central Africa, after being brought through the east coast by the Portuguese and Spanish. Subsequently it spread to China and Japan, and by the 17th century, manufactured tobacco had entered Russian and Indian territory (Brandt, 2007).

Tobacco usage changed as its practice spread globally. In earlier times, snuffing was the most prevalent usage, with snuffing instruments being some of the oldest tobacco-related artefacts found. The plant was not only sniffed, it was originally chewed, eaten, mixed with water and used in medicinal practices as an analgesic or for its antiseptic properties. Similarly, in early religious ceremonies, it was offered to the gods, having seemingly mystical connotations. The most long-lasting use, however, of tobacco has been smoking, either rolled up in cigar form or inhaled in a pipe. (Musk & De Klerk, 2003)

While tobacco growth continued to increase globally, some countries regarded tobacco as a source of tax or revenue during the late 1800s. Both Japan and China pursued a policy of monopolisation of the tobacco industry during this period. China demands special attention here, given its historically high rate of tobacco use and population size (Mackay, 1996). Mackay (1996) points out that James Duke, the entrepreneur who started what is now British American Tobacco, recognised the considerable gap in the Chinese market. The creation of the cigarette machine allowed BAT to enter the Chinese market with force. By 1920, BAT had a full advertising campaign in China, allowing it to increase its market share. Annual cigarette consumption increased from a negligible level to around 100 billion sticks (Mackay, 1996). BAT sales accounted for 67% of the Chinese market, which represented 40% of BAT’s total volume (Mackay, 1996). BAT was forced out of the Chinese market in 1952 with China’s shift to communism. Although BAT has since returned to the Chinese market, one of the world’s largest tobacco companies, China Tobacco (CNTC), has been excluded from this study. China Tobacco has a virtual monopoly in China, which accounts for 30% of total global cigarette consumption. In order to avoid price distortions and other market manipulations, it seems wiser to focus on the free-market operations in which the other four companies engage.

In the rest of the world, the 1900s showed promising gains for the four major companies as tobacco consumption rose. Burns (1997) outlines some key points that have defined tobacco-related products, showing a strong, exponential increase in tobacco consumption until around 1940, when the *per capita* consumption stabilised. Around 1965, tobacco consumption began to decrease. Although Burns (1997) deals specifically with the U.S, its findings may be used as a relatively accurate proxy for global consumption. The exception is outlined by both Musk (2003) and Makay (1996), who find that prevalence is in fact growing in developing countries. They argue that while tobacco as a consumer product may have some benefits, it is ultimately detrimental to countries whose politicians choose not to actively fight the spread of tobacco. Makay (1996) goes on to list six possible reasons for increased tobacco use in the developing world:

1. An increase in the absolute population of developing countries;
2. An increase in smoking prevalence due to an increase in affluence among the better educated;
3. A likely increase in prevalence amongst women because of extensive marketing aimed at countering social taboos;
4. Ignorance of health risks;
5. The lack of funding to control and implement countermeasures;
6. Extensive marketing by well-funded multinationals.

Given that the anti-tobacco movement was first successful at reducing tobacco consumption in the developed world, Musk (2003) outlines some of the key areas that were fundamental to lowering tobacco prevalence. The areas are:

1. Banning tobacco promotion;
2. Discouraging smoking among the young;
3. Effective, rotating health warnings (and, more recently, brand removal);
4. Limits on harmful substances permitted in cigarettes;
5. Limits on other products (e.g. smokeless tobacco) as well as cigarettes;
6. Creation of smoke-free areas;
7. The increase of taxes on all tobacco-related products.

The Framework Convention for Tobacco Control (FCTC), which aimed to continue decreasing smoking prevalence worldwide, was first adopted at the World Health Assembly in 2003. It has since been signed by 180 countries. The FCTC is the World Health Organisation's (WHO) approach to countering the tobacco epidemic by providing a framework for tobacco control measures to be implemented. These are similar to the key areas listed above. The FCTC provides universal guidelines to tackle each aspect of tobacco prevalence. Laugesen (1992), Blecher (2008), Altman (1996), and Moodie (2013) each find that measures to counter advertising and brand recognition are effective in decreasing smoking prevalence. The tobacco sector does not self-regulate, and public-private partnerships have not been effective at decreasing tobacco prevalence. The FCTC is able to help guide policy in this regard. Given these anti-tobacco measures, one would expect to see a decrease in income and the bottom line of any or all of the big four tobacco companies.

However, the tobacco companies have not been passive. During the period of active opposition, "Big Tobacco" has used several strategies to counter the anti-tobacco movements. Assunta (2004) finds that when presented with an outright advertising ban, tobacco companies have shifted from direct to indirect advertising and maintained a strong presence in the market. Assunta (2004) also finds that even as late as the 1990s, despite having been banned from advertising on mass-media, tobacco companies were top advertisers throughout the country, albeit indirectly. Brownell (2009) argues that

the tobacco industry focused on disseminating research that instilled doubt, denying that their products were addictive or could cause any sort of harm. Like Moodie (2013), Brownell shows that promises of self-regulation were empty. The most obvious case occurred in 1954, when the tobacco industry issued a 'Frank-Statement to Cigarette Smokers', a message assuring the public that the industry worked in their best interests.

Brandt (2012) argues that the industry has continued to deny and subvert. By sponsoring and promoting scientists who expressed criticism of the scientific community's findings at the time, the industry could prolong its success. Carrying this even further, they gave money through university-based grants, which encouraged cooperation with particular views while remaining apparently independent. The second part of this process involved recruiting newspapers and magazines to support their ideas. Chapman (2003) outlines three main strategies that were used to delay the implementation of health warnings on cigarette packs in Australia. They were:

1. Making submissions to government;
2. Privately influencing politicians and the media;
3. Commissioning research.

Each of the above-mentioned strategies was particularly successful, and Chapman (2003) outlines the counter-strategies that other countries should use to eliminate the delay.

Finally, Landman(2002) points out that although the tobacco industry has aggressively promoted its youth smoking education and prevention programmes, these may have had contrary effects to those intended. Programmes that began in the 1980s in the U.S have spread to all corners of the world, with a minimum of 70 countries targeted at the beginning of the 2000s. Landman(2002) finds that tobacco industry programmes are less convincing than those funded by public health institutes, and that they also fail to mention any of the adverse health effects of tobacco use. These tactics allow the tobacco firms to pay less tax and to avoid marketing restrictions, while spreading their brands worldwide. Landman (2002) argues that smoking prevention programmes do more harm than good if they are funded by the tobacco industry itself.

Tobacco use has evolved over time, and its detrimental health effects have been thoroughly researched. With a strong and well-established anti-tobacco movement and a growing number of measures being taken to prevent the increase of smoking prevalence, one would expect that the big four tobacco firms would see a fall in revenue, and in turn of shareholder value and net profit. However, this has not happened. Neither health care education nor the development of government policy has slowed revenue growth *or* positive stock return. This paper will consider why this is the case, and whether or not the tobacco companies can maintain their performance.

Chapter 2: History of “Big Tobacco”

This section aims to describe how each of “Big Tobacco” firms were formed, and highlight some of the similarities (and differences) over the past 100 years. Firstly, each of “Big Tobacco” has followed the growth curve of tobacco alluded to in chapter 1. Each has seen significant gains in the first part of the 1900s due to the success of cigarette sales. Then, “Big Tobacco” uses their stable income to diversify into other industries, buying a range of businesses during the 1950 – 1970s. This was not limited to food, beverage and pharmaceutical companies. The trend following the expansion was that of contraction – selling off the majority of non-tobacco companies. Leading up to the 2000s, we find that “Big Tobacco” looked to establish its international roots.

British American Tobacco (BAT)

In the United States, although the manufacturing of cigarettes continued throughout the U.S Civil War, it was not until 1869 that hand-rolled cigarettes began to gain popularity. The U.S firm F.S Kinney was one of the first to introduce American workers to hand-rolling by bringing in European veteran hand rollers. With increasing returns to scale, new tobacco blends and a focus on bright leaf (Flue Cured) tobacco¹, the cigarette slowly gained popularity on the east coast of the U.S.A., as a cheaper alternative to other more established brands (Cox, 2000).

Ten years later, W. Duke & Sons, a small firm based in Durham, North Carolina began producing cigarettes. Previously, they had focused on chewing and smoking tobacco. At the time, it made little sense to expand into a production method that was labour intensive, especially at higher volumes. James Buchanan Duke, however, who took over the company from his father, aimed to expand the company in areas other than its original focus. He first challenged his well-established competitor, Bull Durham. No one at the time anticipated that his small company would not only surpass its city rivals, but eventually become the international conglomerate that it is today (Cox, 2000).

Taking advantage of strikes in New York, Duke enticed workers to move to Durham by offering them the highest wages in the industry and promising that moving expenses would be covered. By 1885, W. Duke & Sons had 700 employees—increased from ten when Duke took over the company.

Industry growth had also been impressive. Duke was able to outperform his competitors because of the invention of the cigarette-rolling machine by James Bonsack in 1885, as normal production methods would not have allowed him to undercut his competitors without damaging his own profits. (Cox, 2000)

At the time, the four big cigarette companies owned roughly 80% of production for the U.S market. Fearing a drop in demand if cigarettes were not hand-rolled, Duke’s competitors were slow to adopt the technology (Brandt, 2007). The cigarette-rolling machine could produce 200 finely cut cigarettes per minute. A hand roller would take about an hour to produce the same number. Not only was the speed of production drastically improved, the cost of production was cut almost in half because fewer workers were needed. Duke’s early adoption of the machine allowed him to refine the process and increase his returns. Finally, Duke guaranteed his success in the cigarette industry by arranging with Bonsack for a reduction in price for the machine, securing pricing superiority over his competitors (Cox, 2000).

Duke next sought a more streamlined process and economies of scales in other areas of production. He saw the advantage of combining all of the big four companies. In 1890, they were amalgamated as the *American Tobacco Company*. The original four companies, Allen & Ginter, Kinney, W.S Kimball &

¹ A milder, lighter and more aromatic, tobacco leaf.

Company and Goodwin & Company, all received their share of the stock of the newly-formed company (Cox, 2000). With Duke at its helm, the American Tobacco Company soon became known as the Tobacco Trust, commanding 90% of the U.S.A cigarette market.

Looking to expand the Tobacco Trust internationally, Duke travelled to the U.K.. in 1901. After purchasing Ogden Limited (a large tobacco firm in the U.K.) the Tobacco Trust could put pressure on the newly-formed Imperial Tobacco. Duke moved to merge with Imperial Tobacco soon after and, in 1902, British American Tobacco was formed. The Tobacco Trust owned two thirds of BAT, and Imperial the remainder. Both agreed not to interfere with each other's domestic markets. (Cox, 2000)

While an effective monopoly had allowed the Tobacco Trust to prosper, this ended in 1911. The company was judged to hinder competition and was ordered to break up into smaller constituents. Importantly, however, British American Tobacco and Imperial were exempted from the ruling. The Tobacco Trust was forced to sell its share in BAT. Four firms were resulted from the break-up of the Tobacco Trust: the American Tobacco Company, Liggett & Myers, R. J. Reynolds, and P. Lorillard. The only significant company in the American tobacco industry that was not created from the dissolution of the Tobacco Trust was Philip Morris, which will be discussed later.

BAT continued its growth into international markets throughout the 20th century, purchasing or creating subsidiaries in India, Germany, France, Chile, Mexico and other Central American countries. By the late 1970s, BAT had diversified into multiple industries. These included paper production, cosmetics and food, and it was now listed as 'BAT Industries'. It was only in 1994 that BAT was able to buy itself out, and become a stand-alone tobacco company.

Since then, BAT has acquired a number of important companies. The purchase of Rothmans International in 1999 solidified their return to the American market. Significant purchases in Italy, Denmark and the U.S.A. in the first decade of the twenty-first century amounted to over \$10 billion. The most important of these was the purchase of Brown & Williamson in 2004. BAT gained control of 42% of Reynolds American (RAI) through this purchase, and it gave BAT further control in the U.S.A. The American arms of BAT, Brown & Williamson and RJ Reynolds Tobacco Company, were the second and third largest tobacco companies at the time. (BAT, 2017)

In 2015, RAI purchased Lorillard. This allowed RAI to consolidate its market position in the U.S.A., gaining access to Lorillard's popular menthol cigarette, *Newport*. Reynolds and Altria went on to sell nine out of ten cigarettes in the U.S.A. The purchase was funded by BAT, which contributed \$4.7 billion of the total cost of \$25 billion. This meant that BAT maintained its 42% share of RAI. (BAT, 2017)

BAT has continued to increase its market share abroad, through increased sales and company acquisitions. Its latest acquisition, in January 2017, of the remaining 57.8% of common stock of RAI meant that RAI is now a wholly-owned subsidiary of BAT. Valued at \$49.4 billion, this will not only be BAT's biggest purchase to date, but also the largest purchase in the industry. Although BAT's final share and cash offer was above asking price, the purchase of RAI is strategic for BAT in two ways. Firstly, the U.K.. based company gains access to the American market that they did not have previously. Bloomberg estimates that this will now account for around 35% of the group's revenue. Secondly, BAT now has access to Reynolds American's range of R & D projects. One of their products that has gained in popularity over recent years is their alternative to the cigarette, RAI's *Vuse* brand. The acquisition also secures BAT first place by market capitalization in the tobacco industry, overtaking PMI. Currently, Reynolds American operates as the amalgamation of five distinct operating companies. RJ Reynolds Tobacco Company is currently the second largest tobacco company² in the

² Behind Altria.

U.S.A., and focuses on the American market. Its popular brands include Newport, Camel, Kent, Pall Mall and Lucky Strike. RJ Reynolds' other divisions cover products such as cigarettes, smokeless tobacco and nicotine replacements. Santa Fe Natural Tobacco company has been operating as a division of Reynolds since 2002. Its best-known cigarette brand, Natural American Spirit, is sold worldwide. In 2015, however, JTI has purchased the right to distribute Natural American Spirit in Asia and Europe. Reynolds' snuff division, the American Snuff Company, was founded in 1900. It is now the second largest smokeless tobacco producer in the U.S.A. Grizzly and Kodiak are its more popular brands. Nicovum U.S.A. and Nicovum AB are Reynolds American's division of nicotine replacement therapy products in the U.S.A and Sweden, respectively. Founded in 2000, the division, under the brand name Zonnic, continues to look for new means of discouraging nicotine cravings. Finally, RJ Reynolds Vapour focuses on digital vapour cigarettes. Concentrating on the American market, Reynolds Vapour sells its products under the brand name *VUSE*. When BAT's purchase of RAI is complete, all of RAI's American market operations will be under BAT's control (BAT, 2017).

Today, BAT has over 200 cigarette brands and other tobacco products that are sold worldwide. Their focus, however, is on the growth of their Global Driver Brands (GDBs). GDBs consist of the combined volume sold of Dunhill, Kent, Lucky Strike, Pall Mall and Rothmans. While BAT's growth has been in conventional tobacco sales, it has also made inroads into the new e-cigarette technology. This is further discussed in the following chapter (BAT, 2017).

Imperial Brands (IMB)

Imperial's beginnings date back to 1786, when Wills & Co., a small tobacco shop in Bristol, U.K.. was opened. Wills & Co. was not the only small tobacco producer in the area, however, as J. Player & Sons, and Ogden's Liverpool had established themselves in a similar market segment (Imperial Brands, 2017).

While each of these companies saw considerable growth, it was only at the start of the 20th century that cooperation was required. The American Tobacco Company³ had set aside more than US\$30 million to purchase tobacco companies in the U.K... so as to extend their monopoly outside the U.S.A. Duke arrived in the U.K.. in 1901, and famously walked into the Ogden factory in Liverpool and bought it on the spot. Although Duke wanted to continue his acquisitions by purchasing J. Player & Sons, he was not successful, and Ogden was the only significant successful acquisition he made at that time (Imperial Brands, 2017).

The U.K. companies recognised the threat however – American Tobacco had financial backing to a level none of the companies had individually. Thirteen family-run companies opted to amalgamate under one name to counter the American Tobacco move in domestic markets. Imperial Tobacco Company was formed in 1901, led by Sir William Henry Wills.

The purchase of Ogden allowed Duke to engage in trade wars with the newly-formed Imperial Tobacco. After a year, facing losses and a worsening trade war back in the U.S.A., ATC was compelled to negotiate with Imperial Tobacco. The two companies agreed to stay out of each other's respective markets, and Ogden was returned to Imperial. Simultaneously, British American Tobacco was created as the U.K. branch of the American Tobacco Company. Up to 1973, Imperial restricted its trade to the U.K. and Ireland, while BAT focused on export and duty-free trade, predominantly in Europe. Imperial sold its share in BAT in 1980, though some trademarks are still held by BAT outside Europe.

³ Discussed in detail earlier in this chapter.

The 1960s and 1970s saw Imperial Tobacco expand its interests beyond tobacco. Golden Wonder—a small potato crisps company—was acquired. The company became a leader in the multi-million-pound industry. Mardon Packaging was a joint venture between BAT and Imperial, and represented their printing and packaging industries. The popular HP Sauce brand was Imperial's largest acquisition at the time, and included its subsidiary Lee Perrins. Acquisitions continued into frozen and tinned foods, brewery and alcohol-related industries, and plastic industries. As a result of the diversification, Imperial Tobacco became Imperial Group Inc. The group then divided its focus into five divisions: Tobacco; Paper and Board; Food; Distributive Trade and General Trade. (Imperial Brands, 2017)

In 1986, Hanson Trust successfully acquired Imperial Group. The period that followed was one of major restructuring and optimisation. A drop in the number of brands offered, managed by 13 new divisions, aimed to reduce cost and improve efficiency. When Imperial became independent from Hanson ten years later, its productivity had trebled and it had a considerably larger market share.

From 1997 to 2008, Imperial refocused on tobacco, and spent £17 billion on acquisitions of tobacco, or tobacco-related, firms. The company increased its interests in Africa in 2001 when it purchased Tobaccor, the second largest manufacturer and distributor of cigarettes in the sub-Saharan region of Africa. This was followed in 2002 by the acquisition of Reemtsma. Reemtsma was a company with well-established markets in Europe, which complemented Imperial's strength in the U.K.. (Imperial Brands, 2017)

After 115 years as Imperial Tobacco, the company underwent a name change in 2016, and became Imperial Brands. Some drew parallels between the change and that of Altria and Philip Morris (Jarvis, 2015). Most see the removal of 'tobacco' from the company name as opening the door to acquisitions outside the tobacco industry.

From 2013, Imperial began a focus on two distinct markets within the tobacco industry: growth markets and return markets. Growth markets are those that the company develops as potentially profitable in the future, while return markets maintain their current profitability going forward. (Imperial Brands, 2017)

Growth markets include Russia, Saudi Arabia, Italy, Greece, Turkey, Japan, Taiwan, Iraq & Syria, and Sweden & Norway. Return markets are split up into North and South areas respectively. The North focuses on the U.K., Germany, Belgium, the Netherlands, Luxembourg, Australia and the Ukraine. The South encompasses Spain, France, Algeria and Morocco.

Currently, Imperial Brands represents an amalgamation of five distinct brand focus areas in both tobacco and non-tobacco industries. In the first place, Imperial Tobacco, the core of subsidiaries that both manufacture and market cigarettes, fine cut tobacco, smokeless tobacco, cigars, papers and tubes to a variety of markets worldwide. The core of Imperial Tobacco's business, however, is in Europe. Key markets for Imperial Tobacco are in the U.K., Poland, Russia and the Ukraine. In Western Europe, subsidiaries include Reemtsma in Germany, Altadis in Spain and Seita in France. Their more popular brands are Davidoff, West, JPS, Gauloises Blondes and Golden Virginia.

Tabacalera represents Imperial Brands' international cigar business. Imperial splits its total revenues into three segments. A 50% stake in Habanos S.A. secures worldwide income from the promotion, distribution and export of Cuban cigars. Habanos S.A. is the distribution arm of the state-owned Cuban tobacco company, Cubatabaco. The foreign ownership of Habanos S.A. is recent: prior to 1994 Cubatabaco was the sole company in control of the export and distribution of any Cuban tobacco products. The second revenue strand, Tabacalera USA leads the world's premium cigar market. A product of the mergers of Tabacalera S.A. and Seita in 2000, and of Altadis and Imperial in 2008,

Tabacalera USA owns several cigar brands. Its core brands are Tabacalera De Garcia from the Dominican Republic, Flor De Copan from Honduras and Altadis U.S.A. JR Cigars provide wholesale and retail support, while Casa De Montecristo is a chain of walk-in stores that offer a range of premium cigars. The final segment of revenue, from Spanish and French markets, is managed separately.

The American branch of Imperial Tobacco is represented by ITG brands. A product of the former Commonwealth-Altadis and newer assets purchased from Reynolds American in 2015, ITG is now the third biggest tobacco company in the U.S.A. (Imperial Brands, 2017) Imperial Brands considers the U.S.A. a key growth market for tobacco, as it is the most profitable market worldwide. Popular brands include Winston, Maverick, Kool, USA Gold, Salem, Dutch Masters and Backwoods.

Fontem Ventures are Imperial Brands' answer to developing non-tobacco products in today's market. The popular e-cigarette brand, *blu*, is sold in the USA, U.K., Italy and France. These key markets account for more than 70% of the e-vapour market. Research and the development of new products is crucial to Imperial Brands' revenue stream from this market.

