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**Piaggio & C. SpA the Vespa case study – a parallel
analysis of qualitative and quantitative research
approaches**

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Abstract

The purpose of this dissertation is to study the Piaggio & C. company and its most known product – the Vespa – looking at it from different perspectives. In particular, two methods are prominent in the dissertation: (1) quantitative analysis of financial and economic data, sourced from the balance sheets and income statements relative to the period 1945 – 1972; and (2) qualitative analysis of the sources.

Although the financial studies relates to the abovementioned period for reasons tied to documentation availability, the history of the company is analysed since its origins. The rationale is that of understating the framework and the environment in which the business operated and developed. Indeed, it is of vital importance, to validate the interpretations done through the quantitative analysis, to construct a sort of “text from the field” (M. Rowlinson *et al.*, 2014) or background knowledge, like it would be done in an “ethnographic approach”. In this case, the analysis of the history of the company represents the first step to acquire an insight vision on the culture of those years. Therefore, following the notion of “thick description” (Geertz, 1973), the history acknowledged by Piaggio is analysed, integrated and critically discussed, to then be related to the quantitative analysis.

The result is the highlight of the relationships which tied the company, the Vespa and Italy throughout history. The study gives evidence about the course of actions followed by great entrepreneurs in response to the economic and cultural difficulties which manifested while managing the business.

Introduction

The purpose of this dissertation is to analyse the history of the Piaggio & C. S.p.A company and, in particular, its most famous product: the Vespa. The analysis is conducted via quantitative and qualitative methods, in a time period ranging from the 1945 to the 1972. The study starts from an analysis of the history of the company in relation to that of the country, in order to understand the background preceding the concept and creation of Vespa. Then, the financial analysis of Piaggio are introduced with the aim of further investigating the development and success of the latter.

From the quantitative perspective the focus is on the study of the financial data available: primarily from those coming directly from the balance sheet and income statements of the company, and subsequently from those reported in a study at an industry level. Particular attention is placed on major economic events occurred on a national level, with the purpose of understanding the implications they had for the finances of the company, and vice-versa.

From the qualitative perspective all the documents and studies reported in this dissertation have been carefully selected. Therefore, the data and information trustworthiness has been consistently checked – as far as possible – with respect to the archive sources I had physically and virtually access to, and to the studies of major authors in the field. The aim of this method of investigation was that of reliably integrate and compare the history and finance of the company – declared by the same – with different sources.

Finally, the two perspectives are not precisely distinguished, in the sense that the qualitative approach is present throughout the dissertation. Rather, the study reveals how the history and financial state of the company intertwines with those of the country.

1. Piaggio & C. S.p.A. history from the origins to the birth of Vespa

The Piaggio's company origins date back to the 5th of September 1882, Geona – Sestri Ponente – where, at the time, Enrico Piaggio buys a plot of land and establishes a steam-powered sawmill for timber processing (Piaggio & C. SpA, 2018; Ministero per i Beni e le Attività Culturali, 2018). The location is not chosen by chance, rather, it follows a practical function. It is, as a matter of fact, near the shipyard (G. Doria, 1969) “Cantieri Odero” (“Odero Construction”) (Piaggio & C. SpA, 2018) where wood represents one of the most important raw materials.

In 1884, Enrico's son, Rinaldo Piaggio¹, at the time only 20 years old, establishes the “Società Rinaldo Piaggio” (“Rinaldo Piaggio Company”) – effectively taking-over the father's business – and directs the firm activities towards the construction and supply of naval furniture (Piaggio & C. SpA, 2018). This are the beginnings of Rinaldo entrepreneurship, who despite his youth, stands out for his managerial and entrepreneurial skills. He starts to manage the father's business and to establish relationships with the most skilled people in different fields related to the company activities.

Shortly afterwards, in the 14th of September 1887, Rinaldo founds the Piaggio & C. company – a limited partnership company with Pietro Costa a sculptor, Giuseppe Piaggio a ship-owner and Giacomo Pastorino a landlord (Piaggio & C. SpA, 2018; T. Fanfani, 1994). All the company members are effectively limited partners, except for Rinaldo who holds the general partner, and therefore managerial, role (Piaggio & C. SpA, 2018; T. Fanfani, 1994). The partners that Rinaldo chooses are not randomly selected, as a matter of fact, they are all among the maximum experts in their field of knowledge. They all carry out a functional role: an artist for the furniture, a ship-owner who knows and understands the maritime-market and a landlord who helps and contributes to the raising of capitals (E. De Simone, 2017).

This is a particular historical period for Italy. The country is in the middle of the industrial revolution (Piaggio & C. SpA, 2018) and the business is growing to the point where, few years later, Rinaldo liquidates his partners and becomes the only stakeholder (T. Fanfani, 2009).

¹ Rinaldo Piaggio was born the 15th of July 1864 in Genoa, from his father Enrico Piaggio (ship-owner and merchant) and his mother Francesca Dapino (Enciclopedia Treccani, 2018).

Later in the century, Rinaldo expands his production to a plant nearby the “Odero Construction”. The strong relationship built between Piaggio and Odero families leads in 1893 (M. Cainella, 2012), to the marriage between Rinaldo and Elena Odero² (Enciclopedia Treccani, 2018; Ministero per i Beni e le Attività Culturali, 2018).

Subsequently, in 1895, Nicolò joins the business by buying the previous partners’ shares (Enciclopedia Treccani, 2018), and therefore, becoming de facto the only limited partner; meanwhile, Rinaldo maintains his general partner role in the company. The company is then renamed Piaggio & Compagno (R. Tolani, 2010), where “Compagno” stays for “Partner” who now is only Nicolò (Elogio alla vespa, 2018).

Some sources affirm how already between the 1887 and 1889 Attilio Odero was already partner of the Piaggio & C., however, there are no evidences about this fact. Indeed, the first financial link between Rinaldo and Attilio happens in 1906 with the acquisition of the “Officine di Finalmarina” (“Finalmarina Workshop”). Moreover, the first document that we know about witnessing a relationship between Rinaldo and Attilio – relative to the Piaggio & C. at a financial business level – is dated: 8th of March 1920 (Figure 1). As further proof, the first relations between the Piaggio and Odero families which have influenced Rinaldo’s business are – according to various sources – the marriage between Rinaldo and Elena Odero and the subsequent partnership with Nicolò Odero, Attilio’s father (My Heritage (1), 2019). For the abovementioned reasons it is unlikely that Attilio participated – before 1889 – at the foundations of either the Rinaldo Piaggio Company or the Piaggio & C., and at least not at an equity/shareholder level. Instead, what can be – most likely – assumed is that there could have been a relationship which tied the two, due both to the correlation of the business activities, as well as, the geographical proximity.

² 1868 – 1936; daughter of Marcello Odero, brother of Nicolò Odero (M. Cainella, 2012; My Heritage (2), 2019).

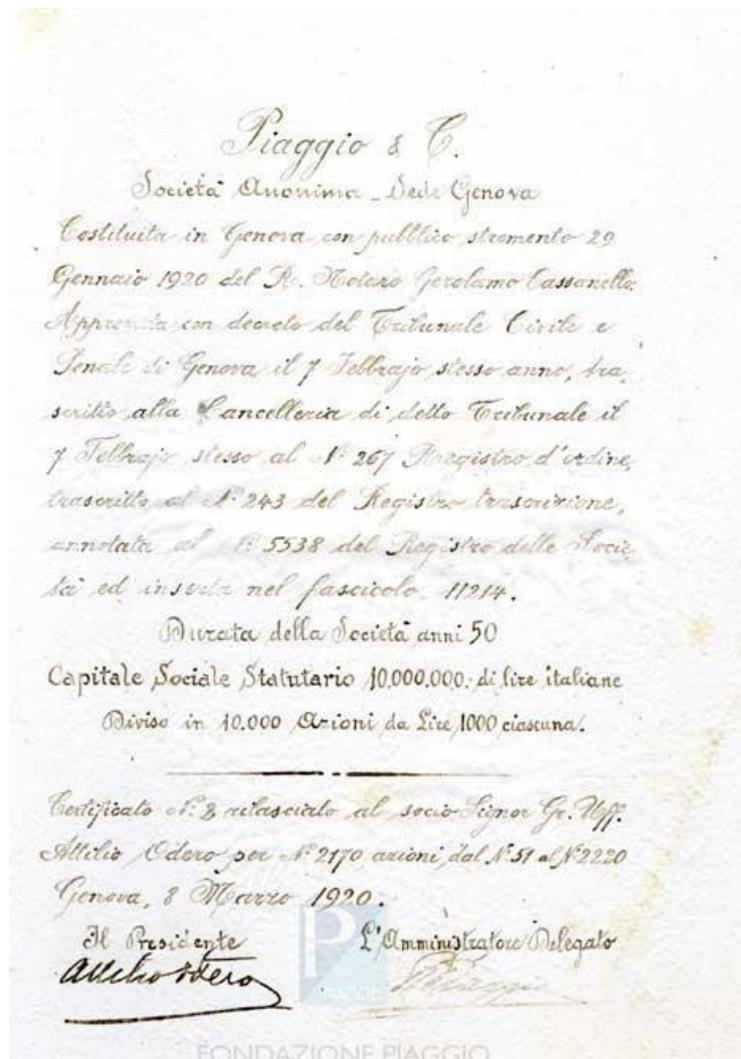


Figure 1: Document certifying the release of Piaggio & C.'s shares to the shareholder Attilio Odero, Genoa the 8th of March 1920 (Archivio Storico Antonella Bechi Piaggio, Fondazione Piaggio).

Entering in the 1890s the company growth possibilities seems to decrease, therefore, Rinaldo decides to use the competences developed in the shipping sector to enter the railway sector (Ministero per i Beni e le Attività Culturali, 2018). He establishes a build and repair activity for both goods and passenger wagons (Ministero per i Beni e le Attività Culturali, 2018) with the purpose of serving the Italian railways companies. The development prospects of the railway sector, leads in the 9th of June 1906 (Croce, 2018) – also thanks to the collaboration with Attilio Odero who provided two-thirds of the share capital – to the purchase and establishment of the Finalmarina Workshop, located in Finale Ligure (Ministero per i Beni e le Attività Culturali, 2018).

Moving into 1916, “the social role who Rinaldo envision for his company becomes clear: to increase the occupation rate and to participate at the national economic development” (Piaggio & C. SpA, 2018). This vision is the consequence of the critical period that Italy is facing. As a matter of fact, the country is in the middle of World War I³ and has just declared war to the German empire⁴. The beginning of the war causes an increase in the demand for the railway and shipbuilding sectors, and at the same time, it opens up business possibilities in the aviation sector (Piaggio & C. SpA, 2018). The Finale Ligure and Sestri Ponente plants are fully engaged in the production of means of transportation for the war (Enciclopedia Treccani, 2018). Rinaldo – acknowledging the chance of joining the aviation sector – starts, in 1915, a build and repair activity of airplane parts⁵, and in the following year, to build, under licence, military floatplanes⁶ (Enciclopedia Treccani, 2018). Strong of this favourable period, in 1917, he takes-over the aeronautical company “Officine aeronautiche Francesco Oneto” (“Francesco Oneto Aeronautical Workshops”), located in Pisa, in order to expand his business (Enciclopedia Treccani, 2018).

With the end of the war in 1918, Italy switches back from a war to a peace economy. At the country level, this creates a negative impact to all those companies which plants were used to supply the war. However, Piaggio & Compagno is almost untouched from this changes; the main reason being the business diversification (Piaggio & C. SpA, 2018). Nevertheless, Rinaldo, unsure about the company future, finds a new financially sound partner with high financial and managerial skills: Attilo Odero (Piaggio & C. SpA, 2018). Therefore, in 1920, Rinaldo restructures the company and founds with Attilo the “Società anonima Piaggio & C.” (“Piaggio & C. public limited company”): the former covering the CEO role while the latter acquiring the chairman position (Piaggio & C. SpA, 2018).

The following period from 1920 to 1923 – despite the hard economic times from an historical perspective – is characterized by a new expansion phase where Rinaldo and Attilo aim at seeking the best technicians and at upgrading their plants (Piaggio & C. SpA, 2018).

In 1923, with the new company structure, the focus shifts towards the aeronautical technicians. In particular, the choice falls on Giovanni Pegna, designer and aeronautical

³ Italy participation period: 24th of May 1915 – 3rd of November 1918.

⁴ The 27th of August 1916.

⁵ Notice how the approach towards the new industry is similar to that of the railway sector.

⁶ Farman mod. 1914 and Caproni 600 hp (R. Tolani, 2010).

engineer, member of the Pegna–Bonmartini establishment (Piaggio & C. SpA, 2018; *Elogio alla vespa*, 2018). Giovanni is renowned for his great abilities (L. Mancini, 1936), up to the point where Bonmartini – his business partner – opposes to the negotiations regarding his recruitment (Piaggio & C. SpA, 2018). Therefore, Rinaldo, acknowledging the difficulties in reaching an agreement, decides to acquire the establishment as a whole (Piaggio & C. SpA, 2018). In the same year, Giovanni completes the project he was working on since 1922, a monoplane prototype for military use which will be named P.2: Piaggio 2 (L. Mancini, 1936). The P.2 marks the beginning of a long production phase in the aeronautical business⁷.

What Attilio and Rinaldo are doing – “a constant and continuous research of competences and technicians able to quickly lead to innovative projects” (Piaggio & C. SpA, 2018) – is, more than anything else, a strategy based on their entrepreneurial experience. They were both seeking for the “competitive advantage” and they were willingly to invest for it. The diversification acquired throughout the years, the assets and the available resources, gave them the bargaining power needed to expand the business. As a matter of fact, in 1924, to increase the production scale of vehicles and engines, Rinaldo acquires the “National mechanical constructions” plant located in Pontedera (Piaggio & C. SpA, 2018). The result of this operation is that the production of engines is no more tied to authorizations, but rather, to own patent (Piaggio & C. SpA, 2018). Indeed, also thanks to the importation of foreign technologies, the production of Jupiter engines starts under own patent: acquired from the “Société des moteurs Gnome et Rhône” (Treccani, 2018; Piaggio & C. SpA, 2018).