Finally, Logista is Imperial's logistical business division in Southern Europe. Focusing on Spain, France, Italy, and Portugal, the company transports both tobacco and non-tobacco products. Imperial Brands' owns 70% of Logista through its subsidiary, Altadis S.A.U. (Imperial Brands, 2017)

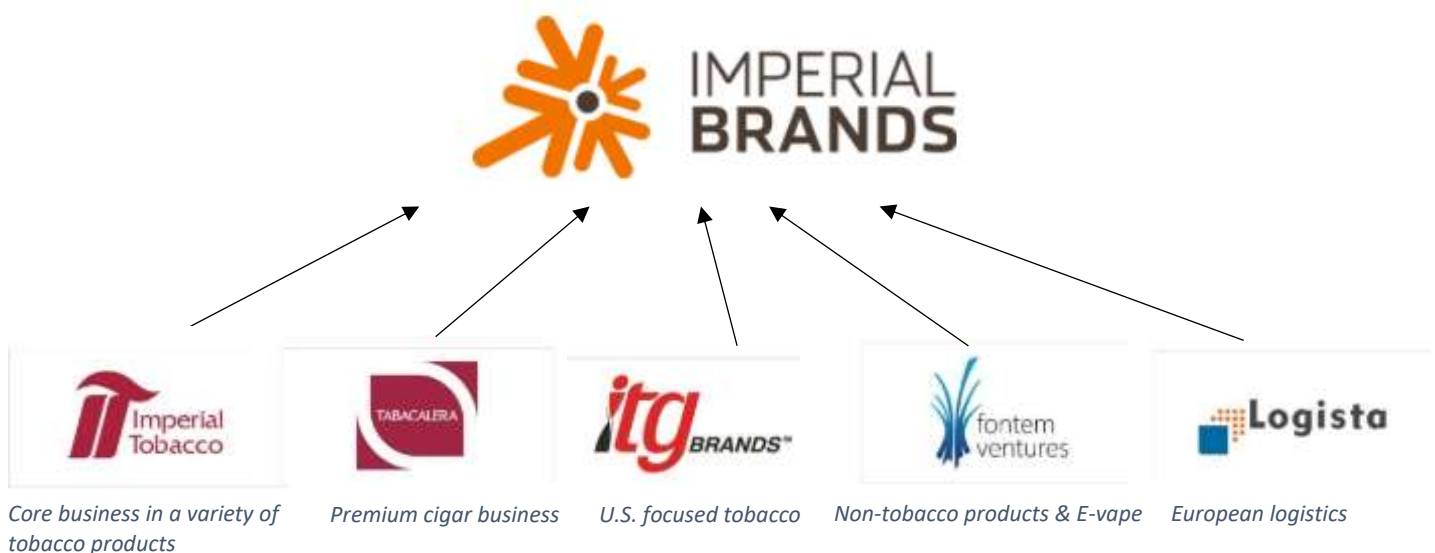


Figure 1: Image from IMB website

Japan Tobacco International (JTI)

Unlike most other tobacco companies, JTI was the result of a particular political and economic climate rather than entrepreneurship. Up to 1873, Japan considered tobacco an agricultural product. Thereafter, it began taxing the tobacco as a finished product, which in turn led to widespread tax evasion. It seemed logical to curb the loss in revenue by the creation of a state-led monopoly. In 1898 the Japanese Monopoly Bureau was established and allowed the state to monitor sales more closely and, as a result, tax the tobacco market. Opposition by parties with an interest in the market—both domestic and abroad—meant compromise was necessary. The semi-monopolist agreement that resulted meant that the sale of tobacco leaf would be exempt from tax (JTI, 2017).

In 1904, however, the Russo-Japanese war began. Facing a national debt crisis, the Japanese government completely nationalised the tobacco and salt industries in an effort to raise funds for the war. The economic climate subsequently improved, but restrictions on the tobacco and salt industries remained constant until after World War II (WWII). The rebuilding of Japan's economy post-WWII brought a variety of changes, one of which was the privatisation of the salt and tobacco industries. Japan Tobacco and Salt Public Corporation was formed in 1949. The tobacco company was given free rein on domestic tobacco production,⁴ and both wholesale and retail distribution (Mackenzie, 2017). As the Japanese economy recovered, so cigarette consumption (and, in turn, production) increased. Mackenzie (2017) finds that 98.5% of all cigarettes sold in Japan in 1982 were sold by Japan Tobacco. High barriers to entry in the form of import taxes⁵, the state control of tobacco shops and restrictions on the advertising of foreign tobacco products all supported the established monopoly. Although the state had technically given up control of the tobacco industry, barriers to entry were too high for international firms to enter the domestic market. (Mackenzie, 2017)

The 1980s saw public opinion change again. Privatisation was viewed as a promoter of economic growth, and this led to the reform of the telephone, rail, and national administration systems and the tobacco industry. The Tobacco Business Act stipulated that the privatised company would be required to buy the entire domestic tobacco crop. This benefited local farmers by maintaining demand and ensured the Japan's continuing role as a tobacco supplier. Although Japan Tobacco became a publicly traded stock, all stock was owned by the government until 1994. (Mackenzie, 2017)

Nevertheless, the economic climate changed even though the ownership of Japan Tobacco did not. The U.S. Cigarette Export Association, led by PMI, RJ Reynolds and Brown & Williamson, lobbied for the American government to intervene in the foreign tobacco market. Specifically, they wanted previously closed markets like Japan, South Korea, Taiwan and Thailand to be opened to any transnational tobacco company (TTC). The threat of trade sanctions forced countries to open their borders. By 1982, import tariffs were lowered from 90% to 20%, TTCs were allowed to advertise on television, on billboards and in magazines, and there was a more than tenfold increase in the number of licenced shops able to sell TTC brands. The TTCs were now able to set prices and establish sales networks, albeit with prior government approval (Mackenzie, 2017).

Finally, the Plaza Accord⁶ in 1985 saw the Yen appreciate relative to several key currencies. As cheaper alternative brands of cigarette became available, possibly made more attractive by the influx of foreign advertising, Japan Tobacco's⁷ (JT) share of the domestic tobacco market slowly declined.

⁴ This included the tobacco leaf sector.

⁵ There was a 90% tariff rate on foreign tobacco products.

⁶ This was an agreement between the U.S, France, Japan, the United Kingdom and West Germany to depreciate currencies against the Japanese Yen and German Mark

⁷ This refers to Japan Tobacco before the its international arm was purchased.

Initially, smoking prevalence increased, but Japan has since seen a clear decrease in cigarettes consumption. With increased competition and decreased smoking prevalence, JT was under considerable pressure (Mackenzie, 2017).

There was no single factor that forced JT to change; rather, it was a combination of economic and political forces that encouraged JT to change its corporate strategy. Instead of focusing on the growth of the domestic market where it was facing increased competition, JT had to look elsewhere to increase its business.

In 1999, JT made its first significant move into the international market, when it finalised the purchase of the non-U.S.A. operations of RJ Reynolds (RJR). This was the first of two key acquisitions that have subsequently defined the company. Although this company was later absorbed by BAT in early 2017, the scale of the acquisition is important: US\$8 billion. Mackenzie (2017) finds that while this may have been an excessive price for what was actually being purchased, it must be noted that both PMI and BAT were interested at the time in purchasing the international leg of RJR. Japan Tobacco International (JTI) was formed once the purchase was complete. This made JTI the third largest TTC at the time, and helped create a foundation on which it could continue its growth in the international market. The popular Camel and Winston brands were now sold by JTI internationally. These brands had, until the 1980s, been dominant in the American market. Furthermore, the acquisition opened up markets in Canada and Europe that were previously unreachable (Mackenzie, 2017).

Eight years after their first big acquisition, JTI again expanded by taking over Gallaher Group in 2007. The acquisition of what was then the fifth largest TTC consolidated JTI's place in the global tobacco industry. At US\$15 billion, the price paid was the largest for an overseas acquisition by a Japanese firm. It doubled JTI's international operations by giving it access to established markets in the U.K..⁸ and Europe. Gallaher had been established since 1854 and JTI was therefore able to add its well-known brands to its portfolio: Benson & Hedges, Silk Cut, Sobanie, LD, Glamour and Mild Seven.⁹

JTI's most recent significant acquisition was through an RJR subsidiary, when it purchased the international selling rights of Santa Fe Natural Tobacco in 2016. It now produces the popular *Natural American Spirit* cigarettes. Mackenzie (2017) finds that the cigarette appeals both to the domestic Japanese and the international markets, particularly in the U.S. and Western Europe. Although JTI originally focused on the domestic market, it now targets numerous other geographic regions.

In summary, JTI has now moved into all corners of the globe. Currently they categorise their cigarettes into international and domestic brands. Their leading international brands (in descending order, according to volume sold) are Winston, Camel, LD, Mevius, Benson & Hedges, Glamour, Sobranie, Silk Cut and Natural American Spirit. They have fewer domestic brands, focusing on Natural American Spirit, Seven Stars, Mevius and Winston.

Like other companies, JTI has moved into the e-cigarette and vaping markets. Most recently, it purchased Logic, a leading e-vape company in the U.S.A., U.K.. and France. Similarly, it has developed Ploom-tech, JTI's non-combustible tobacco alternative.

While JTI predominantly focuses on the tobacco industry, they also underwent a degree of diversification during the period of increased competition. The pharmaceutical, food, and beverage industries were targeted. JTI's beverage sector was sold in 2015 (Mackenzie, 2017), and JTI is likely to concentrate more on its tobacco-related industries. The processed food and pharmaceutical

⁸ Gallaher Group originated in Ireland.

⁹ Later renamed Mevius.

industries have remained relatively stable sources of income, although they provide between them only 11.8% of JTI's total revenue.

Phillip Morris International (PMI)

Philip Morris, a tobacconist and importer of fine cigars, opened his first shop in London in 1847. As the business grew, he began cigarette production in 1853. William Curtis bought the prospering company in 1894. The company continued to prosper under his management and was appointed tobacconist to King Edward VII in 1902. Ownership was initially split 50-50 between American and British stakeholders, and it was only in 1919 that the company was incorporated in Virginia. Bought by the already established George J. Whelan under the name Philip Morris & Co, the company then began production of its hallmark cigarette Marlboro in 1924 (Philip Morris, 2017).

“Mild as May” was Marlboro’s slogan when it was first launched. Originally it was aimed at the female smoker and it was only in the 1950s that PMI shifted focus and rebranded Marlboro as a masculine cigarette. As evidence of the health detriments of smoking surfaced, PMI introduced a cigarette filter as a healthier alternative, at the same time relaunching Marlboro to a new audience. A new, practical flip-top box, backed by the icon of American masculinity—the Marlboro Man cowboy—was born. By the 1960s, the Marlboro Country¹⁰ campaign was in full swing. By the 1980s, Marlboro had overtaken Reynolds’ Winston cigarette to become the global market leader.



Figure 2: An early Marlboro ad

As public discernment began to change, however, so did the public’s perception of PMI. After its significant growth phase of the 1960s and 1970s, PMI was able to maintain an upward trend in cigarette sales well into the 1990s. Even when Tobacco Control was introduced in 1992, PMI was still experiencing record sales of around 400 billion sticks of their cigarette. Although the anti-tobacco movement had only just begun, it was during this period that public opinion forced change upon the industry. PMI felt the effects of these changes as much as the rest of the industry.

¹⁰ PMI’s campaign showed real cowboys at work.

Smith (2003) found, based on internal documents, that PMI had a major image concern as early as the 1980s. The public, legislators, and other opinion leaders viewed PMI less favourably than many of the other big companies—including Exxon Mobil.¹¹ Image consultants at the time were particularly harsh in their approach to PMI, likening the sale of cigarettes to prostitution, alcoholism and drug trafficking. Smith (2003) found that some went further in comparison, finding similarities between PMI's image and that of Volkswagen after WWII.¹² PMI conducted a favourability study, which confirmed that public opinion was against it and that its image needed to be changed.

In 1998, the Tobacco Master Settlement Agreement (MSA) targeted the largest four tobacco companies at the time, one of which was Philip Morris. The settlement meant that the public health care system was able to recover the costs of smoking-related diseases from the tobacco firms, both at the time and in perpetuity. It also dissolved pro-tobacco industry trade groups,¹³ prevented further advertising for tobacco products, and helped fund new anti-smoking advocacy groups. In exchange, the tobacco companies were given immunity from civil prosecution by private individuals (particularly class action lawsuits).

PMI had several options by which to deal with their deteriorating image. They could follow an exit strategy, maximising short-term profits but with no concern for the longer term. This would result in the eventual demise of the company, but would enable it to make the most of the assets that it had. At the time, much of PMI's revenues came from their interests in food products. As these were seen to be sustainable, an exit strategy was not necessary or desirable.

Secondly, PMI considered a 'ferocious defence', a term used to outline their tactic of reorganising politically and spending more on positive advertising. PMI also created Project Rainbow, which would involve making concessions with Congress in exchange for a period of "peace". Instead of taking either of these options, PMI chose to rebrand their image, calling it PM21, that is, Philip Morris in the 21st century. (Smith, 2003)

In 2001, PM21 changed the name of the Philip Morris Company to The Altria Group. The company wanted to change its association with tobacco, but keep its financial ties intact. After the name change, the Altria Group became the parent company of Philip Morris USA, John Middleton¹⁴, Kraft Foods, Miller Brewing Company¹⁵ and Philip Morris International.¹⁶

In 2008 shareholders received one PMI share for each Altria share that they held, and Philip Morris International became a separate company. Philip Morris U.S.A – the American branch of Philip Morris remains a subsidiary of Altria (Bialous, 2012).

Marlboro is PMI's leading cigarette brand. As of 2015, it accounts for 34% of the total shipment volume. Currently, PMI divides its cigarette base into three tiers, each of which consist of both international and domestic brands. The premium tier consists of Marlboro, Virginia Slims¹⁷ and Parliament. Leading mid-tier brands include L & M, Lark, Merit and Philip Morris. Their more successful

¹¹ This was particularly worrisome, as Exxon experienced a highly publicised oil spill in 1989.

¹² Volkswagen was tainted by its association with the Nazi party. Hitler commissioned its design as a 'people's car'.

¹³ The Tobacco Institute.

¹⁴ The second largest producer of machine-made cigars.

¹⁵ Later to be sold to South African Breweries in 2002 and become SABMiller.

¹⁶ This is not an exhaustive list.

¹⁷ Originally started as a women's cigarette brand, it was pitched as a lighter-in-taste cigarette. PMI's strategy of targeting women as consumers was extremely successful during Women's Liberation Movement of the 1960s and 1970s

international brands include Chesterfield, Red & White and Bond Street. The lower tier of cigarettes are typically local or regional brands.

While cigarettes are the core of PMI's business at present, it is important to recognise a fundamental shift in their approach. Since the renaming and separation of Altria, PMI and Philip Morris USA, PMI has invested a considerable part of their business in reduced risk products. PMI recognises the risk of smoking, and aims to develop new products that help smokers move away from cigarettes and toward smokeless alternatives. Products like the IQOS¹⁸ and TEEPS¹⁹ heated tobacco are popular, while PMI also offers a range of non-tobacco products.²⁰

This chapter outlined some of the similarities/differences the tobacco industry has gone through over the past 100 years. This helps set the tone for the rest of the paper, as each of the remaining sections focus on a particular trend that has developed over the 2000 – 2016 period. Namely, acquisitions, leverage, and margin changes.

¹⁸ PMI's headline heated tobacco product.

¹⁹ PMI's product that heats tobacco using a carbon heat source.

²⁰ These offer nicotine release without tobacco.

Chapter 3: Acquisitions

This section first identifies and develops theoretical explanations for why a company moves to acquire another, with a focus on “Big Tobacco”. It then discusses key trends over the past 16 years (or nearer if data is not consistent), including speculation on the future trend of industry acquisitions.

An acquisition occurs when a company purchases at least 50% of the target company’s controlling shares. From that point, the parent company (acquiring firm) must declare the income, expenses, assets and liabilities of the target company on its own balance sheets. The primary aim of an acquisition is to increase the parent company’s bottom line and, in turn, the return to shareholders.

Shmidt (1990) argues that this may not necessarily always be the case. A study of pre-and post-acquisition performance showed, on average, a decrease to return on common equity (ROCE) for both acquiring and target firms. There were several firms, however, that did show favourable financial results post-acquisition, and the firms in the study were limited to the industrial sector. The same results cannot be expected for “Big Tobacco” companies, especially as Shmidt (1990) concedes that factors outside the study’s research design could have affected the financial performance of the firms studied.

Singh (1987) notes several important factors that make acquiring another firm more attractive than developing resources internally. The length of time it would take to develop a product internally makes purchasing a firm that already produces it more attractive. The same argument applies to new brands or new markets. Brand entry into a new market is often more expensive than the purchase of an established brand or company through which to distribute. “Big Tobacco”, arguably, need not be as concerned about this factor, given their successful advertising boom in the 20th century.

The second factor Singh (1987) finds is that concentrated markets allow competitors to earn supernormal profits and be protected by substantial barriers to entry. This makes it often more cost-effective to purchase a company outright than to try to introduce a new company into a concentrated market. Singh (1987) also discusses some of the disincentives acquiring firms may have. Of most relevance to “Big Tobacco” is the premium that the acquiring firm may have to pay the shareholders of the acquired company. This premium is viewed on the balance sheet as *goodwill*.²¹ Too high a premium for goodwill, which is intangible, may be detrimental to share prices.

The purchase of smaller companies can create value in three ways when the purchasing and target companies are related: by economies of scale, economics of scope, and market power (Singh, 1987). Economies of scale are found in the expanded production of a specific product. This is particularly appropriate to the tobacco industry, as the mechanised production of the standardised cigarette is extremely efficient. Singh (1987) also shows that economies of scale can extend beyond manufacturing to include selling, distribution, research, and development. Economies of scope, on the other hand, occur with the joint production of *two or more* products. For “Big Tobacco”, this occurs in the distribution system and in the manufacturing of multiple brands at shared facilities. Finally, market power effects occur when a market participant can influence price or quantity. In geographical areas where one large tobacco firm has market power, it is at least possible that market manipulation *may* occur.

With these factors in mind, Singh (1987) finds that, compared to unrelated acquisitions, related acquisitions do in fact create extra value. The abnormal returns in the post-acquisition period are experienced more by the acquired firm than the acquiring firm, but nevertheless the net result is an

²¹ The ‘goodwill’ payment is the amount paid for a company above its book value

increase in shareholder value. Note, however, that the effect attenuates from the point of announcement. As this study covers more than just one year, the return attributable to each purchase may be expected to decrease with time. Similar results to those of Singh (1987) were found by Fowler (1988), although that study was on manufacturing firms. Harrison (1991), however, found that key differences between acquiring and acquired firms generate their own source of value. These studies found that specific shared resources provided a better explanation for financial performance than did typical merger and acquisition (M & A) synergies.

Yip (1982) finds that the choice between acquisition or direct entry into markets is often determined by the entrant's competitiveness. Firms that could be in a competitive position upon entrance would choose direct entry over acquisition. For "Big Tobacco", it makes sense that acquisitions are required for profitable entry. The cigarette has existed for at least two centuries and little innovation can be provided to existing markets, other than the e-cigarette. Similarly, Yip (1982) found that acquiring weak companies would strengthen a company's position and give it an opportunity to bolster its bottom line.

Interestingly, Jones (2000) found that, with reference to technological development, firms with greater internal resources than their peers typically choose internal development over acquisitions. The paper also finds that a firm's performance is typically negatively impacted by external acquisitions of technology. This does not seem to apply to "Big Tobacco", as they apparently choose to purchase firms with e-cigarette technology rather than developing their own. It may be that these acquisitions are a form of market consolidation, instead of technology sourcing.

Horizontal mergers occur when an acquiring firm purchases a company operating in the same operational space. Typically, they both offer the same product or service as competitors, and the purchase is attractive because of their cost-based or revenue-based synergies. Vertical mergers, on the other hand, represent acquisitions that occur between firms in different stages of the production process. Brush (1996) finds a positive performance synergy between horizontal merging firms, in some respects mirroring the findings of Fowl (1988) and Singh (1987). King (2004), on the other hand, finds that there are either zero or negative effects on financial performance in the post-acquisition period for horizontal mergers. However, King (2004) concedes that there may be other factors that his model does not account for, in particular the difficulty of organic, internally fuelled growth, and the more rapid access to resources provided by merger than by internal development. Both are unexplored and difficult to quantify in his study. Meador (1996) focused on the drivers of the choice of horizontal mergers over vertical mergers. For supply chain acquisitions, the study found that dividend policy was the most important variable in deciding whether or not a firm was likely to be the target of a takeover. That is, firms with reliable dividend payouts were seen to be more often targeted for acquisition. Meador (1996) also argues that this may be linked to profitability of a target firm, as dividends occur only when a firm is repeatedly profitable and able to make cash payouts.

The second most important factor is total assets. Increases in total assets were seen to negatively affect the probability of acquisition. This seems intuitive as larger firms require more investment from the acquiring firm. It does however, have interesting implications for this paper: the only acquisitions that are seen to have material effect on the bottom line of "Big Tobacco" are those of large firms. Smaller firms, although possibly easier targets, may offer little in the way of competitive advantage or market entry for the tobacco industry.

For horizontal mergers, Meador finds that asset growth and sales growth are the most significant variables that affect the probability of a takeover. Firms with older, undervalued assets are more likely to be targeted for takeover. Sales growth, in contrast to total asset growth, was seen to influence

positively the probability of a takeover. Firms that are able to generate sales growth more quickly were seen as attractive propositions. This is likely to be true of “Big Tobacco” acquisitions.

However, Meador (1996) finds few other significant variables that reliably affect takeover probability. Given that the study was conducted over a number of industries, it may be that vertical mergers are typically company specific, which would make the results difficult to interpret.

Uysal (2002) argues that acquisitions that are related geographically create higher returns than acquisitions that are geographically further apart. The paper concludes that higher value acquisitions are geographically linked because of information advantages. This was true for all acquisitions, whether vertical or horizontal. This was a very large study (over 3 700 acquisitions) and its findings may not apply to “Big Tobacco”. An older study conducted by Doukas (1988) finds that multinational corporations (MNCs) that conduct an international acquisition for the first time see very little in the way of abnormal returns, whereas companies that have purchased multiple international companies have a higher chance of subsequent abnormal returns. These abnormal returns are seen to be larger when the company invests in an economy less developed than that of the U.S. A. Hitt (1997) finds a decrease in returns the more a company diversifies internationally, though this is offset the more a company diversifies its products. This contradicts expectations of “Big Tobacco” synergy through acquisition, as will be discussed later in this chapter. Uysal (2002) also argues, against Singh (1987), that an acquisition need not be in related industry. Aybar (2009) finds that the same positive effects are not seen in emerging market multinationals, where international acquisitions can in fact destroy firm value.

Lamanen (2008) considers the case of serial acquirers, firms that rapidly and repeatedly acquire multiple firms. The study concludes that there is a clear negative correlation between firm performance and a high rate of acquisitions. Firms aiming to ‘manufacture’ earnings through serial acquisitions perform poorly subsequently. However, these negative effects are lessened by two factors: the acquiring firm’s size and acquisition experience. “Big Tobacco”, given the size and age of its firms, should see fewer performance drops. A longer-term study conducted by Fowler (1989) supports the idea that there are mitigating factors to the negative effects described by Lamanen (2008).

In summary, much has been written to explain the costs and benefits of corporate takeovers. Numerous studies find that related acquisitions are seen to increase the return on common equity (ROCE) more than unrelated acquisitions. The relative geographic location of the acquired and acquiring firms is on average seen as supporting an increase in ROCE. Shareholders expect an increase in ROCE, and revise their valuations upward, which leads to upward pressure on “Big Tobacco’s” stock price. Furthermore, acquisitions typically come from companies that do *not* offer a unique product, as the benefits of acquisition decrease with product distinctiveness (Singh, 1987). Firms that have extensive internal resources typically prefer internal product development over acquisitions. This should not be the case with “Big Tobacco”, however, as one would expect the benefits of synergy to be greater than the costs of product development, especially given the maturity of both the cigarette as a product and the surrounding tobacco markets. Strong dividends and growth in the assets and sales of the target firm are the most important factors in acquisition trends for both horizontal and vertical mergers. Although acquisitions can be lucrative, it must be noted that ‘serial acquirers’ (firms that seek to fabricate earnings through numerous acquisitions) may suffer as a result.