The following years are characterized by an increasing success and development which gives to Rinaldo the opportunity to produce a variety of products tied to the transport sector, specifically, cars and airplanes (Piaggio & C. SpA, 2018). This new expansion phase is remarked by the doubling of the share capital in 1930 (M. Cainella, 2012). However, America is in the middle of the Great Depression period⁸ and the financial crisis soon hits Italy. The years following 1930 are characterized by a sudden decrease in orders and production which causes the reduction of the share capital – in the 16th of December 1932 (Piaggio & C. SpA, 2018) – to a third of the original amount. Rinaldo reacts to the crisis by strengthening the research and development department (Piaggio & C. SpA, 2018), believing that only through the genius of his collaborators and their innovative inventions the company could overcome

⁷ Remarkable examples: P.7 and P.108 (L. Mancini, 1936; Piaggio & C. SpA, 2018; P. Ferrari, 2003).

⁸ 1929 – late 1930s (J. A. Garraty, 1986).

the crisis. Therefore, along with Pegna, the company acquires the competences of other great minds in the field of aeronautical engineering: Giovanni Gabrielli⁹, Giovanni Casiraghi¹⁰ and Corradino D'Ascanio¹¹ (Figure 2: example of a Piaggio's letter for a job offer) (Piaggio & C. SpA, 2018).

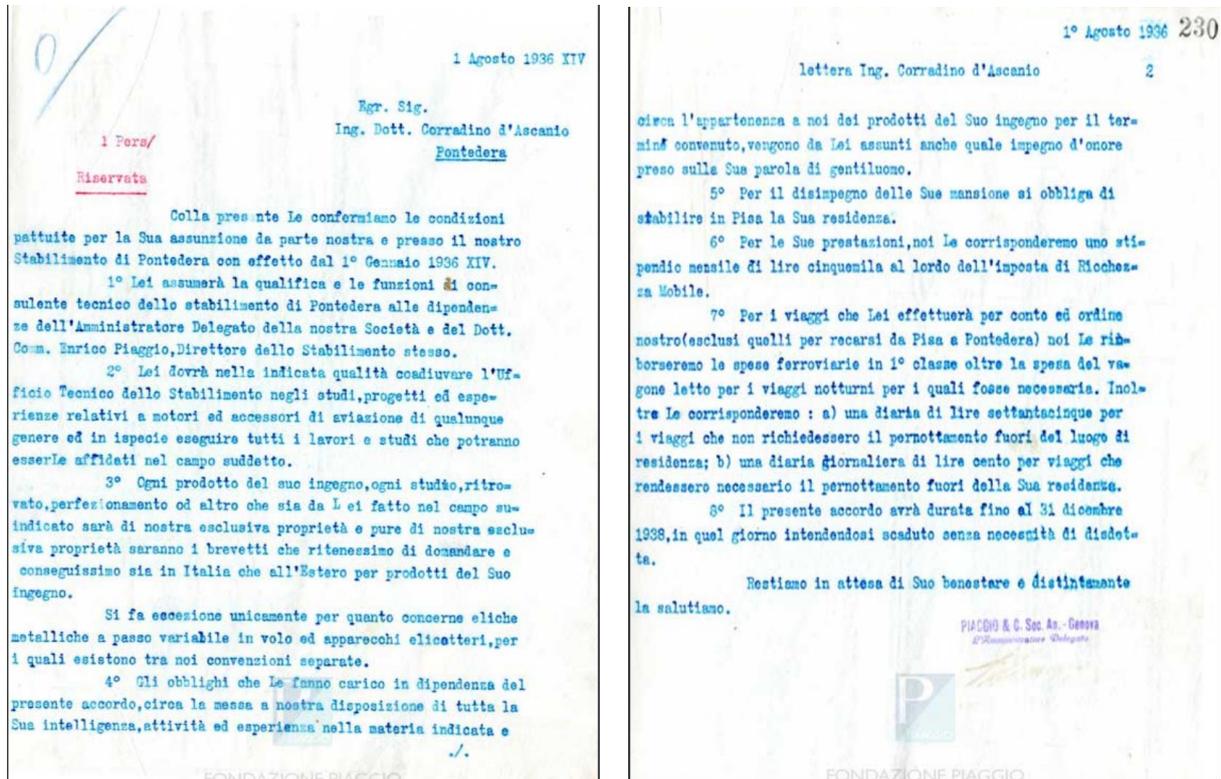


Figure 2: Letter addressed to the engineer Corradino D'Ascanio, offering a job position as a technical consultant at the Piaggio plant in Pontedera for the period going from the 1st of January 1936 to the 31st of December 1938; 1st August 1936 (Archivio Storico Antonella Bechi Piaggio, Fondazione Piaggio).

All of Rinaldo actions and expectations leads, in 1938, to a full economic recovery enshrined by the increase in revenues and subsequently of the share capital. However, in January 15th of the same year, Rinaldo Piaggio dies, and therefore, his two sons inherit the managers role

⁹ Hired in 1927, he designed one of the first Italian's wind tunnels, in Finale Ligure (R. Tolani, 2010).

¹⁰ Hired in 1936, he replaced Pegna and became the head of the aircraft technical management (P. Chiarlone, 1986); moreover, in 1937, he designed the P.108 (R. Tolani, 2010).

¹¹ Hired in 1932, he designed and patented the "elica a passo variabile" in 1932 ("variable pitch propeller"); moreover, in 1930, he built one of the first prototypes of modern helicopters (G. Antonio Fiorilli, 1986; Archivio di Stato di Pescara, file 222; Centro Regionale Beni Culturali, 2019).

(Piaggio & C. SpA, 2018). The activities are split as following: Armando takes control of the aeronautic and railway sectors which relates to the Genoa and Finale Ligure plants; meanwhile, Enrico handles the Pisa and Pontedera plants (Piaggio & C. SpA, 2018).

All this is happening right before World War II¹², while Piaggio is active in different fields, producing: naval furniture, trains, aircraft's engines, airships, lorries, tramways, buses, funiculars and aluminium shutters (Piaggio & C. SpA, 2018). As the conflicts starts Italy enters in a war economy state, again implying that Piaggio plants are used to supply the war. For their strategic role, especially from an aeronautical perspective, the establishments become a primary target for the enemies (Piaggio & C. SpA, 2018). In war time, the plants gets either completely or partially destroyed, and therefore, becomes unable of producing at the same rate (Piaggio & C. SpA, 2018). This event can be acknowledge both in the story regarding the MP5 ("Moto Piaggio 5") and in the witness reported in the Administrative Board of the 1946 balance sheet:

"Following the Armistice of 8 September 1943, the German army occupied the Piaggio plants in Pontedera, suspending all orders for the Italian Royal Air Force. After a first displacement of men and machinery in small warehouses in the surrounding area, the need for a more massive transfer became more and more evident, made even more pressing by the first allied bombings. From the early months of 1944, workers and machines began to flow into Piedmont, and in particular in the area of Biella." (Piaggio & C. SpA, 2018)

"Dopo l'epilogo dell'immane conflitto che ha sconvolto tutta l'umanità, che purtroppo ha lasciato il nostro Paese completamente devastato, e con l'economia dissestata in ogni ramo della sua attività, anche la nostra Società si è trovata di fronte a dei problemi immensi per riorganizzare i Vostri Stabilimenti ed avviarli ad una produzione di pace.

"After the epilogue of the terrible war that shocked all mankind and which, unfortunately, left our Country completely destroyed and with an unstable economy in every field of activity, also our Company has faced immense problems to reorganize Your Establishments and re-launch them in a peace production.

Di tutti i Vostri Stabilimenti, l'unico rimasto Of all Your Establishments, the only one left

¹² 1st September 1939 – 2nd September 1945.

intatto e in condizioni di riprendere, sia pure in forma ridotta, l'attività produttiva, era quello di Genova – Sestri, mentre quello di Finale era pressoché chiuso, in quanto tutti i suoi impianti e macchinari erano stati decentrati, come vi è noto, nel Piemonte.

Di quelli della Toscana, gli Stabilimenti di Pisa e Pontedera Sezione 2^a, erano distrutti completamente, mentre lo Stabilimento di Pontedera Sezione 1^a, per quei locali ancora intatti, era occupato dalle Forze Alleate ed adibito a deposito parti di ricambio automezzi.“ (Assemblea Generale Ordinaria degli Azionisti, 1946).

Finally, as the conflicts come close to an end, the death of Attilo Odero in the 11th of May 1945 and the conversion – in the same year – to a peace economy negatively affect the production capacity of the establishments¹³ (Piaggio & C. SpA, 2018).

This witnesses gives evidence of the conditions in which the plants were. Although there is a lot of work to be done, Armando finds himself in the position to restart the business activities since the damages his plants received are partials. Moreover, the success obtained by Casiraghi and D'Ascanio – who designed the P.148¹⁴ and the P.149¹⁵ – allows for an initial recovery of the production capacities (Piaggio & C. SpA, 2018).

¹³ In particular, the steel-working companies (Piaggio & C. SpA, 2018).

¹⁴ First flight :1951 (The Illustrated Encyclopedia of Aircraft, 1985).

¹⁵ First flight: 1953 (The Illustrated Encyclopedia of Aircraft, 1985).

2. The birth of Vespa

Differently from Armando, Enrico has to care about the plants which are completely destroyed, and therefore, decides to rebuild them from scratch (Piaggio & C. SpA, 2018). At this stage, he is more than ready to face the situation. As a matter of fact, already in 1944 he was preparing to face the problems which could have arisen after the end of the war (Piaggio & C. SpA, 2018). Indeed, in the early months of the same year, Enrico evaluated the possibility to give to his business a new direction and scope “the individual mobility” (Piaggio & C. SpA, 2018) by setting a new objective: to contribute to the motorization of the Italian population with a simple, efficient, affordable and easy to drive – women included – vehicle (Piaggio & C. SpA, 2018). To achieve his vision, he firstly hires – as project manager – the engineer Renzo Spolti¹⁶, and then, in a second stage, the engineer Corradino D’Ascanio.

Enrico, in the Spring of 1944, entrust Spolti: “to design a vehicle to be destined to the mass market of the post-war economy, in line – in terms of productive sustainability – with the company's policies” (Piaggio & C. SpA, 2018). Spolti, assisted by the engineer Vittorio Casini and a team of technicians, begins to work on the project after examining a scooter called “Simat”. The Simat, property of the Count Carlo Felice Trossi who lives in Biella (Museo Piaggio, 2018), was designed by Vittorio Belmondo in 1940 (G. Sarti, 2006) and produced by the Volugrafo mechanical workshops. As abovementioned, men and machinery were displaced in Piedmont during wartime; and precisely, in Biella, where Carlo hosted the Casini family in the guesthouse of the Gaglianico castle (Museo Piaggio, 2018). Therefore, inspired by the Simat, Spolti designs his version of the scooter which could be distinguished from that of Belmondo for the large protective shield and the headlight applied to the front fender (Museo Piaggio, 2018); characteristics which Corradino D’Ascanio retains in his version (Museo Piaggio, 2018).

The planning phase starts in the summer of 1944¹⁷ (Piaggio & C. SpA, 2018), but the first model is produced only in the spring of the following year. The scooters are identified by the technicians as MP – “Moto Piaggio” – starting from the MP1 up to the MP5¹⁸ variant (Museo

¹⁶ Spolti was the Head of the Aircraft Projects Office between 1934 and 1938 (Piaggio & C. SpA, 2018). He directed the design and calculation for the Italian Aircraft of the P.X, P.XI and P.XII engines (Piaggio & C. SpA, 2018).

¹⁷ The first technical drawing dates back to August 31st (Museo Piaggio, 2018)

¹⁸ The MP5 will be nicknamed “Paperino” (“Donald Duck”) after two test drivers called it this way due to its shape, coining – de facto – its “unofficial” name (Museo Piaggio, 2018).

Piaggio, 2018). The development of the project included five different studies, which were distinguished by differences in the engines: some models were built with automatic transmission, while others with two-speed manual transmission (Museo Piaggio, 2018).

Piaggio reports that the automatic transmission was experimented with both a roller automatic system and a belt system with leather cleats: the former solution proved too heavy for the miniscule power developed by the engine, while the latter – which was inspired by the gearbox used by the American Salsbury on the Motor Glyde scooter – was set aside due to the rapid wear of the components (Museo Piaggio, 2018). These tests demonstrated the inefficiency of the automatic transmissions, and – at the same time – the need for a better, more comfortable and easy-to-use manual transmission. Moreover, despite the central installation of the engine giving the vehicle a certain stability while driving, the tunnel between the saddle and the handlebar – intended to accommodate the propeller – took away some practicality in taking seat on a driving position (Museo Piaggio, 2018). Finally, the push-ignition put further away the less athletic people, especially women (Museo Piaggio, 2018).

Enrico, who gave preventive provisions for a batch of one-hundred vehicles, is not fully convinced by the MP5 (D. Mazzanti, 2003). Indeed, in May 1945 (I. D'Incecco, 2018), on a visit to Biella with Corradino D'Ascanio, Enrico Piaggio sees the Paperino and, although liking the idea of a small vehicle, is not yet convinced by its design (Museo Piaggio, 2018). As a matter of fact, the MP5 never reaches the mass-production to the extent that in the early months of 1946 only seven scooters are actually completed (Museo Piaggio, 2018).

At this point, Enrico entrusts D'Ascanio to re-think the MP5 design or to propose an alternative (Piaggio & C. SpA, 2018). The brief is: to create a nimble and widespread used vehicle (Piaggio & C. SpA, 2018). To the legitimate question of the engineer about where and how the engine should be housed, Enrico replied: the engine “non si deve vedere, ci pensi lei” (“it should not be visible, you take care of it”) (G. Antonio Fiorilli, 1986).