Before considering the acquisitions made by “Big Tobacco”, it is important to recognise the difference between an outright acquisition, a joint venture and a joint operation. An acquisition (at least in this context) is the outright purchase of a company. All assets, liabilities, income, and expenses are

included on the group's statement from the time the acquisition is complete. A joint operation, on the other hand, is an arrangement whereby the two parties have rights to the assets, and obligations for the liabilities, of the resultant company in proportion to their interests. Finally, a joint venture gives both parties the right to the *net* assets of the resultant company. While an acquisition offers synergies within the firm, joint ventures and joint operations offer an additional kind of synergy, one attained by working with a competitor in a particular market. Joint ventures and joint operations also offer the same benefits and suffer from the same drawbacks as an acquisition might, but to a different degree.

A summary of "Big Tobacco's" acquisitions from 2000–2016 can be found in Appendix 1A. Companies smaller than \$30 million at the time of purchase have been excluded. The commentary below, as well as the graphs showing market acquisitions, is derived directly from Appendix 1A. It is important to recall that PMI was founded in 2007 as a spinoff from its parent company, Altria. Purchases that were made in the international market by its parent company and given to PMI as part of the spinoff have been included in the acquisition table prior to PMI's formation. Appendix 1A is compiled from each of "Big Tobacco's" financial statements for the years in question. If more information was required, additional news articles, financial documents and items of acquisition were sourced.

There are three overarching trends in recent acquisitions by "Big Tobacco":

1. Acquisitions in the EU and the Americas are the highest in value, but are *not* the sole focus of Big Tobacco.
2. There is a lack of diversity in acquisitions, as most of the acquisitions are tobacco companies, logistics companies and, most recently, e-cigarette companies or brands.
3. The acquisitions by "Big Tobacco" appear to be aimed at a worldwide consolidation of the tobacco market, which may not yet be complete.

Purchasing of businesses is occurring in EU and the Americas in value, but across all markets in number

This section discusses findings of Uysal (2002) as to whether or not “Big Tobacco” acquisitions are related geographically. The multivariate analysis in the next chapter looks at the effects of these acquisitions, but there is no direct relation between the location of acquisition and current “Big Tobacco” trends. In fact, all the “Big Tobacco” companies have focused their investments—in terms of value—on the EU and the Americas. The Asian and European, Middle Eastern and African (EEMEA) market regions have not been neglected, however, as there are a similar number of acquisitions across all regions.

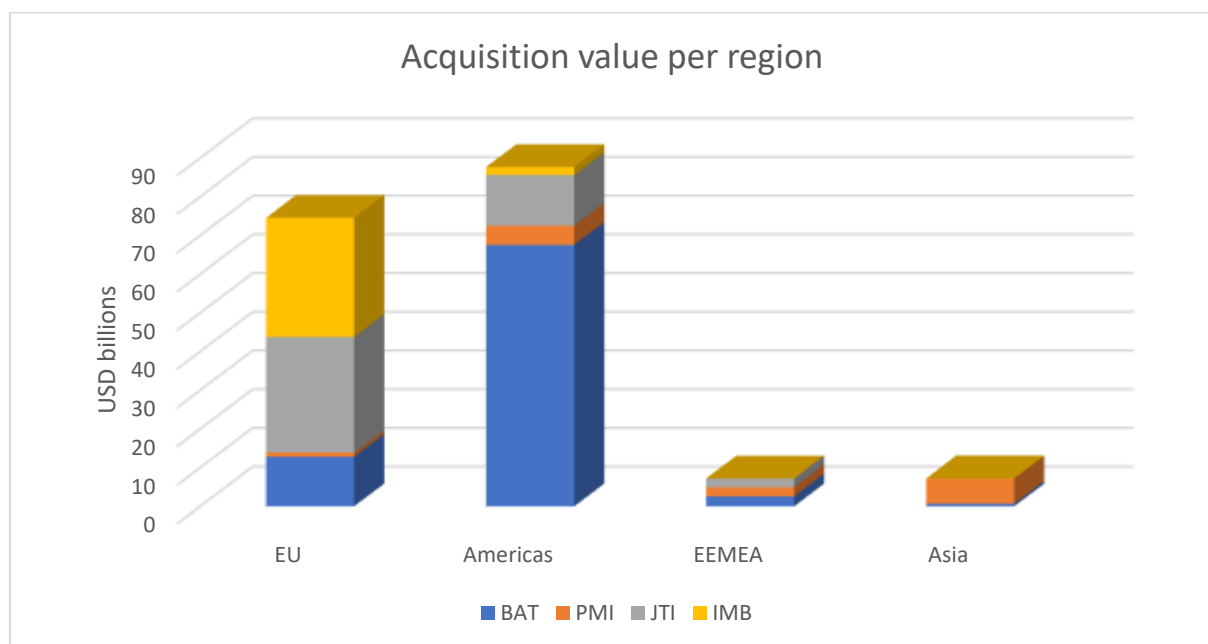


Figure 3: Total acquisition value per region

The figure above shows that “Big Tobacco” is acquiring companies of value in the EU and American regions, regardless of their domestic market. For example, the value of EU acquisitions is driven by BAT, JTI and IMB. Each of these three has European operations. IMB is based in the UK, JTI has a firm European presence owing to their previous acquisition of Gallaher, and BAT also operates out of the U.K.. Of the four “Big Tobacco” companies, PMI has spent the least on purchasing firms in the EU.

Over half of the acquisition value in the Americas is caused by a single acquisition, the purchase of Reynolds American by BAT. BAT previously had interests in America through their purchase of shares of Brown & Williamson, and maintained their interest by providing funding for Brown & Williamson’s purchase of Lorillard. Without the purchase of the remaining \$49 billion in RJR stock that BAT did not own, the Americas would be split roughly equally in terms of acquisition value amongst “Big Tobacco”. Each of the firms looks to consolidate their hold on the American tobacco market further.

PMI has followed a different strategy across all regions. It has spent a total of \$14 billion in acquisitions over the past 16 years. This is less than half the acquisition value of its nearest competitor, JTI. One would expect acquisitions to have less impact on PMI’s stock price over the long term than those of its competitors. Other drivers, such as corporate structure and profit margins, might be more essential

to PMI's success. PMI is, however, the main driver of purchases in Asia. PMI's return to the Chinese market—albeit limited—and expansion in other Asian regions helps explain its spending in Asia.

The U.S.A. and Europe are by far the most sought-after regions, in absolute terms, measured by acquisition spending. There are two likely reasons for this. In the first place, the European and American markets are well-established. Smoking prevalence is in fact decreasing, and the market is saturated with numerous cigarette brands that cater for the existing smoking population. To gain market share in these markets, therefore, companies need to purchase companies instead of increasing their brand internally. It is more difficult to increase profits in a market that is already saturated than in one that is not. One of the ways to deal with this is through merger synergy, either cost reduction or other logistical advantages that a merged firm might have access to. Brush's (1996) theory on horizontal and vertical mergers should, in theory, apply to "Big Tobacco" here. The EU and American markets have reached a point of consolidation, and one of the few ways to increase profits and growth is from streamlining the production and sales processes.

Secondly, there *are* in fact well established businesses that exist in developed markets. Smaller companies not yet owned by "Big Tobacco", such as those in developing countries—are unlikely to affect any of "Big Tobacco's" bottom lines materially, or cost more than \$30 million to acquire. These companies would therefore not appear in any of the financial reports nor in this study.

While both these arguments appear to fall down when the Asian market is considered, there are extenuating circumstances that make Asia a special case. Asia has a large, well-established smoking market that should, in theory, be an acquisition target for "Big Tobacco". However, the figure below shows that the CNTC controls the majority of the market. CNTC, as mentioned earlier, is a state-run organisation that is *not* eligible as a buyout target. This explains the low value of acquisitions in the region.

Market share of Big Tobacco per region					
	2010	2011	2012	2013	2014
<i>Asia Pacific</i>					
CNTC	66,30	67,40	67,40	67,80	68,50
PMI	8,10	8,40	8,60	8,10	8,10
JTI	6,20	5,20	5,20	5,30	5,10
BAT	4,60	4,50	4,40	4,40	4,30
<i>Total</i>	<i>85,20</i>	<i>85,50</i>	<i>85,60</i>	<i>85,60</i>	<i>86,00</i>
<i>Eastern Europe</i>					
PMI	27,00	26,90	27,30	27,20	28,30
JTI	27,40	27,60	27,80	28,50	27,50
BAT	19,40	20,00	20,90	21,20	21,20
IMB	12,40	12,30	11,90	11,40	11,10
<i>Total</i>	<i>86,20</i>	<i>86,80</i>	<i>87,90</i>	<i>88,30</i>	<i>88,10</i>
<i>Middle East & Africa</i>					
BAT	21,80	23,70	24,70	25,30	27,10
PMI	13,80	13,80	14,60	17,00	18,60
IMB	16,30	16,00	16,80	17,90	17,80
JTI	13,00	13,70	14,10	14,10	14,10
<i>Total</i>	<i>64,90</i>	<i>67,20</i>	<i>70,20</i>	<i>74,30</i>	<i>77,60</i>
<i>Western Europe</i>					
PMI	37,00	38,00	38,60	38,90	38,20
JTI	18,00	18,40	19,20	19,80	20,80
BAT	19,70	19,30	19,00	18,30	18,10
IMB	17,50	17,00	16,30	16,40	16,40
<i>Total</i>	<i>92,20</i>	<i>92,70</i>	<i>93,10</i>	<i>93,40</i>	<i>93,50</i>

Table 1: Market share of "Big Tobacco" over time

Source: Mackenzie (2017)

The distribution of market share in the figure above supports the theory discussed earlier. "Big Tobacco" is purchasing companies in well-developed markets instead of spending resources on new brand development, at least in the context of cigarettes. As cigarettes have been in these markets for more than 100 years, "Big Tobacco" does not have any entrant power. If the American and EU markets were still in a growth phase, it might have been feasible to enter the market with a unique product. Instead, "Big Tobacco" needs to enhance their position by way of acquisition. With reference to Meador (1996), the negative correlation between asset size and takeover probability is interesting here. Given the sheer size of "Big Tobacco" companies, it could be argued that total assets make companies more attractive. They offer the possibility of taking over entire regions, despite the high asking price. This is supported by Lemanen (2008), who finds that the negative correlation between the probability of takeover and asset size is negated if the firm is large.

While the logical next step would be to compare cigarette sales volume and acquisition areas, there is no reliable way to compare region to region between “Big Tobacco” companies. The first problem is that PMI and JTI are the only two companies to maintain the same sales regions over the period in question. Both BAT and IMB have reclassified certain areas to maintain a more level sales distribution. When a region is reclassified to include different countries, cigarette sales figures change. Any analysis would therefore not be valid. A second dilemma is the difference between each company’s core sales regions. Each company has its own target market and, therefore, focuses on key revenue areas. JTI is an example of this, as they classify the ‘rest of the world’ as one of their main sales areas, accounting for an average of 20% of total sales volume. IMB is far more particular, and lists sales volume by country, while BAT and PMI maintain a regional overview. Finally, there is also the problem of ‘acquiring’ sales. That is to say, an increase in a particular region may be due to a delay in taking on an acquired firm’s income revenues, and subsequently, their cigarette sales values. Appendix 1B shows sales volume and geographical classification changes over the past 16 years.

It is possible, however, to comment on how trends relate to “Big Tobacco’s” current operations. In the case of PMI, the majority of acquisitions have matched their tobacco sales in Asia. This is evidence that PMI look to expand their share of the Asian markets. This contrasts with the EEMEA region, where they have spent relatively little on acquisitions. BAT, on the other hand, has made a number of acquisitions in their smallest market, the U.S.A. and, more broadly, the Americas. IMB has used a somewhat mixed strategy, furthering their interests in their key markets (Spain and Germany), while acquiring firms in the U.S.A. to continue their growth in the Americas. JTI has aggressively pursued outside markets over the period in question. Their *rest of the world* region, which started at 15% of total cigarettes sold, grew to just over 37% by 2016. This shows the importance of JTI’s strategy of moving abroad because of Japan’s stagnating domestic market. Looking forward, we may see CNTC follow a similar strategy. This is discussed further in the market consolidation section below.

Lack of diversity in acquisition

Another overarching trend of “Big Tobacco” is the lack of diversity in their acquisitions. Unlike the trends of the 1960s where “Big Tobacco” purchased food, paper, and alcohol companies, the trend seems limited from 2000 to 2016. Acquisitions are more focused on tobacco-related products. This includes not just cigarettes, but cigars, snuff, and electronic nicotine delivery systems (ENDS). We also find extensions into the logistics business. Similarly, “Big Tobacco” has focused on diversification by market segment and geographical segment.

Diversification by market segment

All of the “Big Tobacco” companies have continued their trend of separating their premium and lower-margin cigarettes, and this has shown in their acquisitions. IMB has purchased Altadis and JR Cigars. Both have premium and lower-margin cigarettes. This strategy is reflected in their financial statements too, as they differentiate between *growth* brands and *specialist* brands only. This is in contrast to the rest of “Big Tobacco”, who still disclose sales by brand.

Diversification by geographical segment

Appendix 1A shows that acquisitions are happening in all regions in similar numbers. Although the figure shows the EU and the Americas as being the key acquisition areas, this is not to say that other regions have been ignored. There are roughly 15 acquisitions for each of the regions, all valued at over \$30 million, but with costs varying significantly.

These results are similar to those of Liemt (2002), in that “Big Tobacco” has looked to counter its stagnating markets by expansion into other regions. JTI started by purchasing the international branch

of RJ Reynolds, and went on to purchase Gallaher, Gryson NV, and Arian Tobacco. These are all firms geographically far from Japan’s domestic market. BAT has some of the furthest-reaching corporate ventures, and have continued to expand in the past 16 years. Investments in Canada, Italy, the U.S.A., Turkey and Brazil have furthered their interests outside their domestic U.K.. market. PMI have made significant investments in Indonesia, Mexico, Canada, and the Philippines. While not an acquisition, PMI’s investment in the Chinese market since its semi-liberalisation signals PMI’s intention to continue spreading its interest outside its primary market. IMB is no different, as their investments in the U.S.A., Spain and Germany have helped offset the stagnating markets in the U.K..

Diversification by non-tobacco product

Liemt (2002) found that most “Big Tobacco” companies were embarking on a strategy of buying foods and breweries during the early and late 1990s. Since the spinoff of PMI, very little of this has continued. PMI, BAT and IMB have consistently focused on tobacco as their main source of revenue, and acquisitions have mirrored this. While JTI maintains a small share in the food and pharmaceutical markets, no new acquisitions valued at \$30 million or more were made during the period in question.

The only area in which “Big Tobacco” has made considerable acquisitions is in logistics. The table below summarises logistic acquisitions from 2000 to 2016.

PMI	Company Targeted	Acquisition type	Country	Region	Cost associated
2013	Megapolis – part purchase of 20%	Acquisition	Russia	EEMEA	\$750 million
JTI					
2013	Megapolis 20% share	Acquisition	Russia	EEMEA	\$750 million
2016	Fluxo Brasil Distribuidora do Produtos	Acquisition	Brazil	Americas	Undisclosed
IMB					
2008	Altadis	Acquisition	Spain	European Union	\$17 billion
2008	Logista ²²	Acquisition	Spain	European Union	\$1.3 billion

Table 2: “Big Tobacco” diversification in non-tobacco companies

Note that, at the time of acquisition, the subsidiary logistics business Logista accounted for 20% of Altadis’ total revenue. IMB made the decision to pursue Logista in its entirety by purchasing the outstanding shares for \$1.3 billion.

The logistical sector seems an intuitive extension for “Big Tobacco”. Not only do they provide a cheaper alternative to outsourcing transportation and delivery across the supply chain, they are to a degree hedged against a tobacco downturn, as they do not rely solely on tobacco distribution. BAT is the only “Big Tobacco” company not to engage in any acquisition in the logistics industry, and has continued its strategy of outsourcing logistics.

²² Those shares that were not originally owned by Altadis at the time of acquisition; the remaining 40%

Diversification by tobacco product

“Big Tobacco” has continued the trend that Liemt (2002) first noted, diversification outside the cigarette market into other tobacco products. Cigars, menthol cigarettes, snus and e-cigarettes have all been targets of acquisition by “Big Tobacco”. IMB, for example, purchased Commonwealth Brands in 2007. Although Commonwealth Brands mainly focused on cigarette sales, there was a considerable portion devoted to cigar and hand-rolled tobacco. Just two years later, IMB purchased JR Cigars & MCM Management, again with a focus on alternatives to the cigarette market. Similarly, JTI purchased Gryson NV, a company with a focus on hand-rolled or make-your-own cigarettes. Sales of papers, tubes and other accessories form part of the company’s base.

One of the more recent categories for expansion is alternative ways of tobacco heating. Electronic cigarettes (commonly e-cigarettes), vapourisers, or ENDS systems are battery operated devices that offer alternative means of nicotine delivery, without burning tobacco. The market is broadly divided into two groups. The first consists of e-cigarettes. These devices are often called cig-alikes, as they closely resemble traditional cigarettes, but without the smoke that is characteristic of tobacco burning. Instead, they produce a nicotine-infused vapor that the user inhales. Vaporisers, on the other hand, look very unlike a traditional cigarette. While vapourisers can also produce a nicotine-infused vapour, they are able to vapourise a number of different liquids, waxes, oils or dry herbs as the name suggests. E-cigarettes, however, focus on the heating of nicotine.

There were 466 brands of e-cigarettes, with 7 764 unique flavours in 2014 (Zhu, 2014). With such variety in selection—in contrast to cigarettes—e-cigarettes have had much success in online sales. Most of the success of e-cigarettes is driven by the ‘modular’ sub-category, vaping devices that have a higher initial cost, but are cheaper to maintain.

The e-cigarette and vaping market was valued at around \$7 billion in 2016. Estimations concur that a 20% compound annual growth rate (CAGR) would put the industry at around \$50 billion in 2025. With BAT’s estimate of the global cigarette industry at \$700 billion, and the non-cigarette tobacco industry at \$70 billion, the e-cigarette industry is rapidly becoming competitive. The implication of this is far-reaching. “Big Tobacco” needs, either organically or through acquisitions, to develop in-house competitors in the e-market. “Big Tobacco” has followed a strategy of both acquiring and developing new technologies.

BAT	Company Targeted	Acquisition type	Country	Region	Cost associated
2012	CN creative	Acquisition	U.K.	European Union	\$65 million
2016	Ten Motives	Acquisition	UK	European Union	\$72 million
PMI					
2014	Nicocigs Limited	Acquisition	U.K.	European Union	\$103 million
JTI					
2011	Ploom	Minority stake acquisition	Japan	Asia	Undisclosed
2014	Zandera	Acquisition	U.K.	European Union	Undisclosed; Estimated \$100 million ²³
2015	Ploom tech ²⁴	Acquisition	U.S	Americas	Undisclosed
2015	Logic	Acquisition	U.S	Americas	Undisclosed
IMB					
2013	Dragonite International E-Vape	Acquisition	U.S	Americas	\$75 million
2015	Reynolds American <i>blu</i> , and four other brands	Acquisition	U.S	European Union	\$7.1 billion

Table 3: “Big Tobacco” purchases in the e-cig market

Each of the “Big Tobacco” companies has found the e-cigarette and vaping markets to be important to future revenue. Given the industry growth projected above, one would expect numerous acquisitions in the e-cigarette and vaping markets, as “Big Tobacco” companies look to maintain their position in the market and gain a competitive edge in the early stages of development, for which costs are high.

It is important to note, however, that the table above only outlines the acquisitions of e-cigarette or vaping companies. This is not to say that “Big Tobacco” have not invested in their own in-house brands. Each firm has taken its own approach. Although PMI has spent less than its competitors on purchases in the vaping industry, they invested over \$3 billion in the development of their in-house e-cigarette,²⁵ the iQos. Considering that the market is valued at only \$7 billion today, this suggests that PMI views the industry as important for future growth. JTI have opted to purchase existing technology by Zandera in the e-vaping market, and Ploom Tech in the vaping market. Their acquisition of Logic in the U.S. allowed JTI to become the third biggest seller of e-cigarettes in the country. BAT has invested considerably in Vype, after acquiring its creator CN Creative just a year before the product was released. IMB have followed a similar strategy to that of JTI by acquiring the already established brand *blu*, and maintaining investment thereafter.

²³ Multiple of E-Lites yearly revenue of \$26 million.

²⁴ Name changed to Pax-labs.

²⁵ The iQos does contain real tobacco, however, unlike other e-cigarettes.

Larger acquisitions signal worldwide market consolidation

BAT, PMI, IMB and JTI control roughly 40% of world tobacco by market share. Adding CNTC, the top five tobacco companies control over 80% of the global tobacco industry, on aggregate. While 80% may seem high, some countries have a single firm or government organisation in control of their domestic market. Acquisitions in the past 16 years have shown a trend of industry consolidation, as each of the TTCs has acquired many of the market leaders in each region. The EEMEA, the EU, Americas and Asia have each seen multiple acquisitions that have helped confirm “Big Tobacco’s” control of the global market.

Fifteen years ago, the top five consisted of Philip Morris,²⁶ British American Tobacco, Japan Tobacco, Reemsta and Altadis. Only the first three remain as the industry has continued to consolidate. Reemsta and Altadis have both been bought out by what is now Imperial Brands, the latest addition to “Big Tobacco”. The magnitude of recent acquisitions is therefore a strong indicator of consolidation. The top five acquisitions by “Big Tobacco” over the period cost \$95.6 billion, whereas the smallest five acquisitions only cost \$194 million. This gap in value between the top five and bottom five signals the maturity of the tobacco market. It is also important to remember that this gap does not show the fullest extent of the disparity between purchases, as our study is limited to purchases over \$30 million, and is seen to have material influence on revenue for each of the “Big Tobacco” companies.²⁷

For the majority of the larger acquisitions, the purchase has helped consolidate market position in a given region. For example, BAT, PMI, JTI and IMB have all aimed to consolidate their market power in each region in which they operate. JTI’s purchase of the international branch of RJ Reynolds helped expand its array of brands sold internationally. The purchase of Gallaher seven years later for \$14 billion again helped consolidate its hold in the European market, while its purchase of Natural American in 2016 furthered its interests abroad with the American brand of cigarettes. The situation is similar for the other “Big Tobacco” companies. BAT has furthered its interests in Canada, Italy, Denmark, Brazil and the U.S.A. IMB has purchased Reemtsma in Germany, Altadis in Spain, and various brands from Reynolds American, again to increase its portfolio of brands abroad and consolidate its position. PMI purchased tobacco companies in the Philippines and Indonesia. All of these purchases have been at least \$1 billion in value, and in markets that the firms look to become market leaders in.

The trend seems to have begun even before the 2000s. Liemt (2002) finds that consolidation started accelerating in the late 1990s, as the size of the acquisitions steadily increased. This in turn made the contribution of acquisitions to the marketing global brands ever more important and economies of scale from these mergers more beneficial. By lowering the number of manufacturing locations and increasing efficiency at each, companies were able to increase their bottom line.

Liemt (2002) points out that consolidation occurs in multiple ways. First, smaller businesses are purchased by slightly larger ones. In the European context, for example, Austria Tabak purchased the cigarette activities of Swedish Match. Austria Tabak was then bought out by Gallaher which was, in turn, purchased by JTI in 2007. The trend has continued through all of “Big Tobacco”, as there has been both vertical and horizontal integration for IMB, BAT and PMI over the past 16 years. After having possibly been called in for advice on farming, manufacturing or some other aspect of production, the multinational would soon embark on a joint venture with, or acquire equity stake in, the company. As the company grew in production efficiency in each market, it would become a possible takeover target by a larger tobacco firm. Although Appendix 1A is restricted to purchases over \$30 million, the consolidation process shows a snowball effect—purchases of smaller companies are followed by

²⁶ Prior to the Philip Morris International spinoff in 2007, Phillip Morris was the parent company.

²⁷ Appendix 1A is therefore a non-exhaustive list of all acquisitions.

larger ones as they become more attractive in production efficiency. Liemt (2002) also points out that multinationals offer what smaller investors cannot. Once a company has grown (through acquisitions or internal growth) to a point at which the domestic market is saturated, the only entity that is able to offer the required funds for efficiency improvement to an international scale is a multinational “Big Tobacco” company. Smaller domestic investors, or even the State, are unlikely to be able to fund the investment in new equipment that would allow competitiveness in the open market.

The benefits of a purchase were not felt only by the multinational, however, as the advantages for the firm being purchased are just as important. The increase in investment would help them upgrade their production facilities and improve efficiencies all along the manufacturing line. Liemt (2002) notes that this is typically accompanied by more training for their employees, a more modern distribution system (if it is outdated) and updated information systems. The transfer of knowledge would also increase efficiency and in turn, profit margins.

The second way consolidation has occurred in tobacco is on the national level. State monopolies have been purchased—to a degree—by large multinationals, thereby opening their markets to competition abroad. A good example of this is JTI, which was originally a state-run monopoly. However, the Japanese government has retained at least a 30% share in the company. Liemt (2002) also finds that privatisation is often accompanied by trade liberalisation. This applies to JTI’s expansion into the international market, while IMB, BAT and PMI were all formed through free-market competition.

Finally, Liemt (2002) finds that consolidation has occurred when firms have targeted their own domestic markets. JTI is again an example, as it was only once their domestic market began to stagnate that they looked abroad (Mckenzie, 2017).

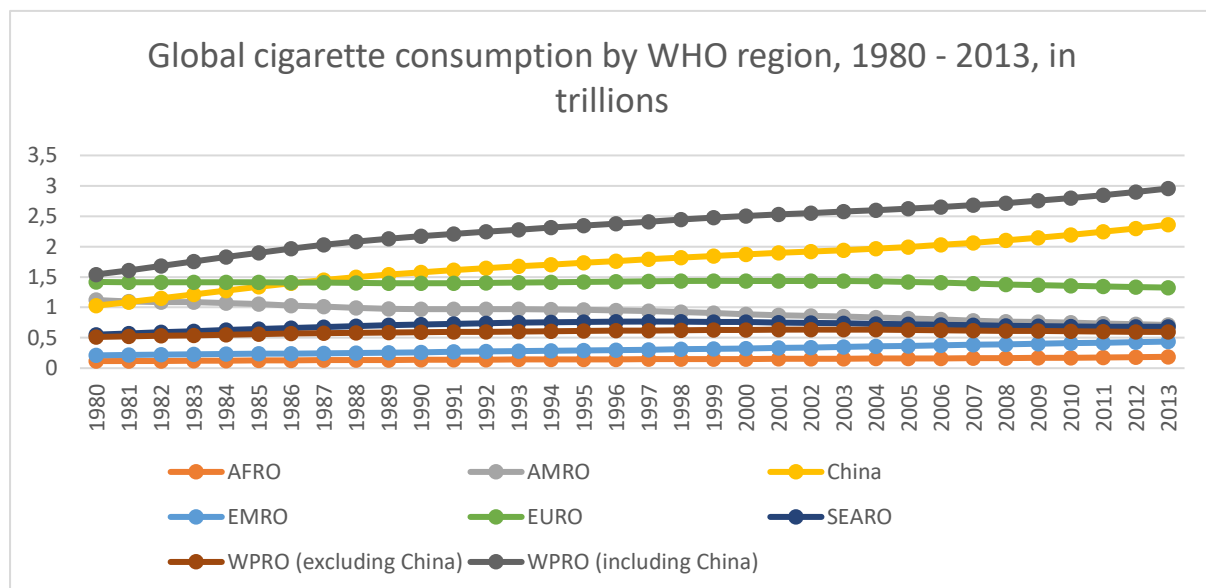


Figure 4: Global cigarette consumption

Source 1: The Tobacco Atlas (2017)

One of the reasons “Big Tobacco” has had to look outside its original market to expand its earnings is the worldwide trend of cigarette consumption. The WHO have found a significant decrease in smoking prevalence across the globe. As shown in the figure above, the only strong upward swing in smoking prevalence occurs in China. This is caused by population growth as well as an increase in the number

of cigarettes being smoked per person. According to the WHO, the average Chinese smoker now smokes 50% more than he or she did in 1980.

While it may seem strange that CNTC has the largest global market share (see figure 5 below), this is because CNTC has a state-controlled monopoly of the Chinese market. Although PMI has recently re-entered the Chinese market, CNTC is in control of the largest market of cigarettes in the world, producing around 2.5 trillion sticks per year. China is the top consumer of cigarettes, consuming ten times the number as its nearest competitor, Russia (Euromonitor, 2015). CNTC is also in control of all aspects of production, allowing it stronger margins from tobacco farming, as well as from distribution of the final product.

The rest of the “Big Tobacco” companies, however, have had to look elsewhere to maintain their revenues. Table 1 shows this occurring in all regions. The Asian Pacific region has become increasingly concentrated, with CNTC maintaining its powerful position through its influence in China. Most of Europe has remained stagnant in terms of “Big Tobacco” power, with Western Europe being almost entirely controlled by the big four. The Middle East and Africa have shown a strong decrease in free market competition from 2000 to 2014. The latest, and largest acquisition to date, is currently underway, with BAT consolidating its position in the American market.

In some respects, these results seem intuitive. Liemt (2002) points out that, in order to be profitable, cigarette production needs to be at high. With smoking prevalence falling, there are only two ways to maintain positive profits: either companies must increase profits on existing cigarette sales or purchase existing businesses in order to maintain output. While the former is discussed later in this chapter, an increasing tendency to acquire competitors has been seen over the past 16 years.

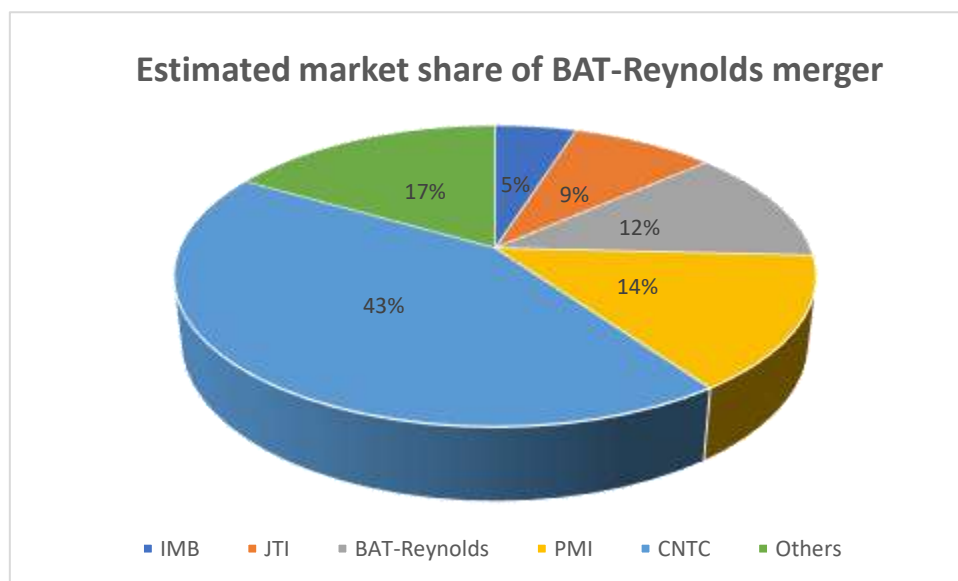


Figure 5: Bloomberg estimates of global tobacco market share
 Source 2: Chambers (2016)

The latest and largest of these acquisitions has been the BAT-Reynolds merger. Finalised in 2017, BAT has made a move to confirm its interests in the U.S.A. and to challenge its competitor PMI in terms of revenues declared. The sort of large-scale acquisition completed by BAT supports Liemt (2002)’s analysis of falling prevalence and limited output. This does not imply that market consolidation has

reached its summit, however, as many market analysts have noted that IMB is a potential takeover target.

Mirroring the consolidation of the alcohol industry,²⁸ investors have hedged against a move from four to three major international tobacco companies. If IMB were to be acquired, it would dwarf the Reynolds American takeover by about \$20 billion. With a typical industry premium of around 30%, this would be the largest takeover to date.

IMB is attractive for a number of reasons. Imperial is the smallest of the “Big Tobacco” companies. In fact, the next largest company, JTI, is almost twice its size. Ease of takeover therefore gives the edge to the top three tobacco companies. Secondly, IMB is focused in the heavily-segmented European market. This means that there are more gains to be had in the way of post-merger synergies. More effective routes to market interactions for the acquiring firm’s brands are also expected in the region. Finally, Price/Earnings (P/E) ratios of the industry currently average around 22. With Imperial’s earnings per share (EPS) having fallen over the past year, their P/E hovers around 15. Combined with a weakened pound, this makes takeover costs easier on the acquiring firm.

As attractive as IMB might seem, there are a number of difficulties that would need to be overcome before the acquisition would be possible.

1) Cost concerns

PMI is excluded from extending its reach in Europe as it has negative shareholder equity. This is discussed further in the next section but, in summary, despite PMI’s strong cash flow, it has very little ability to raise further capital. Leveraged buyouts, depreciation and adjustments to intangible assets typically contribute to a net negative shareholder equity. A takeover by BAT is dismissed by most because of the number of its recent acquisitions. Its recent purchase of Reynolds American makes it highly unlikely that BAT would be able to maintain strong financial indicators if it tried to raise further debt and equity. JTI is excluded for another reason. As Japanese law requires JTI to be at least one-third owned by the State it cannot dilute its common stock in order to raise funds to purchase IMB. While a share buyback would mean that they could maintain the state share, JTI has not historically conducted many share buybacks, unless they were shares sold by the State.

Although IMB is an attractive target at the moment, it is unlikely that any of the “Big Tobacco” firms will be able to overcome their financing constraints.

2) Anti-trust issues

If any of the three were able to raise enough capital for the purchase, they would have to navigate anti-trust legislation. Given that each of the three possible acquirers have interests that overlap with IMB markets, it is likely that a geographical dividing of the assets would be a condition of the merger. The acquisition would risk breaching monopoly thresholds in various regions, depending on which company was the purchaser. PMI would have anti-trust issues in Germany and France, while JTI would have difficulties in Spain and Britain. BAT also would face problems, as their interest in Europe and the American interests acquired through Reynolds American would conflict with IMB’s ITG Brands.²⁹

²⁸ AB InBev’s \$100 billion purchase of SAB-Miller.

²⁹ Imperial Brands U.S.A.

3) Valuation problems

In addition to the direct cost issues, the acquiring firm would face a number of valuation issues. The most important of these is how to price the synergies they expect to attain in the post-acquisition period. Differences are also expected between the developed and developing countries in which Imperial is present. This problem is vital as the goodwill the acquirer would pay for Imperial is related to the expected synergy value of the merged firm. If the acquisition is mispriced, the post-merger synergies will be outweighed by the cost of IMB. This implies a net decrease in the bottom line for the purchasing firm, and a following share price downgrade as investors expect less from future revenue streams.

Although it is unlikely that any of the big three tobacco firms would be able to purchase IMB in the foreseeable future, there is nevertheless one possible contender. Many industry analysts consider that CNTC is unlikely to shift its focus to the international horizon. However, the Chinese market is always changing, and a number of previous barriers to entry or expansion no longer exist. The shift toward a more liberal market started in the late 1990s, as pressure from the impending accede to the WTO meant that the CNTC needed to prepare for liberalised markets. Fang (2016) finds four key areas that CNTC have focused on as the company moves from its sole focus on the domestic market to a 'go-global'³⁰ multi-market approach.

The restructuring of the Chinese tobacco industry was the first step, and was intended to undo the protectionary measures introduced by provincial governments in the 1990s. The State Tobacco Monopoly Administration (STMA) saw the domestic tobacco market as fragmented and inefficient compared to the established global market. With WTO accession on the horizon, the STMA categorised each firm by size, and assigned it one of four categories. The smallest firms were to declare bankruptcy, and medium-sized firms were to be absorbed by other provincial, regional, or even inter-provincial firms depending on their size. This helped reduce the number of firms in the Chinese market, and provide many of the economies of scale advantages a larger firm would have. A similar process occurred for the manufacturing and distribution arms of the tobacco industry. STMA's vision was to reduce the production process to three tiers. Municipal factories would act as subsidiaries of provincial factories, as the latter would act as subsidiaries of CNTC. Fang (2016) notes that CNTC may follow JTI in allowing the most successful of firms to become publicly listed.

³⁰ CNTC's corporate strategy of expanding international operations.

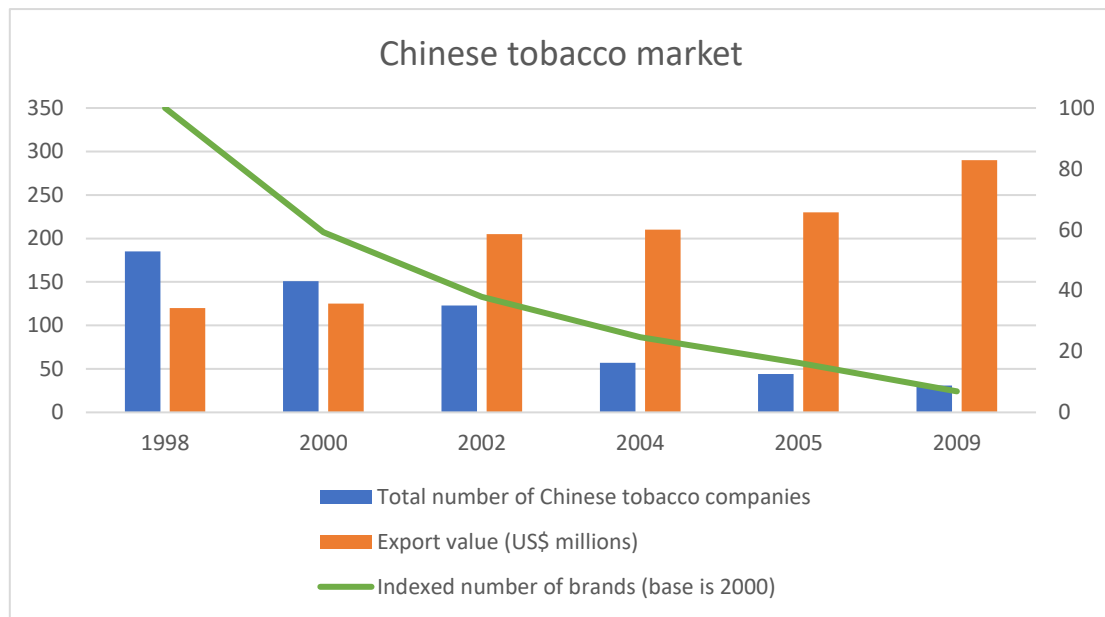


Figure 6: Chinese export value, brands, and number of tobacco companies

Secondly, CNTC changed its product development, specifically segmenting its branding, with fewer brands each targeting a particular market. They chose to have one brand that had mass appeal, a second brand that favoured international markets, and a more expensive premium brand. With fewer brands in production, factories would see further economies of scale.

Thirdly, CNTC began the expansion of Chinese cigarette exports. CNTC established the China Tobacco Import Export Group (CNTIEG) to head up international operations. CNTIEG's focus in 2011 was threefold: to establish distribution networks in new countries, to license local manufacturing, and to establish local production facilities. Although cigarette exports amount to very little of CNTC's total production (5.08% as of 2013), exports have grown by over 60% from 2004 to 2013.

Finally, CNTC has focused on establishing of foreign-based operations. Before the 1990s, foreign operations were limited to Asia. Fang (2016) notes that a change occurred in the mid-2000s, as CNTC looked to expand its networks with established TTCs. Trade agreements were signed with PMI and, before that, Gallaher to distribute CNTC's brands in international markets. At the same time, Marlboro was legally allowed to be sold in China. CNTC also looked to source tobacco leaf from countries like Brazil, the U.S.A. and Zimbabwe (Fang, 2016). The logical next step would therefore be for CNTC to begin merger and acquisition proceedings on a number of international medium sized tobacco companies.

The company has very few financial constraints, as they have not completed any costly acquisitions recently and are able to raise more funds if required. Similarly, CNTC would not violate any of the anti-trust restrictions discussed earlier. This would not be the case for BAT, PMI and JTI. With no material presence in the form of brand production in other regions, CNTC would not be subject to a requirement for a geographical carve-up. Without any geographical limitations, the merger synergies would not be diminished, making IMB an even more attractive target. Finally, the move would suit CNTC's recent strategy of expanding its international horizon in all respects. IMB would offer a competitive position in the European tobacco market, and would be a strong platform on which to base CNTC's move abroad, provided the price was reasonable.

In summary, the acquisitions of the past 16 years have aimed to consolidate the tobacco industry. “Big Tobacco’s” strength has increased in all regions, as smoking prevalence slackened everywhere, except in China and some African markets. Purchases have been used to expand international operations or to consolidate within a particular domestic market. This has typically occurred through a snowballing effect on purchases, either from the liberalisation of state monopolies or from previously domestic-focused companies beginning to look abroad. Larger acquisitions may continue in future, as IMB seems an attractive target. CNTC is the only competitor who could realistically purchase the company outright, however.

The last 16 years have seen “Big Tobacco” conduct a number of acquisitions. Almost all of the material acquisitions have been in the same industry, and in similar geographic location to other established tobacco markets. Gains from these purchases are expected to affect revenues positively through vertical and horizontal synergies and, in turn, support the bullish sentiment seen in financial markets. Purchases have predominantly focused on the consolidation of well-established markets, where there are no state-imposed barriers. “Big Tobacco” has also moved to acquire firms in the e-cigarette industry. Corporate interest in the developed world has made IMB an attractive takeover target. However, developing tobacco markets have not been neglected, as the growing tobacco base has been accompanied by a number of acquisitions of lesser value. In terms of acquisition value per firm, PMI’s acquisitions in this period were considerably less in value than those of the other “Big Tobacco” companies. Other stock price drivers would therefore be likely to be more prominent for PMI.

Chapter 4: Leverage

The balance between debt and equity has direct implications for stockholder returns. The following section identifies theoretical reasons for this, and then discusses similar academic and empirical studies. It explores why varying leverage ratios are targeted, and how this impacts stock returns. The section then considers equity and debt changes for the “Big Tobacco” companies, and how these may have influenced their stock prices.

To understand why higher debt might be attractive to shareholders requires consideration of the weighted average cost of capital (WACC). WACC represents the return required to satisfy a company’s debt and equity stakeholders, after having taken into account the effect of tax. Any return that a company achieves above this rate is owned solely by the shareholders. A lower WACC is therefore desirable from a stockholder point of view. The formula for this is:

$$WACC = \frac{E}{V} \times R_e + \frac{D}{V} \times R_d \times (1 - T_c)$$

Where E is the market value of the firm’s equity, D is the market value of the firm’s debt, and V is the total value of E and D combined. R_e represents the required return on equity, and R_d is the required return on debt. T_c is the corporate tax rate.

Typically, R_e is estimated by the CAPM³¹ formula, as investors are compensated for risk that cannot be diminished through the diversification of a well-balanced stock portfolio. R_d is estimated by using the current market rate of debt, and T_c is given. Each of these factors typically does not change substantially.

The share of equity and debt can fluctuate with time. This mixture of debt and equity represents the firm’s capital structure. As debt is typically cheaper than equity funding, the optimal solution would seem to be to fund solely by raising debt, resulting in the lowest possible WACC. The implications for a debt-funded firm can, however, be dangerous.

Korteweg (2010) explains the advantages and disadvantages of conservative and aggressive financing. In the first place, a more debt-focused firm gains the benefit of a tax shield. That is, debt offers a tax deduction on earnings, as it is factored down³² by the corporate tax rate. Similarly, it does not dilute shareholders’ ownership position and is therefore an attractive source of funding as it allows a set pool of net profits to be divided equally amongst a smaller pool of equity holders. It also counteracts the agency problem by reducing cash flows. Debt investors are considered more moderate in risk appetite than equity investors and, therefore, seek to limit the effects of the principal-agency problem. These advantages are offset by the direct costs of bankruptcy, as well as the indirect costs. These include debt overhang (the denial of further debt funding because of a company’s already large debt pool), asset substitution (where shareholders prompt a company to invest in riskier assets and, in turn, face a higher risk of bankruptcy), and asset fire sales (selling goods at a drastically reduced price to cover the costs of bankruptcy, or to raise funds in the short term because of a lack of other funding options). Korteweg (2010) notes that in more concentrated industries, these indirect costs are felt to a greater degree.

³¹ The Capital Asset Pricing Model. This refers to the formula: $R_e = R_f + \beta(R_m - R_f)$.

³² Reference to $1 - T_c$.

Korteweg (2010) goes on to conclude that there is, in fact, an optimal balance between debt and equity which is company specific. Net benefits are high for low-debt firms, but decrease when leverage becomes high. Similarly, smaller firms and those with higher profits have higher optimal debt financing. Optimal leverage is positively related to tangible assets, and negatively related to depreciation, profit volatility and market-to-book ratios. While “Big Tobacco” may have a large portion of goodwill (an intangible asset), each of the firms in question should not suffer from depreciation, profit volatility due to their geographical diversification, or market-to-book ratios.

MacKay (2005) agrees with Korteweg (2010) with reference to leverage being higher and less dispersed in concentrated industries. This contrasts with more competitive industries, where whether a firm is an entrant, incumbent or existing firm determines its leverage ratio. Other firms’ actions, and their proximity to the sector’s capital/labour ratio, also are seen to influence a firm’s leverage ratio. Further factors include the median industry leverage, the market to book asset ratio, asset tangibility, profits, log of assets, and expected inflation, as has been shown empirically by Frank (2009). Empirical research supports the conventional trade-off theory of capital structure. One would expect, given the high concentration of “Big Tobacco”, that leverage has increased with time. Similarly, given the concentration of the market, “Big Tobacco” should be able to influence the sector ratios to a large extent, and therefore not be looking to move toward an industry-optimal debt ratio.