However, D'Ascanio does not like motorcycles (Piaggio & C. SpA, 2018). He thinks they are uncomfortable and with a limited use (Piaggio & C. SpA, 2018). In particular, he argues about the difficulties related to tyre changing and the risks associated to the transmission chain which can get the driver dirty (Piaggio & C. SpA, 2018). Therefore, inspired by the Paperino, he decides to re-design a completely new scooter which has nothing to do with the motorcycle and/or with the MP5.

The concept and design

Despite the war D'Ascanio did not move to Biella, and therefore, he starts drawing the first sketches of the project in a small settlement in Fornacette, near Pontedera, where in 1945 the "Ufficio Tecnico Progetti" ("Technical Design Office") had temporarily moved (Museo Piaggio, 2018). In few weeks he addresses a solution for every problem and designs a completely different vehicle. First of all, he removes the central tunnel by introducing a linear gearbox; a solution that eliminates the chain, making the engine a unique unit with the rear wheel (Museo Piaggio, 2018). To quote Giorgio Sarti: "The rear mounted engine allowed the scooter to be mounted easily without having to straddle a central tunnel and kept the engine-transmission assembly compact" (G. Sarti, 2006). Thanks to the engine location – and decades before the spread of ergonomic studies – the riding position is designed to let the rider sit comfortably and safely, not balanced dangerously as on a high-wheel motorcycle (R. Lieback, 2010). Indeed, the engineer first sketches a person comfortably sitting and then draws the vehicle underneath (Figure 3) (Piaggio & C. SpA, 2018). To facilitate driving, D'Ascanio introduced the handlebar gearshift¹⁹, a device that allows the driver to remove the clutch and change gear with just one hand (Museo Piaggio, 2018). He then designs a load-bearing body mounting a 98cc engine with direct drive mechanism (Museo Piaggio, 2018). Instead of the classical motorcycle fork, he opts for a lateral supporting arm – similar to an aircraft carriage – to make tyre changing easy in the event of puncture (Museo Piaggio, 2018; G. Sarti, 2006). Again, to quote Sarti: "The small-diameter wheels guaranteed great manoeuvrability and allowed a spare wheel to be carried" (G. Sarti, 2006). Finally, the mudguards, the large body – which reminds that of the Paperino – and the engine sealing and position, protect the driver and prevent him/her from getting dirty or dishevelled (Museo Piaggio, 2018).

¹⁹ Piaggio will file it as a patent in the 23rd of July 1946 (Museo Piaggio, 2018).

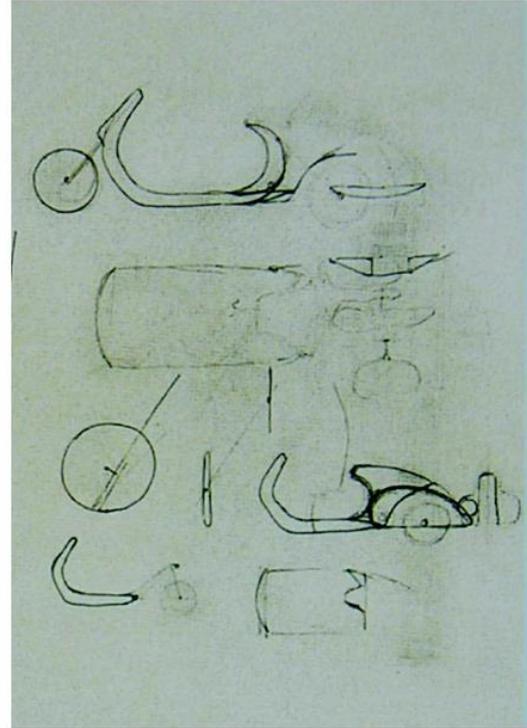
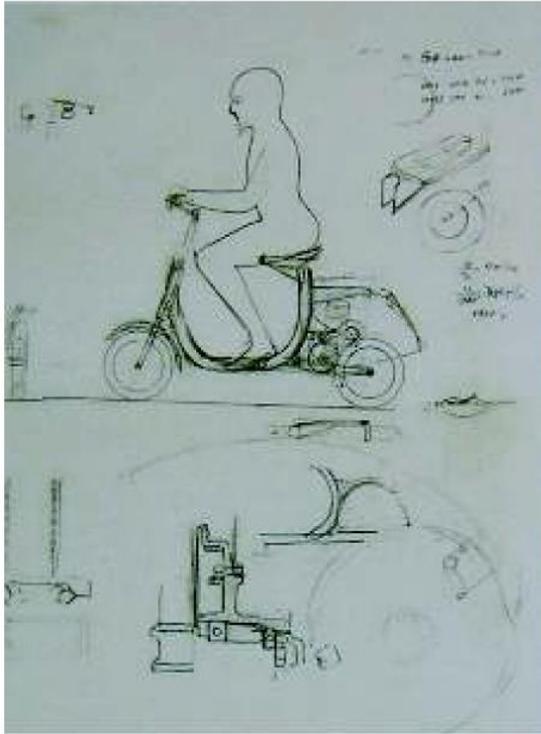


Figure 3: First sketches of the engineer Corradino D’Ascanio, studying the driver position, relative to the vehicle which will evolve in the “Vespa”. (G. Sarti, 2006)

It is renowned how, throughout the project, the fundamental design element which drives the philosophy of the vehicle is the lightness of the materials (Museo Piaggio, 2018). This care for the materials comes from D’Ascanio’s aircraft background, where these have to be simultaneously light and resistant (Museo Piaggio, 2018). And especially considering D’Ascanio’s background, different sources support the thesis of how not only the philosophy around the materials, but also the majority of the innovations introduced by the engineer came directly from his aircraft experience. Although this is true for the supporting arm of the front wheel, Tommaso Fanfani²⁰, after having examined and studied several documents of the Piaggio archive, reports how there is no mention about the use of aeronautical components (Motociclismo d’epoca, 2006). To quote the magazine Motociclismo d’epoca:

“Del resto, lo stesso Corradino D’Ascanio, “After all, Corradino D’Ascanio himself, in nelle sue memorie, fa riferimento a soluzioni his memoirs, refers to aeronautical solutions aeronautiche trasferite sulla Vespa transferred to the Vespa solely for the support

²⁰ 15th of November 1943 – 24th of February 2011; chairman of the “Fondazione Piaggio” from 1998 to 2011 (S. Milozzi, 2011; Saturno notizie, 2011; Internet Archive, 2019).

unicamente per il supporto della ruota of the front wheel.”
anteriore.” (Motociclismo d’epoca, 2006)

The lack of references about the use of aeronautical components can also be witnessed in one of the few articles found in D’Ascanio’s archive, dated the 2nd of July 1948: “Quando e come è nata la Vespa” (“When and where Vespa was born”).

“Nel periodo bellico il Dott. Piaggio si è posto il problema della trasformazione degli stabilimenti che producevano motori, eliche ed aeroplani per l’Aeronautica Militare, per una produzione di pace.

Infatti, per suo ordine, durante il periodo dell’occupazione tedesca, gli Uffici Tecnici di Pontedera che si erano trasferiti a Biella, esaminarono il problema studiando le costruzioni esistenti nel campo del motociclismo utilitario.