Opler (1994) argues that highly leveraged firms lose substantial market share to their more conservatively financed competitors, especially during sector downturns. This is particularly applicable to “Big Tobacco”, for two reasons. One might expect to see a moderately-financed “Big Tobacco” sector as the firms should be well-hedged against sector downturns by the volume and diversity of sales. This may partly explain at least some of the acquisitions previously discussed. Given that smoking prevalence is falling on the whole and the cigarette industry is shrinking in some areas, it may be that “Big Tobacco” has looked to acquire its smaller competitors that have been highly leveraged. Although the exact financial position of each company acquired is not listed, it does seem a natural extension of “Big Tobacco’s” acquisition spree. Opler’s (1994) opinion on the indirect costs of leverage is confirmed by Korteweg (2010).

Dittmar (2004) notes that in the case of a corporate spinoff (such as the formation of PMI in 2007), companies typically start with a lower leverage ratio than their parent company. The fundamental driver of leverage in the case of a spinoff is similar to that of a typical firm, and relies on growth opportunities. This is supported by conventional corporate finance theory, and also provides some insight into why leverage might be associated with a decrease in profits.

Empirical evidence linking leverage and stock prices has been found. Rong-Jen (1991) finds that there is a positive and statistically significant relationship between stock price risk and degree of combined leverage (leverage that encompasses both operating and financial leverage). Too much debt is not without a negative side, however, as companies struggle to adjust to a more optimal debt ratio. Denis (2012) finds the process of debt removal is often lengthy, and is typically not the result of attempts to move toward an optimal debt ratio. Rather, it depends on whether or not the firm is generating a financial surplus with which to pay back the debt. Given “Big Tobacco’s” ability to generate strong financial results, debt spikes caused by new projects or acquisitions should taper off quickly. Similarly, they should experience a relatively stable debt ratio over the period, and any disparities should decrease with time.

Typically, an investor looking to purchase a stock is interested in the stock because of either its growth nature or value nature. A value stock is seen as a worthwhile investment based on its deviation from its fundamental price, i. e. when a firm has its stock value suppressed by market forces, but still

maintains all the promise of tangible assets and strong cash earnings. Examples include firms such as Standard Bank, or Wells Fargo during the 2015-2017 period. A growth stock, on the other hand, is picked for its potential growth in earnings and size. Low dividends are a typical by-product of growth firms as they look to reinvest their earnings in the company. Typical examples include Amazon or LinkedIn over recent years.

Ozdagli (2012) attempts to explain the source of the market value premium for the two groups. The study finds that market leverage (debt-to-assets ratio using market values) explains a large portion of the value premium. Typically, firms with a higher book-to-market value (value firms) have higher expected stock returns than their lower book-to-market ratio counterparts (growth firms). However, Zhang (2005) stresses that growth firms derive their value from growth possibility, whereas value firms derive theirs from assets in place. Growth firms therefore have expected returns higher than those of their value-oriented counterparts. This apparent contradiction is known as the premium puzzle and is the reason that more recent literature includes measures of assets and company size to predict stock returns. Ozdagli (2012) shows that leverage explains the market premium of value and growth firms, by weakening the relationship between book-to-market values and returns. With “Big Tobacco” well established, and having reliable earnings and dividend payments, the firms should be consistent, with debt financing matching that of value firms. However, some deviation may be found around larger acquisitions.

Weill (2007) investigates whether institutional environment affects corporate performance. Access to credit and to legal advice is seen to materially affect leverage and, in turn, corporate performance, depending on the country. This should not influence “Big Tobacco” to the same degree, because of its high level of geographical diversification and access to credit from multiple sources.

In summary, there are numerous advantages to pursuing an aggressively-g geared debt to capital ratio. However, WACC may fall, and too much debt can be destructive to shareholder value creation. Typically, higher-leveraged firms are in a position of market power, but will be more susceptible to market fluctuations. Changes in the equity/capital mix will be investigated below.

Data Manipulation & Interpretation

All data and ratios for the figures and graphs in the rest of the chapter are drawn directly from Bloomberg Terminal. The period is 1997 to 2016 where all data are available. Where less data are available, the longest possible time period is used. Where manipulation is not discussed below, data are taken directly from Bloomberg.

Long term(LT) & Short term(ST) Debt Percentage

Long-term and short-term debt percentage represent the breakdown of total debt. Each is calculated as:

$$\text{Long term debt \%} = \frac{\text{Long term debt}}{\text{Long term debt} + \text{Short term debt}}$$

Bloomberg outlines LT and ST debt by value. These are converted to percentage here for the sake of comparison. The same applies to the calculation of short-term debt percentage, which is:

$$\text{Short term debt \%} = \frac{\text{Short term debt}}{\text{Long term debt} + \text{Short term debt}}$$

Debt/Capital Ratios

This study uses debt/capital ratios to make a comparison between all of the “Big Tobacco” companies. PMI is running a negative net shareholders’ equity value, and it is therefore undesirable to use other ratios for comparison. IMB suffered from the same drawback in the 1999-2002 period.

Debt/Capital ratios are calculated as:

$$\frac{\text{Debt}}{\text{Capital}} \text{ ratio: } \frac{\text{Total Liabilities}}{\text{Total Liabilities} + \text{Total equity}}$$

Other Ratios

A number of other ratios are also used for comparison. The current ratio, the dividend payout ratio, and the P/E ratio are all taken directly from Bloomberg.

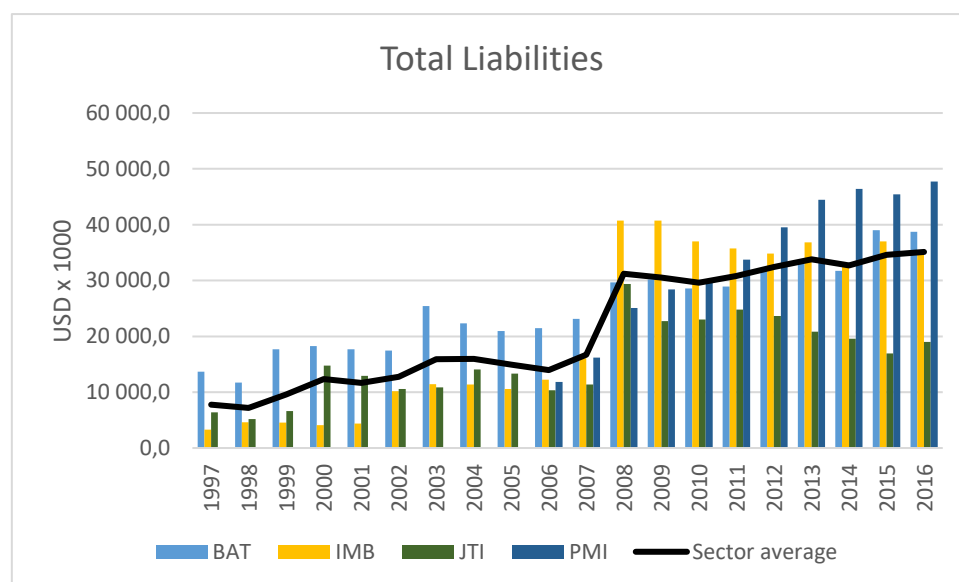


Figure 7: Total Liabilities of “Big Tobacco”

Overall, “Big Tobacco” has been increasing debt levels since before 2000. Figure 7 shows that BAT has had a slow but steady increase in their level of debt. IMB maintained moderate debt levels before aggressively financing their firm at the turn of the financial crisis in 2008. Lower interest rates, aimed at curbing the recession and exciting business growth, favoured companies that were in a financial position to take advantage of the low costs of debt. Given the low elasticity of demand for tobacco products and the historically strong levels of cash flow and earnings in the tobacco industry, it is intuitive that debt levels would rise during the recession. PMI, on the other hand, has maintained its aggressive practice of funding with debt. PMI has increased its dividend and pay-out ratios consistently since its spinoff in 2007, and the growing debt may in fact be a product of another corporate strategy (discussed in the equity section) rather than a causal factor of increased leverage and stock price growth. Finally, JTI seemed to follow the debt trends of “Big Tobacco” through 2008, but has since taken an opposite approach, with falling debt levels. This has interesting implications for WACC

provided equity has not fallen too. Initial inspection would show that JTI has not taken advantage of leverage to advance its shareholder value.

Although liabilities may have increased, the mix of long-term and short-term debt may also affect WACC. If the yield curve is flat,³³ a company has no incentive to move from short- to long-term debt, and vice versa. However, if the yield curve shifts from flat to increasing, companies that are able to shift their debt to more short-term focused maturities will be able to minimise their WACC. Longer-term debt then protects against the short-term fluctuations of the market. “Big Tobacco” has remained relatively constant here. Throughout the past 16 years, the make-up of debt has shifted very little. A typical ratio of 80-20 for long-term to short-term debt was general during the period, with small variations for each firm. The only exception to the rule has been PMI. Since inception, they have increased their long-term debt from 79% to just below 90% of debt funding. Their mix of short-term to long-term debt has been the most volatile of all “Big Tobacco”. A 10% shift is therefore marginal. Their long-term debt is not too far off the industry average, and this increase is attributable to the tighter management of short-term payables and a higher quality of earnings than the rest of “Big Tobacco”. It is also important to remember that, although short-term and long-term debt carry different return requirements, companies in all industries will typically need to pay similar interest rates. With “Big Tobacco” maintaining a similar share of long-term to short-term debt over the period, they are unlikely to gain a competitive advantage from their selection of debt.

Industry average	2002	2004	2006	2008	2010	2012	2014	2016
ST Debt (%)	12,50	26,49	21,92	18,25	17,56	23,51	11,66	18,80
LT Debt (%)	87,50	73,51	78,08	81,75	82,44	76,49	88,34	81,20

Table 4: Long-term and short-term debt mix of “Big Tobacco”

The debt to capital ratio concerns the weight of debt in the calculation of WACC. It takes into account all forms of debt, both long- and short-term. If all else is equal, a higher debt to capital ratio represents a more geared financial position (a riskier position from the shareholders’ point of view). A company can alter its debt to capital ratio by either issuing or buying back shares (increasing or decreasing the denominator), issuing debt (both short- and long-term), or retiring existing debt by paying off its principal amounts.

³³ That is, future interest rates are seen to be the same as today’s interest rates (there is no long-term yield premium).

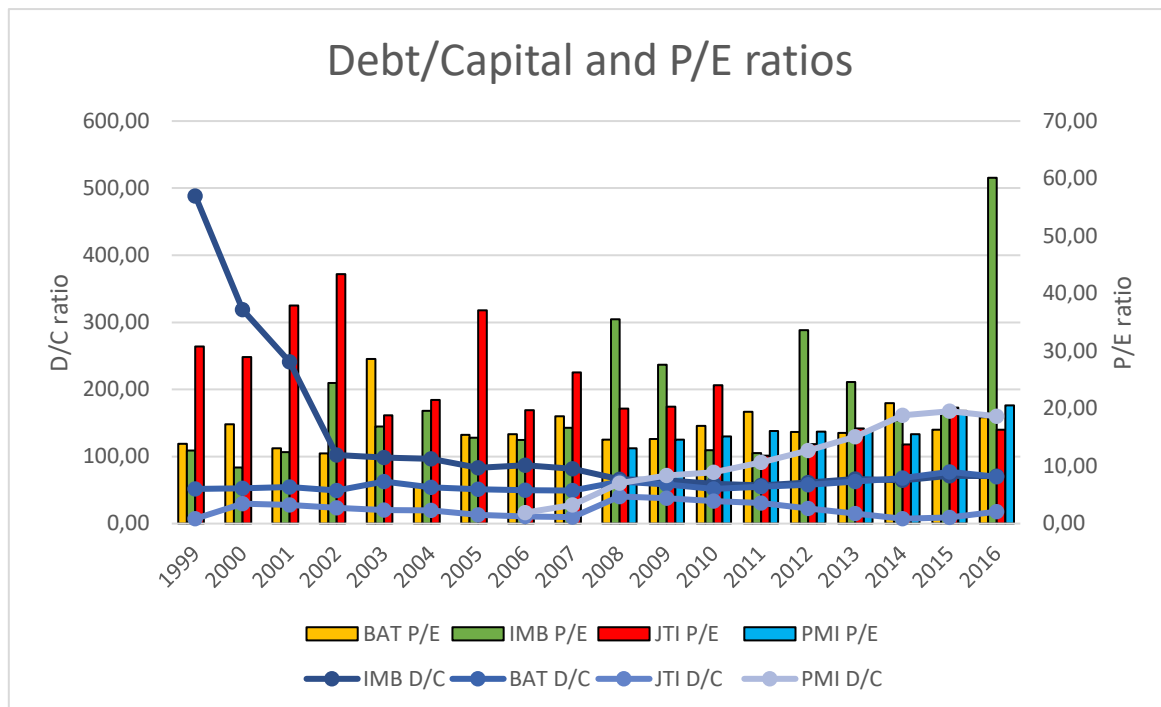


Figure 8: Debt/Capital and P/E ratios of “Big Tobacco”

Debt to capital ratios have, for the most part, been consolidated over the period studied. IMB has corrected its excessively high debt to capital ratio, as debt values have been outpaced by equity changes (both share movements and the retention of income). Both BAT and JTI have remained relatively constant. PMI, on the other hand, has had a consistently rising debt-to-capital ratio, in contrast to its competitors. This supports this study’s earlier finding of absolute debt increases since the 2008 financial crisis, and may be supplemented by a decreasing shareholder pool. This has implications for WACC, as it indicates a narrowing return requirement for all of “Big Tobacco”. There are two plausible reasons for this.

The first reason is a decrease in the number of new projects that require newly-issued debt. As the “Big Tobacco” companies are all very large, smaller projects that no longer require debt would shift capital ratios. At the same time, the increased concentration of the global tobacco market leaves “Big Tobacco” with few options for acquisition. So, although the acquisitions previously discussed have been growing in cost, the ones large enough to move capital ratios are few and far between. The latest example, the purchase of Reynolds American by BAT for nearly \$50 billion, is the most significant purchase, and is still not expected to shift debt to capital ratios. BAT’s strong financial position, and initial minority interest in Reynolds, allowed BAT to raise funds by issuing further equity capital in combination with raising additional debt.

Secondly, corporate strategies within the tobacco industry may have forced a consolidation of debt ratios. The acquisitions that were discussed earlier seem to support this, as companies find it more and more difficult to create shareholder value following contrasting corporate strategies. This indicates the maturity of the tobacco industry, with the stagnation of smaller opportunities and the consolidation of competitors. It is therefore important to discuss equity changes in detail (see below), as debt changes are only one aspect of a shift in the ratio.

The P/E ratio has a number of applicable uses. The P/E ratio represents the number of dollars an investor is willing to pay for \$1 of earnings with a particular company. A company like Facebook, for example, currently has a P/E ratio of 35. Investors see Facebook as having a large growth potential, and are therefore willing to pay extra to obtain common stock in the company. Stocks like Facebook, with greater potential for earnings and future income typically have a higher P/E, and are termed growth stocks. Apple, on the other hand, has reached a more mature phase of the business cycle, and has a current P/E ratio of around 17. Considered a more stable investment, Apple has been consistent in its earnings and profit margins. Investors look for shifts away from its fundamental stock value³⁴ when deciding to either buy or sell the share.

Mapping the two ratios beside each other shows that the P/E ratio disparity has been compressed. Until the financial crisis of 2008, JTI was an outlier, valued as clearly a growth stock, and BAT and IMB were relatively in line as value stocks. This is to be expected, as JTI was in the process of expanding internationally through acquisition. Investors saw the acquisitions as expanding their current revenue streams into the international market, and the shift in approach helped support a higher price per share. The potential gains from international diversification were met equally by an issuance of shareholder equity and debt to maintain existing debt to capital ratios. Even after its purchase of Gallaher in 2007, JTI still has a significantly higher P/E than its competitors. It has, however, fallen more in line with its competitors, as the company's domestic market has stagnated and it has already priced in the effects of its international growth.

BAT has been the most consistent as a value stock, showing little in the way of P/E changes. There was, however, a noticeable spike in 2003. The purchase of Ente Tabacchi Italiani was the largest acquisition in Europe outside of the U.K.. at the time. It is plausible that investor sentiment grew as BAT made its biggest purchase outside of its domestic market in the post-2000 era, although this is not a definitive cause. International revenues were expected to climb as a result. IMB has been a relatively consistent outlier in the last 16 years. Initially the company focused on running a negative equity balance, and 16 years later it is running a far higher P/E ratio than its competitors. These differences will be discussed more fully in the next chapter. It should be noted, however, that a high P/E ratio is of relevance as the increased price could indicate the possibility of a buyout from one of the other tobacco firms. In terms of shareholder value creation, at least in the short term, the firm being purchased has the most to gain, as the offering firm often provides goodwill.³⁵ With IMB's strong earnings and manageable costs, and as it is the smallest of the "Big Tobacco" firms, speculation about acquisition by one of the other "Big Tobacco" firms has no doubt contributed to an inflated P/E ratio. This high P/E ratio is unlikely to be maintained, however, as the possibility of a merger has clearly already been factored into the share price. Finally, PMI has been consistent in investor sentiment. As the international division of Philip Morris, it already contained a well-diversified international portfolio of tobacco revenues. Although there have been a number of significant acquisitions, management decisions have maintained a consistent profit margin over the period in question. This helped shape investor sentiment to regard PMI as a value-oriented stock.

Finally, while not shown here, price-to-book ratios for PMI matched those of a typical value firm. The ratio has accelerated in line with its price per share over the period in question. However, it suffers from a limited comparison. PMI has been running a negative balance of equity on its balance sheet. This has pushed up price-to-book ratios excessively, and they have become effectively infinite as the book value of the company fell. PMI's price-to-book values can therefore not be compared to other

³⁴ Valuation models based on income streams, assets and liabilities.

³⁵ The amount above the asking price that the acquirer pays for a company.

firms. This is the reason the ratio of debt to equity was not examined in the earlier part of this section. IMB has seen a similar trend, despite maintaining a positive value of equity recently. BAT and JTI have shown an increasingly high price-to-book ratio. This agrees with the theory of value firms as price appreciation follows firm maturity, in conjunction with market-size growth.

Viewing the firms together shows that investor sentiment supports the capital structure of “Big Tobacco”. That is to say, the tobacco industry has moved toward a mature phase of its life. Higher debt levels are not necessarily rewarded with higher returns, as “Big Tobacco” has decreased the number of highly risky projects. This is in contrast to an industry in the growth stage, where new projects can often be more heavily funded by new debt issuances. Investors have drawn similar conclusions, as the possibility of significant purchases have become fewer. P/E ratios have fallen in-line with other value stocks.

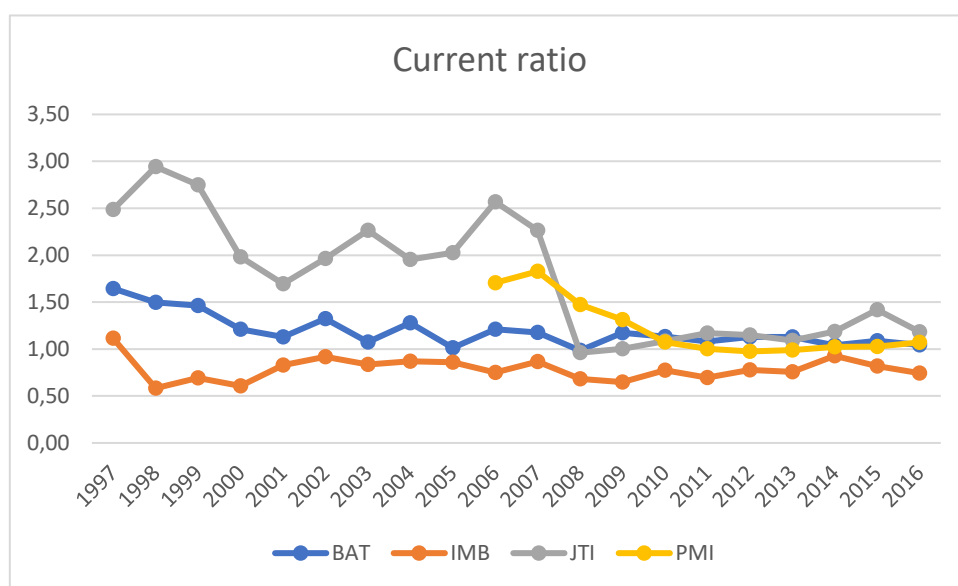


Figure 9: Current ratio of “Big Tobacco”

The current ratio helps identify a company’s ability to cover its short-term liabilities with its current assets. If a company has a ratio below 1, it is likely that the company would be unable to pay back its short-term debt if this were to become due immediately. A ratio below 1 does not necessarily mean a company will go bankrupt, however, as there are many ways to obtain other financing. A ratio that is too high, on the other hand, may indicate that resources are not being utilised, as under-gearing does not guarantee maximum shareholder wealth creation. “Big Tobacco” would be expected to show a healthy current ratio as the majority of for-sale, short-term assets are in various forms of tobacco. However, good management should mean that current financing would be utilised effectively, keeping the current ratio in check. The earlier breakdown of debt shows that the majority of funding is in the form of long-term debt.

Industry averages have fallen over the period, with a shrinking of the current ratio gaps between the “Big Tobacco” firms. JTI and PMI have both shown decreasing ratios, while IMB and BAT have remained relatively constant. JTI and PMI have experienced an overall increase in debt over the period, which would help pull their current ratios down, *ceteris paribus*. At the same time, current assets may have been utilised more effectively, lowering the requirement for stock on hand, in

conjunction with a lower trade receivable value. As a whole, however, the industry tends to have a similar level of both short-term debt and assets on hand.

While the ratios discussed above give some insight into the movement of debt levels, it is crucial to investigate changes in equity as well. Share issues or buybacks and income retention have lasting effects on the debt and equity ratios and, in turn, the return requirements for the firm.