Terminata l’occupazione tedesca, mi recai con il Dott. Piaggio dalla Toscana, dove ero rimasto durante l’avanzata alleata, a Biella e lì fui incaricato di studiare e progettare una motocicletta utilitaria.

Essendo ignaro del problema, dato che mi sono sempre occupato di aeronautica, e non essendo schiavo di tradizioni, ho concepito questo mezzo di locomozione seguendo criteri intuitivi e pensando che questa - macchina doveva servire per me che non ero motociclista.

Ricordando che molte volte viaggiando avevo visto sui margini della strada delle motociclette depezzate [sic] per la riparazione

“In war time, Dr. Piaggio looked at the issue of the transformation of the establishments which produced motors, propellers and airplanes for the Air Force, for a peace production.

In fact, under his order, during the German occupation period, the Technical Office Of Pontedera that moved to Biella, examined the problem, studying the existing vehicles on the utilitarian motorcycling field.

At the end of the German occupation, I moved with Dr. Piaggio from Tuscany, where I stayed during the Allied advance, to Biella, and there I was instructed to study and design an utilitarian motorcycle.

Ignoring the problem, since I always dealt with aviation, and not being slave of traditions, I created this means of locomotion following intuitive criteria, thinking that I - as a non-motorcyclist - would have used this vehicle.

Remembering that while travelling I have noticed a lot of times disassembled motorcycles [sic] on the side of the roads for the repairing of an inner tube, I thought that having a flat tire should not constitute a

di una camera d'aria, ho pensato come prima cosa che una bucatina non dovesse costituire per il motociclista un problema meccanico, come non lo è per un automobilista.

Il fatto poi che avrebbe dovuto servire per me, mi ha imposto di risolvere il problema di come inforcare comodamente la macchina, cosa già risolta per la bicicletta da donna.

Problema anche da risolvere era quello di manovrare intuitivamente e senza togliere le mani dal manubrio.

Per evitare inoltre di imbrattarmi il vestito nel modo motociclistico, ho pensato che il motore dovesse essere lontano e coperto e dovesse costituire un complesso con la ruota posteriore.

È nata di conseguenza la trasmissione senza catena con il cambio in linea e compreso nel gruppo ruota-motore.

Il Dott. Piaggio ponendomi i problemi ed esaminando le soluzioni con la sua intuizione ed il suo spirito critico, ha permesso di giungere velocemente ad una definizione avente carattere pratico. I miei collaboratori, alcuni dei quali lavorano con me da molti anni, e gli operai, compresi dell'indirizzo nuovo che prendeva il nostro lavoro e dell'importanza che ciò avrebbe avuto per la ripresa e per l'avvenire dell'industria, hanno fatto miracoli tanto che, tra la progettazione e la costruzione dei primi esemplari, non sono intercorsi più di 2-3 mesi.

Dato [sic] i primi risultati il Dott. Piaggio

mechanical problem for the motorcyclist, as it is not for a driver.

Then, the fact that I would have needed it for myself, forced me to solve the problem of how to get on the motorcycle in a comfortable way, issue already solved for the woman bicycle.

Another issue was that of manoeuvring intuitively and without taking the hands off the handlebar.

Moreover, in order to avoid getting dirty and dishevelled in the motorcycling way, I realised that the engine should have been far, covered, and constitute a unique unit with the back wheel.

Consequently, the chain-less transmission was born with the gearbox inline and included in the wheel-motor unit.

The Dr. Piaggio, by asking me the problems and examining the solutions with his intuition and his critical spirit, allowed to quickly achieve a practical definition. My collaborators, some of whom have been working with me for years, and the workers, aware of the new direction of our work and of the importance that this would have had for the recovery and future of the industry, made miracles to the extent which it didn't take more than 2-3 months to move from the design to the actual creation of the first models.

Given [sic] the first results, Dr. Piaggio, with great foresight and nerve (despite the

con grande lungimiranza e coraggio (bisogna ricordare i tempi, si era alla fine del '45, tutti speculavano e nessuno costruiva) ne ha ordinato la messa a punto e la costruzione in serie.

Infatti, in Aprile del '46, i primi esemplari della serie uscivano dallo Stabilimento di Pontedera, che completamente distrutto, ritornava a nuova vita.

Da allora, lo Stabilimento è stato del tutto ricostruito, le macchine sono state recuperate e rimesse in efficienza, gli impianti e le attrezzature sono state costruite secondo i più moderni criteri per la lavorazione di serie. Diecine di migliaia di macchine sono ormai uscite dalle catene di montaggio.

La "VESPA" dà ormai pane a migliaia di operai e costituisce un mezzo di vita per molte migliaia di persone, costruttori ed utenti.

L'intuizione di un mezzo moderno che avesse la popolarità della bicicletta, le prestazioni della motocicletta, l'eleganza e la comodità dell'automobile, è ormai realizzata.

Si è ormai diffusa in ambienti, prima d'ora assolutamente alieni dall'usare un veicolo a due ruote motorizzato, ed è perciò diventato un mezzo d'uso necessario per la vita moderna.

La produzione continuamente sviluppata, ormai superiore alle 100 macchine giornaliere, non riesce ad alimentare le richieste tanto che altri valenti costruttori, si

times, it was the end of 1945, where everybody speculated and nobody produced) ordered the testing and series-production.

Indeed, in April 1946, the first models of the series went out from the Pontedera Establishment, which completely destroyed, came back to a new life.

Since then, the Establishment has been completely rebuilt, the machinery have been recovered and restored, the plants and equipment built according to the most modern standards for mass production. Ten thousands vehicles have by now left the assembly lines.

The "VESPA" provides a wage for thousands of workers and constitutes a means of living for many thousands of people, manufacturers and users.

The intuition of a modern means with the popularity of a bicycle, the performance of a motorcycle, and the elegance and comfort of a car, is finally realised.

It spread by now in those environments that were not used to utilize a two-wheels motor vehicle, and for this reason it became a necessary means for modern life.

The continuously developed production, by now superior to 100 vehicles, is not able to supply the requests to the extent which other valid manufacturers, directed towards the Vespa formula.

The experience of the first tens of thousands of vehicles made it possible to

sono orientati sulla formula Vespa.

L'esperienza delle prime diecine di migliaia di macchine, ha consentito di fare il tipo "125 c.c." che, esente dalle inevitabili imperfezioni di una prima serie, raggiunge quelle qualità di prestazione e di conforto che l'uso ha già riconosciute e che hanno ormai "fissato" il tipo, aumentando sempre più la diffusione della "Vespa" sia in Italia che nel mondo."

(Archivio di Stato di Pescara, Archivio D'Ascanio, file 167)

create the "125 c.c." model, which free from the inevitable imperfections of the first series, reaches those qualities of performance and comfort which the use has already recognised and by now "fixed" the type, increasing more and more the spread of the "Vespa" both in Italy and worldwide.

Moreover, Fiorilli reports that in the same archive a second article on the Vespa has been found, to quote him:

"L'articolo è una rielaborazione del precedente, tuttavia vi sono due periodi essenziali che si riportano perché chiariscono meglio i criteri di progettazione del D'Ascanio, principalmente progettista aeronautico." (G. Antonio Fiorilli, 1986)

"The article is a reworking of the previous one, however there are two essential periods which are reported because they clarify the design criteria of D'Ascanio, mainly aeronautical designer."