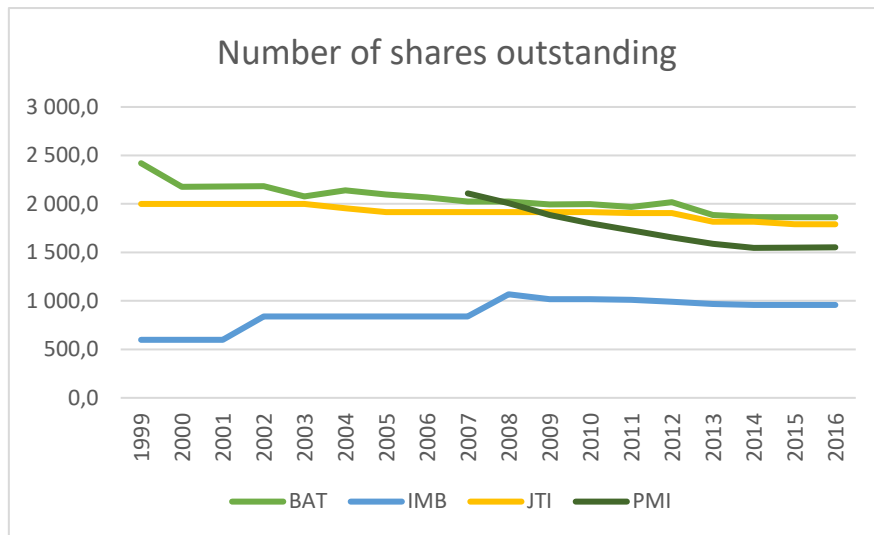


Figure 10: Number of shares outstanding of "Big Tobacco"

Share buybacks are one way a firm can choose to restrict its equity pool. A lower equity pool means a higher return for those holding stock in the company. This typically occurs in industries where firms can afford either to raise additional debt to buy back the shares or have enough free cash flow to cover their typical debt payments and purchase shares at the current market rate simultaneously. Firms that are still in their growth phase typically use income retention and newly-issued debt to expand their businesses.

Both PMI and BAT have decreased the number of their shares outstanding through share buybacks over the past 16 years. JTI has also decreased its equity pool, but to a lesser degree. This is logical, given the restrictions on equity that the company has. As JTI is managed by majority state-owned capital, the only time that it has been willing to conduct share buybacks is when the government has offered its shares for sale. IMB, on the other hand, has issued more shares than it bought back over the period of this study. Given the company's size before 2010, the acquisitions in 2001/02 (totalling \$4.4 billion), and 2007/08 (totalling \$18.9 billion) would have needed external funding. In order to keep debt to capital ratios intact, debt was issued in conjunction with an issuance of equity for both acquisitions. This explains the strong growth, of almost 100%, for shares outstanding over the period. Should IMB embark on further international acquisitions on a similar scale, they are likely to issue further shares. JTI will probably remain at its current level owing to its equity restrictions (due to unchanging government policy), and BAT and PMI are expected to remain stable given their strong financial and market positions.

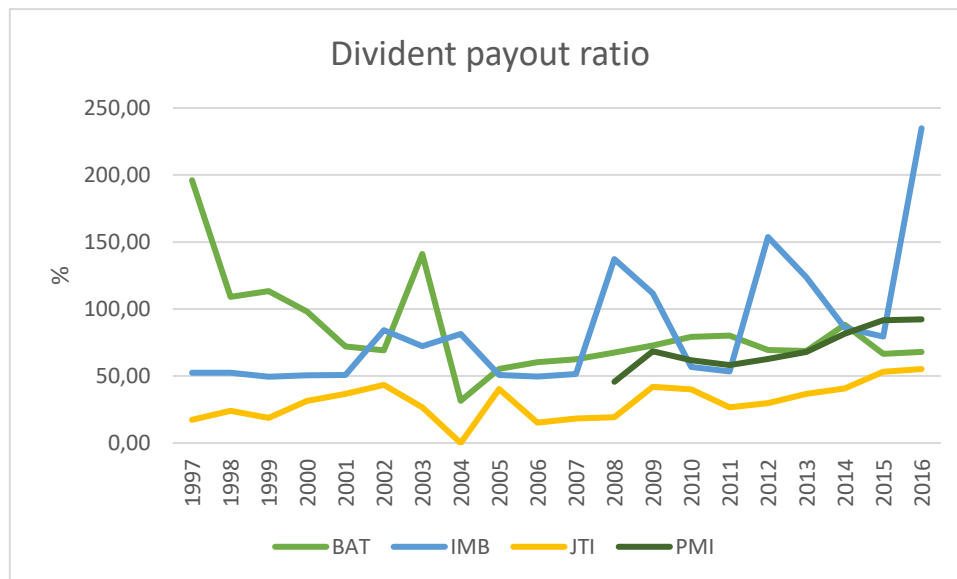


Figure 11: Divident payout ratio of "Big Tobacco"

The dividend payout ratio is another way in which firms can choose to dilute the equity pool. If profits are not distributed by way of dividends, they are recorded in retained income, and thereby increase the equity portion of the balance sheet. Higher payout ratios are characteristic of more mature markets, as funds reinvested in the company do not give the same returns as in growing markets. Microsoft famously did not pay any dividend for a number of years, as its business expanded. Although the company was first listed in 1986, it paid its first dividends only in 2003, when it had over \$43 billion in cash reserves. Ultimately, if there are fewer projects that are lucrative *and* require a large degree of funding, a mature firm is able to pay out more of the profits that it earned in a financial year.

Over the period of the study, "Big Tobacco" showed particularly high payout ratios. A payout ratio of 100% means that *all* profits are being paid out in the form of dividends, and no funds are reinvested in the business. Although this is far more volatile than the other ratios discussed, there has been a general upward trend in payout ratios. BAT is likely to lower its payout over time, as it is not sustainable to maintain a ratio of over 100%. JTI on the other hand, has maintained its slow but steady rise in payouts. This is to be expected, given its aggressive acquisitions and its relatively short time it has been in business, compared to its competitors. PMI is the most interesting of the "Big Tobacco" companies, as it has taken a strict approach to dividends. In fact, it is the only firm to have undertaken to increase its dividend year on year, and has not allowed a year to pass without the declaration of a dividend greater than that of the previous year. PMI started as an investor favourite with a payout ratio of 44%, which grew to 92% by the end of 2016. Profits have been strained lately, yet PMI has maintained its dividend strategy. Although margins are discussed in detail in the next chapter, it is important to note that with climbing dividends, it becomes more difficult to raise funds for new projects as a large portion of the company's free cash flow becomes committed to dividend payments. Some investors have pointed this out, and argue that either more debt will be raised in future (throwing capital ratios into question) or dividends will have to flatten out. Finally, IMB has been the most volatile of the Big Tobacco group. Dividends should fall in line with its competitors relatively soon. Overall the payout ratios of "Big Tobacco" match those of a consolidating, mature industry with a strong cash flow. Growth in already high dividends does not represent a growing industry.

In conclusion, "Big Tobacco" has followed a number of strategies in the effort to lower their cost of capital and maintain higher returns in the debt-equity sphere. Although the absolute value of debt has increased, ratios have fallen relative to total capital. This contradicts some academics who seek to

explain the value premium by increased liability ratios. Similarly, “Big Tobacco” has moved in ways contrary to those predicted by Mackay (2005), as leverage ratios fell despite a strong increase in worldwide tobacco concentration. This chapter does support the findings of Opler (1994), however, as “Big Tobacco” has been in a strong financial position to take advantage of smaller firms. Similar long-term and short-term debt ratios across the industry, debt to capital converging, and P/E ratios rising, all confirm that this is a mature industry consolidation. At first glance, “Big Tobacco” has reduced its holding of current assets, and is no longer covering its liabilities to the extent that it was two decades ago. This may indicate a lower cash turnover period and higher asset utilisation. With regard to equity, “Big Tobacco” has maintained, and in some cases increased, a very strong dividend payout ratio, and furthered its return to shareholders by aggressively decreasing the total shareholder pool. PMI may have difficulty maintaining this, as most of its free cash flow is now used for dividends. The amalgamation of these ratios results in “Big Tobacco” being a group of highly lucrative stocks.

Chapter 5: Margins

This chapter investigates changes in the profit margin of “Big Tobacco” over the period 2000-2016. The various academic theories on the influence of changes in the margin on stock price movements are discussed, followed by an analysis of various applicable metrics to reveal trends. The meaning of these trends is then discussed.

Fairfield and Yohn (2001) shows that breaking down profitability into asset turnover and profit margin does not help predict revenue. However, Fairfield (2001) did show that the *change* in profitability can be explained, at least partly, by disaggregating it into the change in asset turnover and the change in profit margin.

Eriotis, Frangouli and Ventoura-Neokosmides (2011) show that firms use their investment in fixed assets as a strategic variable to affect profitability. With the narrowing of current ratio and other debt and liquidity ratios found by the present study, one would expect a continued narrowing of other profitability ratios, that is, a slow but steady decrease in current assets as “Big Tobacco” looks to increase asset efficiency. The quality of earnings should also increase, both relative to “Big Tobacco’s” investment in longer-term investments and its short-term turnover.

Padachi (2006) addresses the impact of the management of short-term working capital management on profitability. The article shows a strong association between high inventories and lower profitability, which is enhanced by high investment in accounts receivable. Padachi (2006) uses inventory days, accounts receivable days, accounts payable days and the cash conversion cycle to identify levels of investment in inventories and receivables. We expect “Big Tobacco’s” profitability level not only to increase, but for a decrease in investment in both cash conversion cycle and accounts receivables to follow too. Lower inventory levels and better management of short-term working capital requirements will contribute to rising profit margins in the tobacco industry.

Hagigi (1993) investigates the relationship between asset turnover and associated gains in international market share. This is particularly applicable here, as the tobacco industry requires massive investment in short-term assets and inventories, and operates at the international level. The study goes on to show that lowering profit margins does not by itself increase multinational market share, which relies on the cohesion of profit margins and increasing asset utilisation. An interesting point raised by Machin (1993) is that of the pro-cyclical nature of profit margins. The paper outlines how a firm’s profits fall just at the point that demand falls in a recession. This is relevant for any changes in profit margins over the period studied for “Big Tobacco”.

Nissim and Penman (2001) investigate the use of profit to forecast for future returns. The paper concludes that ratios can be used to forecast fundamentals (drivers of future residual earnings, free cash flow, and dividends). This, in turn, can be used to predict revenue and net profits. One would therefore expect the quality of earnings to increase the upward pressure on profits, and consequently expected future earnings, leading to bullish investor sentiment.

Kinney and Wempe (2002) seeks to confirm that inventory levels play a crucial role in firm performance. The paper shows that the positive effect is felt less by smaller firms. This finding is, however, irrelevant because of the scale of “Big Tobacco” production.

Solimon (2008) outlines a Du Pont analysis and aims to bridge the gap between stock price analysis, stock returns, and their power as a forecaster. However, the Du Pont analysis conducted in this paper showed that there were abnormal returns and predictable forecast errors. It therefore can be used to supplement, not replace, other forecasting and analysis techniques. Du Pont is used to reveal

incremental information about stock returns through information on the operating habits of a particular firm.

Goodstein (1992) notes that shocks to unit costs do play a statistically significant role in determining profit margins. This is crucial to “Big Tobacco” as the firms may have some unit cost changes through merger synergies, as discussed in the acquisitions section above.

Data Manipulation & Interpretation

All financial ratios given below are taken directly from Bloomberg, for the period from the end of the 1998 financial year to 2016. Where the full range of data were not available, data were gathered as far back as possible. The ratios have not been manipulated in any way, but for the sake of explanation and understanding their derivations are listed below.

Net Income Margin (NIM)

Net income margin represents a company’s ability to convert income into shareholder book value. While it does not reveal revenue growth, it does give an overarching view of the sector as a whole, as well as helping inter-competitor analysis.

It is defined as:

$$\text{Net Income Margin} = \frac{\text{Total Revenue} - \text{Total Expenses}}{\text{Total Revenue}} = \frac{\text{Net Profit}}{\text{Revenue}}$$

Net Income Margin	1998	2001	2004	2007	2010	2013	2016
BAT	4,86	8,88	26,25	21,26	19,34	25,58	31,51
IMB	24,37	23,74	14,68	27,59	10,02	6,20	4,48
JTI	1,61	0,97	-0,16	12,91	2,26	16,21	19,68
Average	10,28	11,20	13,59	20,59	10,54	16,00	18,55
PMI				26,47	26,68	27,47	26,11
Average	10,28	11,20	13,59	22,06	14,58	18,87	20,44

Table 5: Net Income Margin of “Big Tobacco”

Between 1998 and 2007, net income margins have increased for most of the “Big Tobacco” companies. BAT has the largest increase, closely followed by JTI. PMI has remained fairly static over the period, but is still well above the average for the big four. IMB is the only “Big Tobacco” company to suffer decreasing net income margins. Their NIM was particularly high in 1998, when P/E ratios (see figure 7) figures were also trading at exceptionally high rates. The drop in margins around the financial crisis is interesting, as they occur despite the relative inelasticity of cigarettes, “Big Tobacco’s” main driver. Similar results are obtained by calculating the EBITDA margin, the operating margin (discussed in the Du Pont analysis), and the pre-tax margin.

These findings are in line with the finding that “Big Tobacco” has become increasingly influential in the tobacco market, buying up the majority of smaller firms and increasing their market control. With an increasing leverage in the tobacco market, firms are able to increase their margins without fear of repercussions from their large consumer base.

Average growth (%)	2008	2009	2010	2011	2012	2013	2014	2015	2016
Cigarette units	5,77%	-1,18%	-1,16%	-1,08%	-1,55%	-3,29%	-2,77%	-1,01%	-1,13%

Table 6: Average cigarette growth, of "Big Tobacco"

It will be remembered from the previous chapter (figure 3) that cigarette consumption is decreasing on the global scale, with the exception of China. On the company side, the picture is similar. From 2009 onwards, "Big Tobacco" has seen decreasing cigarette sales. While this does not cover all of their revenue, failing to sell more cigarettes would be a matter of concern. However, if a firm is able to pursue a strategy of increasing prices, this could offset the fall in cigarette volume. This holds true for an increase in net income margin (table 5) and negative cigarette growth (table 6). It is therefore concluded that "Big Tobacco" is pursuing a strategy of extracting gains through increasing margins, and *not* through a higher quantity of units sold.

Impressive profit margins, although they contribute to stock price through increases in expected future income streams, are not the sole driver. They do not paint an accurate picture of profit margin generation or overall financial performance. The Du Pont analysis breaks down ROE into several facets. This helps not only to understand the use of profit margins, but also investments in assets and the influence of tax and interest payments on ROE.

Du Pont Analysis

A Du Pont analysis was conducted in order to understand the key drivers of ROE. The formula for ROE is:

$$ROE = \frac{Net\ profit}{Total\ equity}$$

The Du Pont analysis breaks down ROE into a number of different constituents. The focus here will be on the most significant changes that have occurred in ROE. The formula for ROE with the definition given by Du Pont, is:

$$= Tax\ burden \times Adj.\ factor \times Int.\ margin \times Op.\ margin \times Asset\ turnover \\ \times Leverage\ ratio$$

Where:

$$\text{Tax burden} = \frac{\text{Net Inc to Comn}}{\text{Pre - Tax Profit}}$$

$$\text{Adj. factor} = \frac{\text{Normlzd Net Inc}}{\text{Net Inc to Cmn}}$$

$$\text{Int. Margin} = \frac{\text{Pre - Tax Profit}}{\text{EBIT}}$$

$$\text{Operating margin} = \frac{\text{EBIT}}{\text{Revenue}}$$

$$\text{Asset turnover} = \frac{\text{Revenue}}{\text{Avg Assets}}$$

$$\text{Leverage ratio} = \frac{\text{Normlzd Net Inc}}{\text{Net Inc to Cmn}}$$

The first thing to note is that the interest margin has remained unchanged for the period in question for all of “Big Tobacco”. Despite a lightening of the debt burden, “Big Tobacco” has maintained similar levels of debt costs, at least with reference to revenues. As shown in the previous section, the long-term and short-term debt mix has remained essentially the same. This implies that a smaller debt pool has become relatively more expensive. However, as revenues have increased over the period, interest costs have increased in proportion, and therefore do not represent a failure to transition toward an optimal balance of debt and equity. This is therefore unlikely to be a key driver of ROE, as all of “Big Tobacco” has remained consistent despite the movement in interest rates over the period. It does represent the efficient management of debt and its associated costs, as the gap between revenue and this aspect of costs has remained broadly the same.

Interest burden	1998	2001	2004	2007	2010	2013	2016
BAT	63,89	83,37	90,80	88,37	88,27	90,43	89,33
IMB	72,87	79,17	77,13	71,26	77,38	69,30	63,07
JTI	95,73	90,78	90,68	97,98	91,36	98,13	98,52
PMI				97,07	91,38	92,06	89,51
Average	77,50	84,44	86,20	88,67	87,10	87,48	85,11

Table 7: Interest burden of “Big Tobacco”

The second factor in the Du Pont analysis, the adjustment factor, is also largely unchanged over the period in question. This can be explained by the fact that majority of once-off acquisitions and other significant changes to income will normalise with time. Although there are spikes around some acquisitions, all of “Big Tobacco” has converged to a factor of 1 over time. The leverage ratio of Big Tobacco is not discussed here, as it has been dealt with in the previous chapter.

Tax burden	1998	2001	2004	2007	2010	2013	2016
BAT	55,72	47,15	77,66	69,22	65,61	67,32	74,43
IMB	71,08	70,85	64,68	73,16	71,06	74,24	69,57
JTI	52,73	36,47	103,08	62,51	50,15	67,43	72,93
PMI				67,96	70,31	68,02	70,01
Average	59,84	51,49	81,80	68,21	64,28	69,25	71,73

Table 8: Tax burden of “Big Tobacco”

The tax burden portion of the Du Pont analysis looks at changes in taxes relative to the firm’s revenue. There are two important outcomes. First, the initial outliers, BAT and JTI, have seen a noticeable increase in taxes relative to their respective revenue streams. Although the reason for this is not clear, it may be due to a changing taxation landscape. As the ratio is a *book*³⁶ ratio, the measurement can be manipulated through the use of tax breaks and other deductions a particular firm is able to claim. Evidently, JTI and BAT have been unable to use tax breaks to their advantage and, therefore, have been facing a heavier tax burden. Incremental changes in depreciation, amortisation and other yearly deductibles have collectively contributed to the upward trend in the tax burden. It must also be note, that changes in tax rates can lead to changes in the tax burden. In the first place, “Big Tobacco” faces domestic tax rates which are liable to change. Similarly, changes in tax rates in a multitude of different countries will also affect “Big Tobacco’s” effective tax rate. Because of the array of “Big Tobacco’s” income streams, there are steady increases in overseas withholding taxes, as well as *tax at standard rates other than domestic*³⁷ rates, which support the findings of the present study. Information on these taxes is found in the notes to financial reports. Exact values are not, however, reliably reported.

Convergence is the second finding with respect to the change in the tax burden. As of 2016, there is very little variation in tax burden between all of the “Big Tobacco” firms. Whether this is because of similar asset management through depreciation and amortisation measures (as discussed below), or tax breaks as the result of asset management, is, however, difficult to say.

The asset turnover ratio typically aims to describe how a given firm utilises its assets. A higher ratio implies that a firm is more efficient at generating revenue on a ‘per unit’ basis of assets. While not ideal for comparison across industries, the asset turnover ratio offers a direct means for comparison between competitors. There is a general downward trend in asset utilisation for “Big Tobacco” to note. Given that revenues have been increasing over the period, it must be that the asset base has been growing at a faster pace than revenues. The previous chapter found the current ratio to be falling, implying investment in short-term assets is decreasing. The only plausible explanation is that long-term assets to have increased over the same period.

Asset Turnover	1998	2001	2004	2007	2010	2013	2016
BAT	0,89	0,65	0,59	0,55	0,55	0,56	0,41
IMB	0,93	0,87	0,45	0,41	0,48	0,52	0,45
JTI	1,73	1,43	1,55	0,51	0,55	0,56	0,46
PMI				0,79	0,78	0,82	0,75
Average	1,18	0,98	0,86	0,56	0,59	0,62	0,52

Table 9: Asset turnover of “Big Tobacco”

³⁶ Defined by company accounting principles and measurements, as opposed to market forces.

³⁷ A tax line item in the notes to the income statement, divulging how tax is charged.

To confirm this, the percentage of total intangible assets (the sum of goodwill and other intangible assets) to total assets is calculated, as is the percentage of non-current assets to total assets.

That is,

$$\text{Intangible assets/Total assets} = \frac{\text{Goodwill} + \text{Other intangible assets}}{\text{Total assets}}$$

In all cases, “Big Tobacco’s” non-current assets have increased. While the composition of the increase is firm specific, there are some interesting trends. As a proportion of total assets, non-current assets experienced strong growth during the period 2000-2006. This trend then stabilises at a much higher level that, although it is firm dependent, is far more significant than before.

Intangible assets/Total assets							
	1998	2001	2004	2007	2010	2013	2013
BAT	0,000	0,380	0,433	0,432	0,447	0,417	0,305
IMB	0,000	0,178	0,552	0,550	0,684	0,612	0,633
JTI	0,003	0,256	0,202	0,161	0,457	0,432	0,427
PMI				0,309	0,400	0,317	0,266
Non-current assets/Total assets							
	1998	2001	2004	2007	2010	2013	2013
BAT	0,384	0,604	0,680	0,714	0,689	0,646	0,689
IMB	0,151	0,318	0,654	0,694	0,769	0,705	0,770
JTI	0,385	0,569	0,512	0,453	0,691	0,685	0,661
PMI				0,535	0,608	0,558	0,522

Table 10: Ratio of Intangible Assets and Non-Current Assets of “Big Tobacco”

Secondly, the proportion of intangible assets has increased significantly since the early 2000s. This is true for IMB, BAT, and JTI. A very strong initial rise tapers off to a degree around the 2008-2011 period. Since then, the intangible assets line item has stabilised. In the case of PMI, intangible assets levels have remained similar since inception. This matches the rest of “Big Tobacco’s” acquisition trends at the time. Goodwill has grown to become typically the largest component of total intangible assets.

It is important to remember that drastic changes in goodwill can have a causal movement on asset efficiency. The three factors in the creation of a company's goodwill include its value as a going concern, excess business income, and the expectation of future economic benefits. While a firm’s going-concern value and other income can be reliably estimated, the expectation of future economic benefits is more complex, and estimation can be above or below its real value. This can be problematic, especially for firms in the tobacco industry. When a “Big Tobacco” firm is doing the acquiring, estimates about the value of cigarette and non-cigarette tobacco brands can often be misleading. The expectation of revenue generation and synergies from mergers and acquisitions can be over- or under-estimated because of the large degree of branding presence in the tobacco industry. Often, conservative estimates are overshadowed and more generous offers made to entice the target firm to accept the offer. Regardless of the estimate, this extra amount is marked down as goodwill,

and forms part of the acquiring firm’s assets. This is a shortcoming of the Du Pont analysis in this context, and is exacerbated by the large number of “Big Tobacco’s” acquisitions over the past 16 years. This number may decrease in the future, as “Big Tobacco” struggles to find firms large enough to impact its balance sheet and income statements. Nevertheless, it seems intuitive that the growth in intangible assets through acquisitions has placed downward pressure on the asset efficiency of “Big Tobacco”.

Operating margin describes how much a firm makes per dollar of sales. If the margin increases, the company is making more on a per-sale basis. Achieving bottom-line growth can occur by decreasing in costs, or increasing price. If a limited variation of these two factors is the only option available—typically in highly competitive markets—firms resort to focusing on increased quantities. If competition is low, margins can increase. The operating margin of “Big Tobacco” is possibly its most interesting, yet contradictory, descriptive statistic.

Operating margin	1998	2001	2004	2007	2010	2013	2016
BAT	13,65	21,32	37,13	34,76	33,40	42,02	47,39
IMB	47,05	42,33	29,42	52,93	18,22	12,06	10,20
JTI	3,20	2,93	0,01	21,07	4,93	24,49	27,38
PMI				40,12	41,52	43,64	41,55
Average	21,30	22,19	22,19	37,22	24,52	30,55	31,63

Table 11: Operating margin of “Big Tobacco”

In the case of BAT and JTI, we note a rise in operating margin over the period. PMI has been the most consistent since the firm’s inception. IMB, on the other hand, is the only one of the “Big Tobacco” companies to suffer from falling margins over the period. This continues the firm’s trend of being noticeably different in formation, size, and now, margins. This complicates the drivers of ROE in IMB’s case, as they do not have the advantage of increasing margins to offset the downward pull of asset turnover and the rise of the tax burden.

Cash Conversion Cycle

Although the earnings ratios derived above are based on the income statements and balance sheets of “Big Tobacco”, these ratios suffer the same drawbacks as any accrual-based accounting system: they do not represent cash inflows or outflows. Instead, they represent earnings occurring in the financial year, regardless of whether cash or credit was used. It is therefore crucial to inspect the cash flows of “Big Tobacco”, to ensure that these margins and revenue increases are not at the expense of quality of earnings.

The “days sale outstanding” (DSO) measures the average number of days it takes a company to collect revenue after a credit sale is made. If a company has a low DSO then revenue collection is short, an advantage for quality of earnings, and, in turn, investors. Credit terms can vary drastically from industry to industry, and are only applicable for a competitor-on-competitor analysis. The retail industry, for example, typically has a DSO of zero, unless they offer their customers credit sales. Manufacturing on the other hand, might have a far higher DSO, as it takes time for retailers to pay manufacturers.

The DSO is obtained by first calculating the total number of credit sales attributable to a particular financial year. This is used as the divisor for the accounts receivable year-end balance, the result of which is multiplied by the number of days in the financial year. That is,

$$DSO = \frac{\text{Accounts receivable}}{\text{Total credit sales}} \times \text{Number of days}$$

Days inventory outstanding (DIO) is the next metric needed to understand cash flow movements. It represents the average number of days a company holds its inventory before selling it. A lower number implies lower holding costs as the company moves inventory to sales on a more regular basis.

$$DIO = \frac{\text{Average inventory}}{\text{Cost of goods sold}} \times \text{Number of days}$$

The final part of the cash conversion cycle is the accounts payable days outstanding (DPO). This represents the average time it takes for a company to pay its invoices from suppliers. Using a higher DPO allows the firm to free up working capital for other short-term requirements. However, if the DPO is too high, the firm will face higher credit payments to suppliers.

$$DPO = \frac{\text{Accounts payable}}{\text{Cost of goods sold}} \times \text{Number of days}$$

The DSO, DIO and DPO all suffer from the problem of seasonality, as peaks and troughs are often created by fluctuations throughout the year. This issue is mitigated in the present study which covers a longer period of time and uses data taken at the end of the financial year.

To understand the cash conversion cycle, one must consider the amalgamation of days sales outstanding, days inventory outstanding and accounts payable days. Giving each equal weight, a company can suffer from increases in DIO and DSO, but to use DPO to offset this. It is defined as:

$$\text{Cash Conversion Cycle} = DSO + DIO + -DPO$$

DSO	2009	2010	2011	2012	2013	2014	2015	2016
BAT	42,90	43,69	43,71	47,53	51,38	55,90	61,64	62,66
IMB	65,97	66,06	65,98	69,69	70,18	71,65	68,65	60,25
JTI	16,23	17,26	53,57	57,49	61,60	62,97	64,30	66,28
PMI	43,35	40,96	36,44	39,60	43,51	48,17	46,19	43,05
Average	42,11	41,99	49,92	53,58	56,67	59,67	60,20	58,06

Table 12: Days sales outstanding of "Big Tobacco"

As in other areas, the results for “Big Tobacco” are somewhat divided. PMI has remained the most consistent in the number of days it takes to receive cash after a sale is made. JTI and BAT have seen an increasing DSO, with varying volatility. Finally, contrary to what has been seen in the rest of the paper, IMB is the only “Big Tobacco” company to be performing favourably. IMB’s tightening of credit days gives them more opportunity to delay inventory days without affecting the net cash conversion cycle. Overall, however, the industry is increasing the number of days it takes to receive cash for sales made.

DIO	2009	2010	2011	2012	2013	2014	2015	2016
BAT	294,99	339,27	369,79	399,68	439,79	483,14	475,40	486,45
IMB	111,90	113,44	113,86	123,36	129,50	134,86	138,50	142,48
JTI	33,61	37,04	199,69	191,86	186,61	190,70	387,74	235,49
PMI	381,73	329,26	280,93	301,13	329,50	322,44	332,55	340,82
Average	205,56	204,75	241,07	254,01	271,35	282,78	333,55	301,31

Table 13: Days inventory outstanding of “Big Tobacco”

Days inventory outstanding presents a further problem for “Big Tobacco”. The ratio measures how long it takes to convert raw materials into sales. Despite falling inventory levels over the period, the ratio of inventory to cost of sales has continually risen. This again highlights “Big Tobacco’s” tendency toward a lower quantity but higher margin per unit. This means that although “Big Tobacco” companies are being less efficient with their inventory management, they are maintaining strong performance on a per unit basis. The DIO of “Big Tobacco” has regularly increased since 2009.

The accounts payable days indicate how long it takes for a company to pay its creditors. Naturally, extending the time to pay has the advantage of freeing up cash flow and working capital. The disadvantage and direct cost is if there are terms outlining increased interest costs charged by suppliers, for example. In the case of “Big Tobacco”, the industry has slowly increased its accounts payable days. A DPO of around 30 is perfectly acceptable, as most firms settle debts early to avoid short-term debt costs. “Big Tobacco”, however, is quickly approaching the limit of what most creditors would consider ‘normal’ payment terms. This trend cannot be expected to continue without consequence. At the same time, it should be noted that “Big Tobacco” is using its strong liquidity position to maximise its working capital. “Big Tobacco” is not struggling to pay its creditors, but rather aims to maintain its cash conversion cycle by the offsetting movements in receivables and inventory days. All of the “Big Tobacco” firms show similar movements, albeit with varying degrees of volatility.

DPO	2009	2010	2011	2012	2013	2014	2015	2016
BAT	60,10	61,50	74,14	62,04	81,00	90,59	99,71	80,34
IMB	45,02	47,15	45,14	43,60	41,38	47,06	48,11	40,20
JTI	11,16	10,99	94,86	131,42	120,52	115,14	182,97	77,42
PMI	35,86	31,13	32,49	34,86	38,37	50,01	49,96	54,43
Average	38,03	37,69	61,66	67,98	70,31	75,70	95,19	63,10

Table 14: Days payable outstanding of “Big Tobacco”

As the cash conversion cycle represents the amalgamation of the three factors, it varies depending on the degree to which each has changed over time. “Big Tobacco” saw a decrease in the cash conversion cycle up to the 2009-2010 period, and has consistently increased since then. Driven predominantly by movements in days inventory outstanding, “Big Tobacco” has suffered from a slowing cash conversion recently. This is one of the few metrics to be diverging. PMI, JTI and IMB all show a moderately

increasing time to convert raw materials to cash, while BAT has shown aggressive growth in the cash conversion cycle.

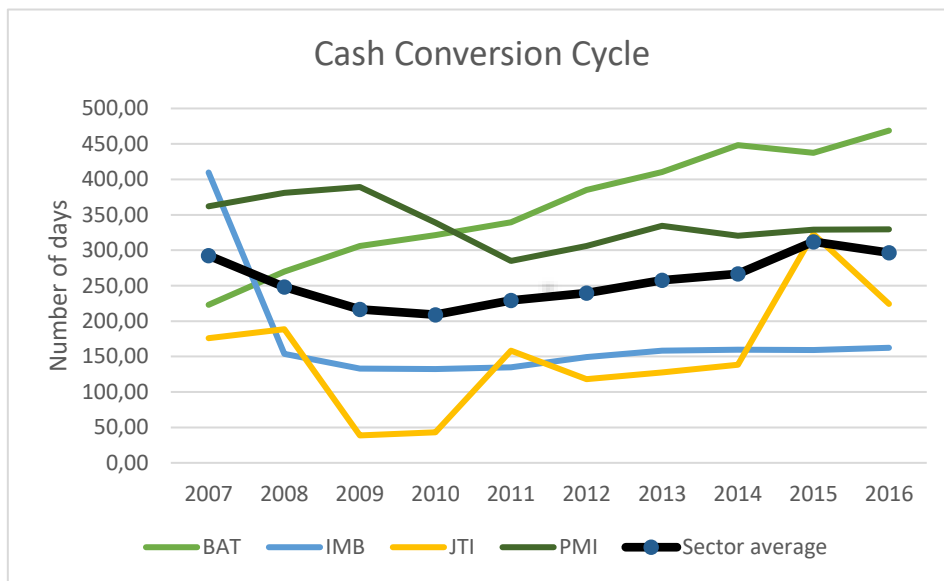


Figure 12: Cash conversion cycle of Big Tobacco

Free Cash to Revenue and Dividends

Finally, there is an interesting trend in “Big Tobacco’s” use of cash. As alluded to in the leverage chapter of this paper, “Big Tobacco” has increased its dividends. However, with a slowing cash conversion cycle, there may be interesting complications for free cash flow to the firm.

$$D/FCF = \frac{\text{Dividends per share}}{\text{Free cash flow per share}}$$

A dividend/free cash flow (D/FCF) of 1 implies the company is paying out all of its free cash flow per share. A ratio higher than 1 implies the firm is maintaining dividends that decrease their retained income pool.

Free cash flow is calculated relative to total revenues, that is,

$$FCF/R = \frac{\text{Free cash flow per share}}{\text{Total revenue}}$$

This ratio describes how much of a firm’s sales result in free cash flow to the firm. A value of 1 would imply that all sales are made on a cash basis. Figure 13 illustrates the dividend to free cash flow and free cash flow to revenue ratios.

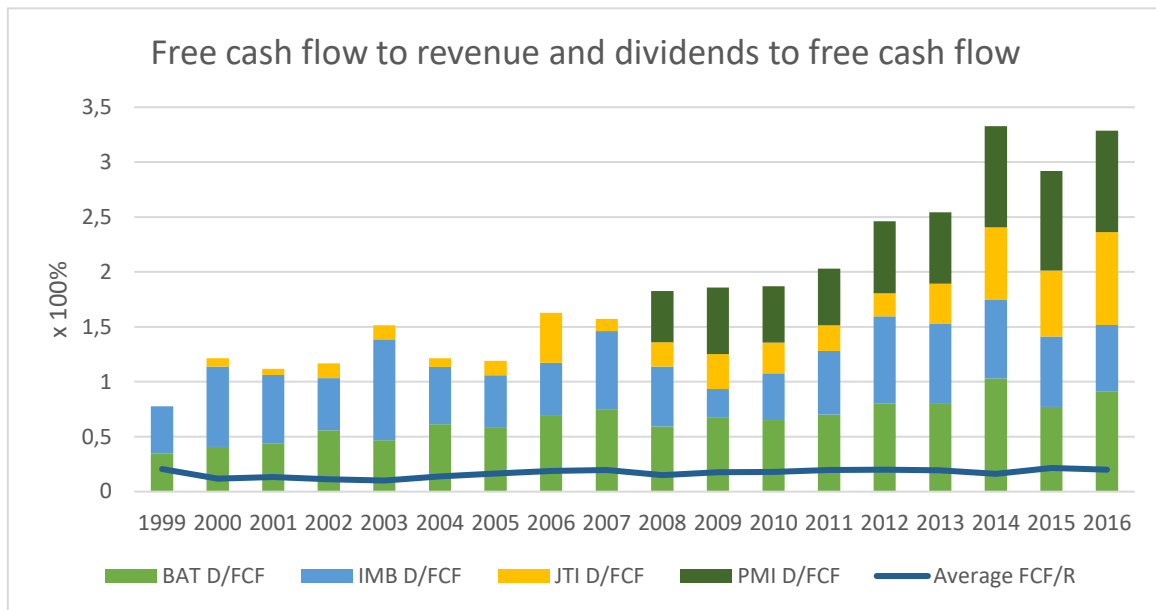


Figure 13: Cash and dividend ratios of Big Tobacco

For ease of interpretation, the graph above is stacked. A value of 4 would therefore mean that all of “Big Tobacco” are paying out all of their free cash flow as dividends.

“Big Tobacco” has continued to show a strong cash to earnings per share, averaging around 30% of revenue. There has been almost no movement over the period. This has interesting implications, as despite the change in debt/capital ratios, margins, and company structure (through acquisitions), 30c for every \$1 dollar of sales is earned in cash. Although revenue growth has slowed slightly, and cigarette units have fallen, “Big Tobacco” has maintained its cash inflow relative to revenue.

The second finding is more problematic. The increasingly committed dividend policy that “Big Tobacco” has undertaken means that an increasing portion of cash flow is being dedicated to dividend payments. In 2016, for example, a value of 4 would mean that all of the “Big Tobacco” firms were paying 100% of their free cash flow out as dividends. With a value of 3.5, the industry is very close to paying out almost all of its free cash flow on an annual basis. It should be noted that PMI was added to the group in 2008, and this partially explains some of the jump in the ratio of cash flow to dividend payouts. While investors looking for safe and reliable payouts in the form of dividends might be happy, there is a growing concern about such a strong commitment to dividend increases. This presents a problem for any new projects or acquisitions that might require a large initial cash outflow. If the majority of cash funds are tied up in the yearly dividend increase, then “Big Tobacco” must look elsewhere for funding. A large enough project would require either a debt or equity issuance, which have both direct and indirect costs associated with them. These options are far more expensive than their cash-funded alternatives. “Big Tobacco” is therefore approaching a point where it must decide whether to commit to its dividend policy and face an increasing cost of capital, or to scale back its dividends to pursue future acquisition targets or projects that require funding. With an increasingly limited spectrum of possible acquisitions, it is unlikely that “Big Tobacco” will begin to use its cash flow for other projects. Similar results were found when consulting the free cash flow to firm yield.

In conclusion, there are three crucial trends over the past 16 years. First, “Big Tobacco” has seen an increase in both its tax and interest burden ratios. However, “Big Tobacco” has simultaneously experienced an increase in its margins, which has helped to increase its bottom line on a per-unit basis. Asset efficiency has decreased, due to an increase in long-term assets, particularly goodwill and other intangible assets. This is consistent with the number of large acquisitions. Secondly, “Big Tobacco’s” cash conversion has increased. This has been predominantly driven by an increase in days inventory outstanding. Finally, “Big Tobacco” has increased its dividends per share aggressively. These levels approach the level of its overall free cash flow per share, where almost all cash received is being paid out in the forms of dividends. This has implications for the funding of future acquisitions.

Chapter 6: Market-Related Analysis

This chapter focuses on market-side data to investigate the perception of “Big Tobacco”, using three different approaches to identify the market view of pricing, risk and revenue streams.

With the study’s own estimates of fundamental stock pricing, a three-pronged approach is used to estimate share value. Two discount cash flow models (an EBITDA multiple approach and a growth model) are estimated, as well as a dividend discount model, and a sensitivity analysis is conducted for each estimation.

A range of market-related multiples are looked at to investigate the way in which “Big Tobacco’s” growth prospects are viewed by the market, and whether or not these views are supported by the fundamental characteristics found earlier in the paper. Stock price (market capitalization) and enterprise value multiples are used to draw conclusions.

Finally, risk is divided into its systematic and unsystematic components. The need for investors to be compensated only for risk that cannot be diversified away is taken into account, and whether or not “Big Tobacco’s” stock price climb is caused by an increase in risk. This involves an investigation of “Big Tobacco’s” stock standard deviation, beta, and value at risk.

Present Value Stock Models

EV/EBITDA

The free cash flow to firm is gathered for the period 1999-2016 from Bloomberg. This is divided by the number of ordinary shares in circulation for each year, to attain the free cash flow per share. 2016 is used as the final year share value, and this is extrapolated linearly forward by three years. The terminal value is calculated from the end of 2019.

To calculate an estimation of share value, the time value of money is accounted for by discounting each of the future cash flows to the present. Each of the three years forward is then added to the terminal value.

The formula is:

$$\text{Share value} = \frac{F_1}{(1+r)} + \frac{F_2}{(1+r)^2} + \frac{F_3}{(1+r)^3} + \frac{R}{(1+r)^3}$$

Where F_x denotes the appropriate free cash flow for that period. r is the required rate of return,³⁸ and R is the residual value of the firm. R is calculated in this case, by multiplying the EV/EBITDA multiple by the final year’s free cash flow per share.

That is,

$$R = FCF \times \frac{EV}{EBITDA} \text{ multiple}$$

Changes in the EV/EBITDA multiple occur on a year-on-year basis, and therefore require a sensitivity approach. Using a single value could privilege over- or underestimates of share values. Only the

³⁸ The required rate of return used here is WACC.

median value is reported here. Note that the upper and lower ranges of EV/EBITDA multiples used are taken directly from the values assigned to the firm over the 2010-2016 period.

Growth model

The growth model uses a similar approach to calculating share value. The same timeline for free cash flow per share is used, which is extrapolated forward the same length of time.

To calculate an estimation of share value, the time value of money is accounted for by discounting each of the future free cash flows to the present, and adding to it a terminal value.

This uses the formula:

$$\text{Share value} = \frac{F_1}{(1+r)} + \frac{F_2}{(1+r)^2} + \frac{F_3}{(1+r)^3} + \frac{TV}{(1+r)^3}$$

Where F_x denotes the appropriate free cash flow for that period. r is the required rate of return and TV is the terminal value of the firm.

TV is calculated, in this case, by letting the time period of free cash flows tend to infinity. It is therefore necessary to apply the perpetuity discount formula to calculate TV:

$$TV = \frac{F_3(1+g)}{(r-g)}$$

Where g is the growth rate of free cash flow. This is calculated by finding the compound average growth rate (CAGR) of free cash flow from 2010-2016. As with the EV/EBITDA multiple approach, a range of values for g is used to ensure that this approach is not susceptible to over- or underestimation. Again, only the median values are reported.

Dividend discount model

Possibly the most straightforward of the share estimation techniques, the dividend discount model (DDM) views shares as cash generating investments, and values them as the sum of all future payments.

The share value is calculated by gathering dividends per share for the period 1999-2016. To calculate an estimation of share value, the time value of money is accounted for by discounting each of the future cash flows to the present. A two stage DDM is used. The first stage is generated with a three year horizon. At the end of the three years, the perpetuity value is calculated assuming a constant growth rate. This is similar to the earlier growth model, but cash flows are in the form of dividends.

That is,

$$\text{Share value} = \frac{D_1}{(1+r)} + \frac{D_2}{(1+r)^2} + \frac{D_3}{(1+r)^3} + \frac{TV}{(1+r)^3}$$

Where D_x denotes the appropriate dividend for that period. r is the required rate of return and TV is the value of the final dividend in perpetuity.

TV is calculated in this case by letting the time period of free cash flows tend to infinity. Again, the perpetuity discount formula is applied to calculate TV:

$$TV = \frac{D_3(1 + g)}{(r - g)}$$

Where g is the growth rate of dividends. This is calculated by finding the compound average growth rate (CAGR) of dividends flow from 2010 to 2016. As with the EV/EVITDA multiple approach, a range of values for g is used to ensure that this approach is not susceptible to over- or underestimation. Only the extreme values (bearish and bullish) are reported.

Company	EV/EBITDA		Growth model		Actual price
	Lower	Upper	Lower	Upper	
BAT	USD 25,81	USD 38,02	USD 16,85	USD 19,99	USD 57,05
IMB	USD 33,35	USD 52,68	USD 33,35	USD 42,13	USD 51,54
JTI	USD 10,41	USD 19,49	USD 15,95	USD 30,25	USD 32,96
PMI	USD 57,46	USD 84,53	USD 55,76	USD 106,28	USD 91,49

Table 15: Stock price estimates of “Big Tobacco”

The results show a relatively clear conclusion. Using EV/EBITDA, all the lower bounds of the estimates are well below the actual share price. This approach assumes a worst-case scenario in terms of financing costs (required rate of return), as well as a worsening of the enterprise value back to 2011/2012 levels. Increased financing costs to this degree are not expected for all of “Big Tobacco”, and therefore the true stock price is likely to be above the lower bound. The upper bound of the EV/EBITDA estimates assumes a slight improvement in terms of financing costs, and a continuation of current growth in EV multiples. Here, the results are mixed. In the case of BAT, JTI and PMI, actual prices are well above the more generous estimates. IMB is the only firm that has an estimate *above* its current share price. This is attributable to two factors: in the first place, IMB has had spikes in its free cash flow to firm *per share* recently. A healthy free cash flow (above that of BAT, for example) means that, per share, the present value of future cash flows is higher. Secondly, IMB has controlled its cost of capital well. This helps provide future cash flows to maintain its present value. It should be remembered that the estimation relies on the EV/EBITDA multiple to generate the terminal value of the firm. EV is driven by market prices, and therefore has been seen to appreciate with time. The appreciation can become a self-fulfilling prophecy. Higher EV is associated with a higher EV/EBITDA multiple, which causes estimates of share price to become higher. The moment the market decides to re-evaluate the EV of “Big Tobacco”, estimates of their true share price change. This is a weakness of this approach which is worth noting. The growth model, as well as dividend discount model, do not suffer from the same ‘market-related’ pricing drawbacks. Overall, EV/EBITDA suggests a continued bullish sentiment in the market.

Similar results, but to a further degree, are seen using the growth model. All lower bounds are well below the actual share price, as are the majority of upper-bound estimates. PMI stands out here, owing to its continued focus to increase its free cash flow. Although the majority of the free cash flow per share is being paid out in dividends (which has implications for the DDM model), PMI’s quality of earnings and lower required return have helped advance PMI’s actual share price to within the boundaries of the best and worst-case scenarios. BAT, on the other hand, has been brought down by

its higher required return. The lower required returns for JTI and IMB are help bring the estimates here close to the true share price. JTI’s modest EV/EBITDA in the previous model is seen to be reversed here. When company fundamentals instead of market related factors are relied on, JTI is seen to be more promising. The reverse is the case for BAT in this context.

DDM model				Actual price
	Stage 1	Stage 2	Sum	
BAT	USD 8,29	USD 12,81	USD 21,10	USD 57,05
IMB	USD 8,38	USD 15,46	USD 23,84	USD 51,54
JTI	USD 5,21	USD 17,99	USD 23,20	USD 32,96
PMI	USD 16,25	USD 57,51	USD 73,76	USD 91,49

Table 16: DDM model estimates of “Big Tobacco” stock price

The DDM model looks only at dividends paid by each firm, and not at any of the fundamentals of the company. PMI has strong results here. This can be attributed to its commitment to increase dividends year on year, and to its lower required return, which increases its present value of future payments. BAT, on the other hand, is particularly hindered by this approach as its stocks command a higher return to investors. IMB and JTI have lower dividends than BAT or PMI, helping depress the estimates using this approach.