The article, substantially identical to the first, is dated: 2nd of March 1955, Pontedera (G. Antonio Fiorilli, 1986):

"Per alcune soluzioni fondamentali della Vespa mi sono ispirato alle concezioni aeronautiche; ad esempio il supporto monotubo per la ruota anteriore sostituisce egregiamente la tradizionale forcella di origine ciclistica e consente la rapida sostituzione della ruota. Per quello che

"For some fundamental solutions of the Vespa I was inspired by aeronautical concepts; for example the single-tube support for the front wheel superbly replaces the traditional motorcycling fork and allows the rapid replacement of the wheel. With respect to the chassis, it is also a bodywork like in the

riguarda il telaio esso è anche carrozzeria modern automotive concept and for its come nella moderna concezione particular craftsmanship, it offers even automobilistica e per la sua particolare greater resistance than the old tube system. lavorazione, offre una resistenza anche Also in this solution I was supported by the maggiore del vecchio sistema a tubi. Anche experience in the aeronautical field where the in questa soluzione mi ha sorretto l'esperienza lightness of the components does not have to nel campo aeronautico dove la leggerezza be prejudicial to its strength.” dell'organo non deve pregiudicarne la robustezza.” (C. D’Ascanio, 1956)

After all, what can be given for sure is that the aeronautical influence did its part on the project and design of Vespa. However, beside the type of materials used and the support of the front wheel, there are no references that we know about, which tie the other innovations to D’Ascanio’s aircraft background. To deepen the understanding on the true origins of Vespa, Rapini in his book “Il romanzo della Vespa”, studies, at an international level, the environment in which the evolution of the scooter has taken place. He explains how most of the innovations introduced and attributed to D’Ascanio, were in reality already utilized and tested in other vehicles in different countries. He also compares the “biography”²¹ of D’Ascanio to where these innovation were introduced, to conclude that there is a sort of correlation between the two. Therefore, although the fame of the innovations adopted by D’Ascanio cannot be questioned, the success of Vespa has more to do with a mixture of knowledge and experience coming from different sources, rather than just the aeronautical one. Indeed, Vespa can be thought as the “final product” of those years, which gathered the best known solutions coming from different fields of engineering.

Finalized his sketches, D’Ascanio goes to the decentralized Technical Design Office²², to interface with the designers and technicians who would have develop the detailed project (Museo Piaggio, 2018). Thanks to the memories of Renzo Tinagli²³, we can take a look –

²¹ Rapini studied D’Ascanio’s education, in particular, in relation to the places he has travelled throughout his life and especially before the creation of the Vespa.

²² Located in Biella at the “Poma” barrack (Piaggio & C. SpA, 2018).

²³ 1921 – 1998 technician of the D’Ascanio team for the project and development of the MP6 (I. D’Incecco, 2019).

from a technician perspective – at the personality of D’Ascanio, as well as, the technical and friendly relationship between the latter and his team:

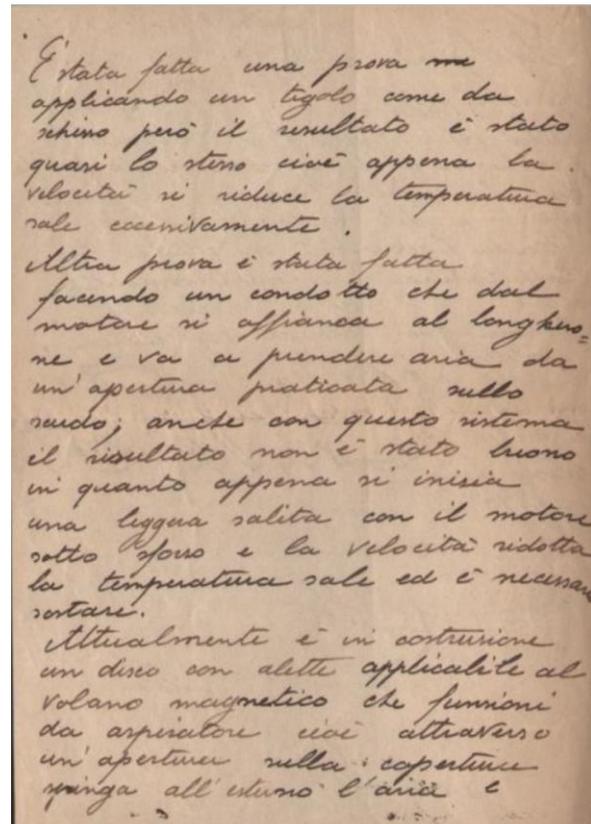
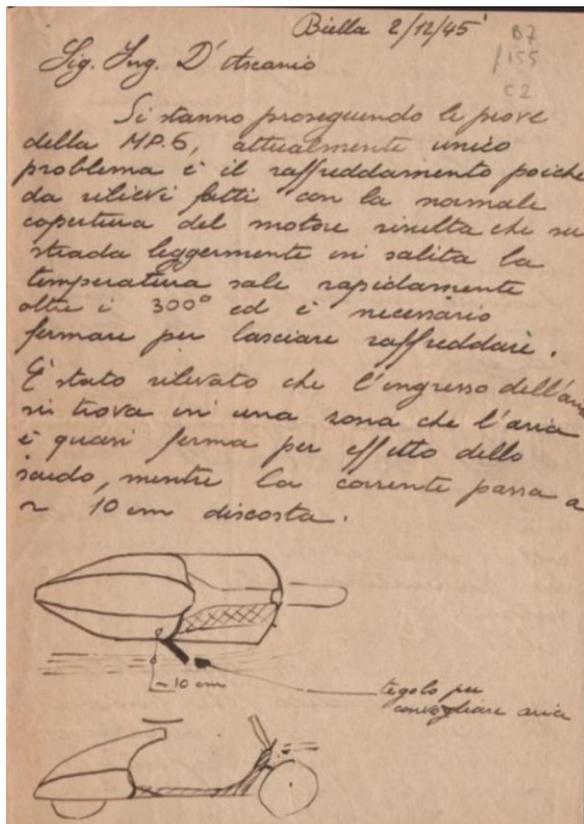
“Come dimenticare il calco del sedere di Cagnacci (altro tecnico) definito da tutti la dimensione media per la sella prevista inizialmente in lamiera come la Harley-Davidson degli americani!”. Viene costituito un piccolo reparto sperimentale dove si lavora con gli schizzi di D’Ascanio, “mente superiore non accettava il limite, gran perfezionista nei progetti, disegnatore geniale non era mai soddisfatto, non vedeva mai la fine, sempre meglio, sempre avanti, sempre di più. Con noi in ufficio usava sempre una matita molto morbida, esprimeva cosa voleva a volte sul palmo della mano o sui nostri disegni [...] non sempre era possibile stargli dietro con facilità [...] con gli estranei o con gli allievi dell’Università aveva il dono della comunicativa, tutto diventava semplice e ovvio. In parole povere l’ing. D’Ascanio è stato un genio e un gran maestro per noi tutti.” (R. Tinagli, 1997).