Bullish sentiment is seen to favour BAT particularly. Discussion of the purchase of RJ Reynolds Tobacco no doubt has had some effect on BAT’s share price. Uncertain exactly how much goodwill would be paid for the purchase, and how much synergy would come from the two merging companies, investors may stray from fundamentals. This might explain at least some of the share price’s deviation from the estimates given by this approach.

Each of these three approaches indicates one of two things. On one hand, the market may be overpricing “Big Tobacco”. As in most financial bubbles, actual share prices exceed fundamental estimates. In this case, estimates are above even market-related estimates of the company. A typical bubble goes through phases of growth and eventually reverses itself, tending toward fundamentals. However, if one looks at stock market prices, growth has been steady, and fundamentals have not been lagging behind. This is unlikely to be a case of stock market overpricing. On the other hand, it may be that the market still expects the growth seen in the 2000-2016 period to continue. By using more aggressive growth estimates, and simultaneously relaxing return requirements, estimates could overshoot “Big Tobacco’s” share price. This will be discussed further below.

Multiplier Models

The data is not manipulated for multiplier models. Instead, all values are taken directly from the Bloomberg terminal. P/E, P/Book, P/Sales and P/Free cash flow, market capitalization, and EV multiples are all free of manipulation. Although not listed below, they point to similar conclusions.

Company	2000	2004	2008	2012	2016
P/Sales					
BAT	1,00	1,74	2,96	3,98	5,82
IMB	2,43	2,88	1,50	1,55	2,69
JTI	0,34	0,33	2,31	2,18	3,21
PMI			3,50	4,51	5,32
EV/EBITDA					
BAT	5,82	5,63	11,55	12,29	19,71
IMB	7,71	9,35	13,00	9,66	14,74
JTI	5,42	3,09	10,14	8,01	9,84
PMI			8,79	10,82	14,58
EV/FCFF					
BAT	9,14	14,30	14,52	19,45	25,77
IMB	14,50	14,99	15,68	18,93	17,99
JTI	8,82	7,98	18,14	9,90	25,40
PMI			13,60	17,61	21,96

Table 17: Market ratios of "Big Tobacco"

The analyses of market-related ratios all point toward the same conclusion. The market has increasingly had a bullish view of "Big Tobacco" over the past 16 years. This means that relative to fundamentals, "Big Tobacco" has seen impressive growth.

"Big Tobacco's" share price and enterprise value have increased more than proportionally to its underlying fundamentals. The table above shows how, per dollar of sales, an investor is now willing to nearly six times what they were willing to pay in 2000 for a share. The same holds true when accounting for the market value of debt in the EV multiples. On average, investors are paying between two and five times as much as they were per dollar of EBITDA, and between two and four times as much per dollar of free cash flow to the firm.

Again, this does not necessarily point to overpricing. It may be a combination of reliable growth and the fact that "Big Tobacco" has completed its transition to a mature market. Other P/E multiple and EV multiple ratios indicate this as well. P/E and EV multiples often increase as firms transition from being a growth to a value firm, and this can be seen for "Big Tobacco" as well. However, the market expects "Big Tobacco" to continue its growth into the future.

Risk

Standard deviation

To calculate the standard deviation of risk, daily stock prices were gathered for each "Big Tobacco" firm for the period 2000-2016, and in the case of PMI, from 2008-2016 only. DataStream instead of Bloomberg is used here.

Standard deviation is calculated by using:

$$\sigma = \sqrt{\frac{\sum(x_i - \mu)^2}{n - 1}}$$

Where μ is the mean of the returns, n is the number of observations over the period, and x_i is the return for the current period.

For simplicity, daily standard deviation is converted to monthly using:

$$\sigma_{monthly} = \sigma_{daily} \times \sqrt{20}$$

Beta

The beta of a stock is a measure of volatility. It aims to identify how a stock reacts to movements in the market. A value of more than 1 indicates the stock will move more than the market. A higher value demands higher compensation because of the higher associated risk.

To identify a stock's beta, daily stock returns are regressed against an appropriate proxy for the market. Typically, this is a market-weighted index.

The formula is:

$$y_{stock\ return} = x_{index} + \varepsilon$$

Where $y_{stock\ return}$ represents the return of each of the "Big Tobacco" firms. x_{index} represents the value of the applicable market index during the same period. The appropriate market index is used for each stock. For example, in the case of PMI (whose headquarters are in the U.S.A.) the S & P 500 is used to track changes in the market; for BAT, the FTSE 100. The same coefficients can also be pulled directly from Bloomberg terminals to provide confirmation.

Value at Risk (VaR)

The purpose of Value at Risk is to identify the maximum expected loss given a level of confidence. Riskier stocks will have higher expected losses than their less risky counterparts. Investors therefore demand a higher return to compensate for the increased risk.

Value at Risk is calculated for each "Big Tobacco" company, as well as each of the market-weighted indices for reference. This involves first gathering each of the daily stock prices for the period 2000-2016. Daily percentage returns for each day are then calculated, as are the average return for the period and the standard deviation of returns. The data are then normalised, with a 95% one-sided confidence interval. For the sake of simplicity and interpretation, a value factor of \$100 is used.³⁹

It should be noted that the VaR measurement assumes a normal distribution. While this may be the case, many investors find that the tails of the distribution occur more frequently than in a normal distribution. A redeeming feature of this approach, however, is that the returns have been observed. Returns used in this paper have not been simulated, although many investors use Monte Carlo

³⁹ Most financial indicators use value at risk for a portfolio of stocks, and therefore have varying basket values. In those contexts, VaR is compared to the total basket value.

simulations to calculate potential disadvantages. Rather, these losses have already been observed over the 2000-2016 period. Although past returns are no indication of future returns, if one assumes the market is efficient the VaR approach does give an idea of potential risks with fair confidence.

Company	Std. deviation	Beta	Value at risk	
			Daily	Monthly
BAT	0,015918653	1,26	2,549431	11,4014
IMB	0,015066395	0,9	2,422268	10,83271
JTI	0,020743456	0,74	3,358292	15,01874
PMI	0,013806424	0,86	2,234559	9,993253
<i>S & P 500</i>	0,012185676	1	2,00574	8,96994

Table 18: Risk estimates of “Big Tobacco”

Results from Table 18 above show that “Big Tobacco” has a standard deviation mildly above that of the overall market. The S & P 500 is listed in the table, but the same holds true for the other major indices used. It is important to note that this standard deviation is first differentiated, as the stock data has a unit root. This means that the standard deviation here is percentage based, not based on absolute value. This lack of risk has implications for the pricing of the asset. Although most pricing models use variants of the Capital Asset Pricing Model (CAPM), standard deviation gives us insight into stock volatility unrelated to other stock index movements.

The beta estimates reach a similar conclusion, that “Big Tobacco” is not typically reactive to market movements. For example, a 10% increase in the market value of an index like the S & P is associated with a 8.6% increase in the case of PMI, *ceteris paribus*. “Big Tobacco” has an important advantage over other stocks – its stock price does not overreact to shifts in the market. It does not demand a higher return as it offers some defence against regular business cycle movements.

The VaR estimates confirm other estimates in this study. All of “Big Tobacco” promises little more risk than the overall market does. Although JTI is the riskiest in terms of monthly downside, this is not to say the stock is a risky asset. Rather, it has the lowest beta and in some cases the least association with the market, but has more volatile movements. As VaR was estimated in terms of percentage, it can be concluded that BAT will not lose more than 11.4% in a month, with 95% confidence. This is low, when one assumes that the market as a whole would lose 8.9% given the same confidence interval.

In summary, this chapter highlights three key elements. Market perceptions may either be overpricing tobacco, or expect past trends to continue into the foreseeable future. This can be seen in the gap between share price estimates and the actual share prices. Although these estimates are subject to assumptions, sensitivity analysis allowed a broader range of possible true share values. Far more extensive stock evaluation methods exist, but the purpose here was not to look forward and define future stock movements, but rather to find market-related approaches to the current pricing of “Big Tobacco” stocks. Secondly, the bullish trend of “Big Tobacco” has continued for the past 16 years. Price and enterprise multiples have been seen to increase relative to “Big Tobacco’s” underlying fundamentals. This follows the maturity of the tobacco industry. While these multiples are not in the hundreds (and therefore expecting exponential growth), the ratios suggest that the upward

momentum will continue. Finally, there is a lack of associated risk with “Big Tobacco” stocks. While past performance is not an indication of future gains, it should be noted that “Big Tobacco” is well diversified in international markets and generally offers a shield against sharp economic movements. Barring aggressive changes in corporate strategy, it is unlikely that any of the stocks will acquire an appetite for risk in the foreseeable future.

Conclusion

The purpose of this paper was to understand some of the key reasons why “Big Tobacco” has done consistently well despite changes in the tobacco industry. By focusing on acquisitions, margins, leverage and market-related ratios, the trends of each of the firms can be seen. These trends in “Big Tobacco” movements are consistent with financial theory.

“Big Tobacco” has committed to a strategy of consistently increasing margins and gaining market share through acquisitions to offset a decline in cigarette sales. The big five have recently become the big four through BAT’s acquisition of RJ Reynolds, and there may be further consolidation in the industry if CNTC looks to expand its reach into Europe. Investors stand to gain the most as large payments for goodwill are typically associated with acquisitions.

At the same time, “Big Tobacco” has maintained its dividend growth, despite worsening free cash flow/dividend ratios. There has also been a slowing cash conversion cycle throughout the industry. Debt level changes and share buybacks were seen to help promote positive ROE values. PMI is the only one of the “Big Tobacco” firms to follow a negative equity strategy, which required the use of other accounting ratios for the sake of comparability.

Finally, the evaluation of free market ratios shows that investors still expect to see growth in “Big Tobacco”. Price and Enterprise value ratios have increased over the 2000-2016 period. Although the stocks offer impressive low risk/volatility measures, it is difficult to see the same growth occurring in the future. Post-merger synergies and growth in the vaping and logistic markets are redeeming factors on an otherwise slowly worsening balance sheet.

“Big Tobacco” has used its market position well, making the most of investment opportunities on a global scale and optimising debt and cash flows. This practice has made the firms a good stock in which to invest. With key fundamentals falling over time, however, management will have difficulty replicating the revenue and margin growth of 2000-2016. Tax reform and adverse health awareness are unlikely to alleviate the stress on “Big Tobacco” fundamentals.

Further research into country-specific corporate data could be beneficial. This paper only had access to public information which is likely to have been aggregated to the global level. Changes in costs, revenues, and margins might show varying differences if data collected was regionally, or even for each country separately. Similarly, further information on the growing vaping market from “Big Tobacco’s” point of view would complement this paper well.

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Appendix 1A: List of acquisitions

British American Tobacco:

BAT	Company Targeted	Acquisition type	Country	Region	Cost associated
1999	Rothmans International	Acquisition	England	European Union	\$7.55 billion
2000	Imperial Tobacco Canada ⁴⁰	Acquisition	Canada	Americas	\$6.8 billion ⁴¹
2001	Gurel Group	Joint venture	Turkey	EEMEA	\$200 million
	Eastern Tobacco Company	Joint venture	Egypt	EEMEA	\$30 million
	Vintaba	Joint venture	Vietnam	Asia	\$65 million
	BAT South Korea	Company creation	South Korea	Asia	\$80 million
	Taesong-BAT	Joint venture	North Korea	Asia	\$7.1 million
2003	Ente Tabacchi Italiani	Acquisition	Italy	European Union	\$2.3 billion
2004	Brown & Williamson merges with RJ Reynolds	Merger	U.S	Americas	42% of \$10 billion company
2008	Tekel, the Turkish state tobacco company	Acquisition	Turkey	EEMEA	\$1.72 billion
	Skandinavisk Tobakskompagni	Acquisition	Denmark	European Union	\$2.185 billion
2009	Bentoel	Acquisition	Indonesia	Asia	\$494 million
2011	Protobaco	Acquisition	Colombia	Americas	\$452 million
2012 ⁴²	CN creative	Acquisition	U.K.	European Union	\$65 million
2013	CTBAT	Joint operation	Hong Kong	Asia	Classified in fin reports ⁴³
	BAT Myanmar Limited	Joint venture	Myanmar	Asia	\$50 million
	BAT Bangladesh	Acquisition by share increase	Bangladesh	Asia	\$37 million
2014	Lorillard ⁴⁴	Acquisition	U.S.A	Americas	\$4.7 billion

⁴⁰ This has no association with Imperial Brands

⁴¹ Imperial Tobacco becomes a wholly owned subsidiary through the purchase of IMASCO

⁴² BAT also announces that it will help fund the purchase of Lorillard by Reynolds American. This is discussed in detail in the Reynolds American portion of this paper.

⁴³ BAT does not disclose a cost as this is a joint operation with China Tobacco. Instead, sales and profits are recorded in the Asia-Pacific region as continuing operations. BAT maintains its 50% of all income from CTBAT.

⁴⁴ BAT maintained its 42% share in Reynolds American by assisting in the purchase of Lorillard Tobacco

2015	Souza Cruz	Acquisition	Brazil	Americas	\$2.4 billion
	TDR	Acquisition	Croatia	EEMEA	\$604 million
	CHIC	Acquisition	Poland	European Union	\$106.6 million
	Blue Nile Cigarette Company	Acquisition	Sudan	EEMEA	\$60 million
2016	Ten Motives	Acquisition	UK	European Union	\$72 million
2017	BAT is set to acquire the remaining share of Reynolds American	Acquisition	U.S.A	Americas	\$49 billion

Phillip Morris International:

PMI	Company Targeted	Acquisition type	Country	Region	Cost associated
2001	Headquarter transfer to Luasanne, Switzerland				-
2003	PMI Philippines	Creation	Philippines	Asia	\$300 million
	Papastratos	Acquisition	Greece	European Union	\$386 million
	Izhora plant	Creation	Russia	EEMEA	\$330 million
	Fabrika Duvana	Acquisition	Serbia	EEMEA	\$47.3 million
2005	Sampoerna	Acquisition	Indonesia	Asia	\$5billion ⁴⁵
	Coltobaco	Acquisition	Colombia	Americas	\$310 million
	China National Tobacco Corp	Joint operation	China	Asia	Joint operation ⁴⁶
2006	ITLJ	Acquisition	Dominican Republic	Americas	\$427 million + share in ELJ beer subsidiary ⁴⁷
	Murratti and Ambassador brands from BAT	Acquisition	International ⁴⁸	-	\$115 million + Benson & Hedges rights in some areas
2007	Lakson Tobacco	Acquisition	Pakistan	EEMEA	\$339 million
	Grupo Carso ⁴⁹	Acquisition	Mexico	Americas	\$1.1 billion
2008	Rothmans Inc	Acquisition	Canada	Americas	\$1.9 billion
	Interval Trademark ⁵⁰	Acquisition	U.K.	European Union	\$407 million
2009	Swedish Match South Africa	Acquisition	South Africa	EEMEA	\$256 million
	Swedish Match AB	Joint venture	Sweden	European Union	Classified in fin reports ⁵¹
	Protabaco	Acquisition	Colombia	Americas	\$452 million
	Alliance One, and Universal Leaf Tobacos - purchasing of tobacco leaf supply	Acquisition	Brazil	Americas	\$83 million
	Petteroes Tobacco	Acquisition	Norway	European Union	\$209 million
2010	Fortune Tobacco Corp ⁵²	Acquisition	Philippines	Asia	\$1.17 billion

⁴⁵ Initial offer of 40% of outstanding shares, plus 57% from the public tender offer executed concurrently

⁴⁶ Covers the distribution and manufacturing of the Marlboro brand in China

⁴⁷ E. León Jimenes, C. por. A, a Dominican Republic business focusing on cigars and breweries

⁴⁸ Areas outside of BAT primary interest

⁴⁹ Furthering its interests; not starting a new venture

⁵⁰ Purchased from Imperial Tobacco

⁵¹ PMI records half of all economic activity in its financial statements.

⁵² Resultant company named PMFTC Inc

2011	Vintaba	Joint venture	Vietnam	Asia	Classified in fin reports ⁵³
	International Tobacco Cigarettes Company	Acquisition	Jordan	EEMEA	\$42 million
2013	Grupo Carso	Acquisition	Mexico	Americas	\$703 million
	Megapolis – part purchase of 20%	Acquisition	Russia	EEMEA	\$750 million
	AITA – 49% interest ⁵⁴	Acquisition	Algeria	EEMEA	\$625 million
2014	Nicocigs Limited	Acquisition	U.K.	European Union	\$103 million

⁵³ PMI records half of all economic activity in its financial statements.

⁵⁴ As a result of this, PMI owns 25% of STAEM – the Algerian joint venture in cigarettes and other tobacco products

Japan Tobacco International:

JTI	Company Targeted	Acquisition type	Country	Region	Cost associated
1999	RJ Reynolds International operations	Acquisition	U.S.A	Americas	\$7.8 billion
2006	Duvanska Industrija Senta	Acquisition	Serbia	EEMEA	\$35 million
2007	Gallaher Group PLC	Acquisition	U.K.	European Union	\$14.25 billion
2009	Kannenberg	Acquisition	Brazil	Americas	
	KBH&C	Acquisition	Brazil	Americas	\$230 million ⁵⁵
2011	Ploom	Minority stake acquisition	Japan	Asia	Undisclosed
	Haggar Cigarettes	Acquisition	Sudan	EEMEA	\$450 million
2012	Gryson NV	Acquisition	Belgium	European Union	\$600 million
2013	Al Nakhla**	Acquisition	Egypt	EEMEA	Estimated \$500 million ⁵⁶
	Megapolis 20% share	Acquisition	Russia	EEMEA	\$750 million
2014	Zandera	Acquisition	U.K.	European Union	Undisclosed; Estimated \$100 million ⁵⁷
2015	Ploom tech ⁵⁸	Acquisition	U.S	Americas	Undisclosed
	Arian Tobacco	Acquisition	Iran	EEMEA	Undisclosed
	Logic	Acquisition	U.S	Americas	Undisclosed
2016	Natural American Spirit trademark	Acquisition	U.S	Americas	\$5 billion
	National Tobacco Enterprise Ethiopia	Acquisition	Ethiopia	EEMEA	\$510 million
	Fluxo Brasil Distribuidora do Produtos	Acquisition	Brazil	Americas	Undisclosed
	La Tabacarela	Acquisition	Dominican Republic	Americas	Undisclosed; Estimated \$30 million

⁵⁵ This is the sum total for acquisition of both KBH&C and Kannenberg

⁵⁶ JT quoted the acquisition as being a multiple of Al Nakhlas EBITDA

⁵⁷ Multiple of E-Lites yearly revenue of \$26 million

⁵⁸ Name changed to Pax-labs

Imperial Brands:

IMB	Company Targeted	Acquisition type	Country	Region	Cost associated
2000	EFKA Group	Acquisition	Germany & Canada	European Union & Americas	
	Baeln Group	Acquisition	Belgium	European Union	\$124.5 million ⁵⁹
2001	Tobaccor 75% share	Acquisition	France	European Union	\$268.5 million
2002	Reemtsma Cigarettenfabriken GmbH	Acquisition	Germany	European Union	\$4.2 billion
	Tobaccor 25% share	Acquisition	France	European Union	\$63 million
2004	CTC Tube Company	Acquisition	Canada	Americas	\$43.5 million
2006	Davidoff trademark	Acquisition	Sweden	European Union	\$664 million
2007	Commonwealth Brands	Acquisition	U.S	Americas	\$1.9 billion
2008	Altadis	Acquisition	Spain	European Union	\$17 billion
	Logista ⁶⁰	Acquisition	Spain	European Union	\$1.3 billion
2009	Jr Cigar & MCM Management ⁶¹	Acquisition	U.S	Americas	\$81 million
	Skruf Snus AB	Acquisition	Sweden	European Union	\$56 million
2013	Dragonite International E-Vape	Acquisition	U.S	Americas	\$75 million
	Cambodia distribution ⁶²	Acquisition	Cambodia	Asia	\$66.4 million
2015	Reynolds American <i>blu</i> , and four other brands	Acquisition	U.S	European Union	\$7.1 billion

⁵⁹ Total cost of EFKA and Baeln

⁶⁰ Those shares that were not originally owned by Altadis at the time of acquisition; the remaining 40%

⁶¹ Those shares that were not originally owned by Altadis at the time of acquisitions; the remaining 49%

⁶² Imperials former distribution partner

IMB cigarette volume						
	2007	2008	2009	2010	2011	2012
UK	22,9	21,4	20,8	21,1	19,2	18,7
Germany	20,4	19,5	23,9	23,2	23,4	22,6
Spain			30,3	25,3	20,8	18,7
Rest of Western Europe	19,6	18				
Rest of EU			59,3	59,6	57,8	53,4
United States	7,1	14,2				
Rest of world	130,3	134	174,1	167,6	168,6	168,8
Americas			13,8	11,9	12,3	10,3
Growth markets						
Returns markets						
Total	200,3	207,1	322,2	308,7	302,1	292,5

JTI cigarette volume										
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
North & Central Europe	39,3	50,8	47,5	49	49,1	49,9	50,4	51,6	53	54,2
CIS+	195,1	219,7	214,6	203,6	197,8	197,44	185,2	165,7	152,5	141,4
South & West Europe	55,2	64	64,5	63,2	60,8	62,65	60,9	59,8	63,2	65,2
Rest of the World	85,7	117,7	108,4	112,7	118	126,5	119,8	120,8	125,2	137,9
Japan	174,9	167,7	159,5	151,8	134,6	108,4	116,5	112,4	109,2	106,2
Total	550,2	619,9	594,5	580,3	560,3	544,89	532,8	510,3	503,1	504,9

Appendix 1B: Cigarette volume, by region (billions):

BAT cigarette volume										
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Europe	245	254								
Asia-Pacific	145	153	185	188	191	188	197	197	198	196
Latin America	151	147								
Africa and Middle East	101	120	127	124						
America-Pacific	42	41								
Western Europe			130	119	135	129	119	112	112	120
Eastern Europe			131	128						
Americas			151	149	143	142	134	131	124	113
EEMEA					236	235	226	227	229	236
Total	684	715	724	708	705	694	676	667	663	665

PMI cigarette volume										
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
EU	258	244	235,3	223	211,493	198	185,1	185,197	194,589	193,586
EEMEA	290	303	298,7	289,3	290,25	303,8	296,5	287,923	279,411	271,393
Asia	212	224	226,2	282,3	313,282	326,6	301,3	288,128	281,35	260,029
Latin America & Canada	89	99	103,8	105,3	100,241	98,6	97,3	94,7006	91,92	87,938
Total	849	870	864	899,9	915,266	927	880,2	855,9486	847,27	812,946