“How to forget the mould of Cagnacci’s ass (another technician) defined by everybody the average size for the saddle initially planned in sheet metal like the Harley-Davidson of the Americans!”. A small experimental department is set up to work with D’Ascanio’s sketches, “superior mind that did not accepted limitation, great perfectionist in the projects, brilliant designer, never satisfied, he never saw the end, always better, always ahead, always more. In the office – with us – he always used a very soft pencil, he expressed what he wanted sometimes on the palm of his hand or on our drawings [...] it was not always possible to easily follow him [...] with strangers or with the University’s students he had the gift of communication, everything became simple and obvious. In simple terms, the engineer D’Ascanio was a genius and a great teacher for us all.”

D’Ascanio, in the first weeks of September 1945, presents his prototype – the MP6 – in the workshop of Vigliano Biellese (Museo Piaggio, 2018). The legend has it that Enrico at the sight of the MP6 – by hearing the buzz of the engine and noticing the contrast between the narrow “waist” and the wide central part where the rider sat – exclaimed: “Sembra una vespa!” (“It looks like a wasp!”) (Archivio Storico Piaggio, Press Piaggio Group, 2018; R. Lieback, 2010; Elogio alla vespa, 2018). However, beside the legend, different sources report that in realty Enrico commented: “Questo veicolo è l’ideale per donne e preti ma come farà a reggere due persone con quel... vitino di vespa?” (“This vehicle is ideal for women and priests, but how will it handle two people with that ... wasp waist?”) (I. D’Incecco, 2019;

Centro Regionale Beni Culturali, 2019). The first narrative, probably a by-product of marketing and advertising, is, however, somewhat close to the original factor from which the name originated. In any case, from that moment on the MP6 will be known as “Vespa”.

The prototype is tested by Vittorio Casini²⁴ on the uphill road which goes from Biella to Oropa (G. Sarti, 2006). Differently from the Paperino, which – for the engine cool-down – counted on a forced air circulation system through a fan fixed on the flywheel, the first MP6 prototype relied only on a dynamic cool-down system (Museo Piaggio, 2018). Indeed, the technicians thought that thanks to the side position of the engine, some louvers on the bonnet would have been enough (Museo Piaggio, 2018). However, the cooling revealed almost inexistent – as it can be witnessed in the letter sent by the engineer Panzani to D’Ascanio (Figure 4) – because of the wide shield which prevented the air to lap upon the engine of the moving vehicle (Museo Piaggio, 2018). After some modifications, the technicians decided to introduce on the flywheel a flip-off disc able to produce a stream of air to the benefit of the propeller functioning (Museo Piaggio, 2018).



²⁴ Commenting on the MP6 with his thick Tuscan accent he said: “Questo hoso qui ti va anche sui muri” (“This thing can go even on walls”) (G. Sarti, 2006).

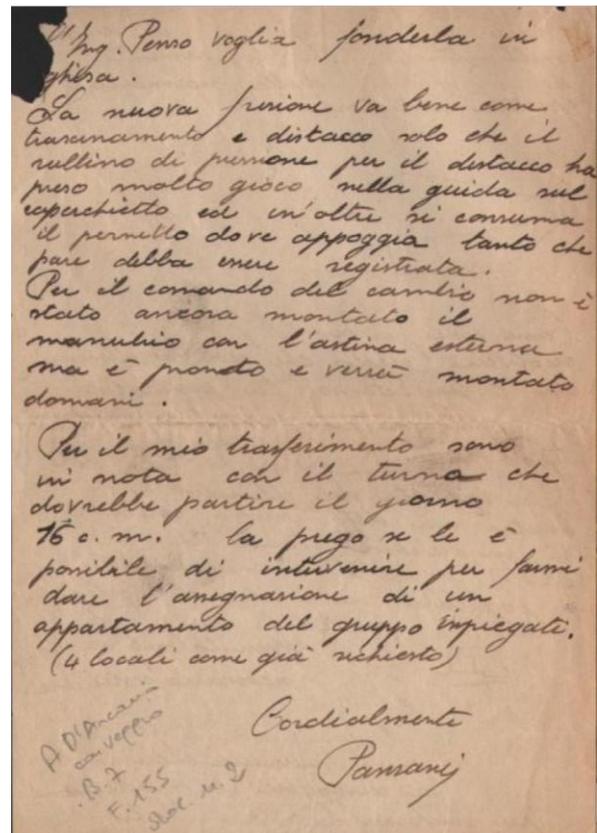
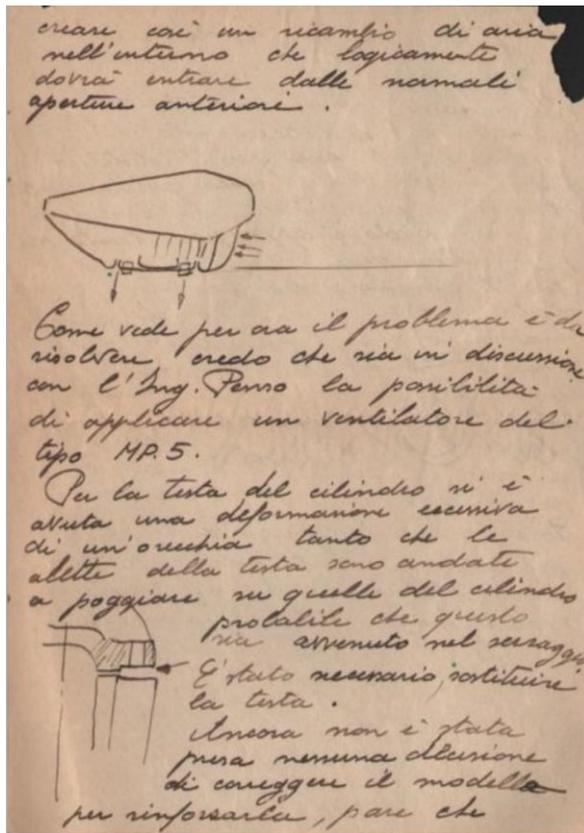


Figure 4: Letter of the engineer Panzani to Corradino D'Ascanio, in which are described some problems (with particular references to the cooling system and the possible solutions) encountered during the technical tests of the MP6 prototype; Biella the 2nd of December 1945 (Archivio di Stato di Pescara, Archivio D'Ascanio, file 155).

In January 1946, five experimental version of the MP6 are built at the Pontedera plant (Museo Piaggio, 2018). They are different from each other, but always closer to the final version which will be later sold on the market (Piaggio & C. SpA, 2018). In particular, as Sarti explains, two different series of the MP6 can be recognized: “One version had the brake pedal on the right, angular side-panels (with a lower fold), no badging on the leg-shield, the gearshift behind the shield part rigid and part flexible and a kick-start pedal with an articulated arm. A second version had the brake pedal on the left, rounded side-panels (with no lower fold, a Piaggio logo in the centre of the leg-shield (or a Vespa script on the left), rigid gearshift controls and a non-jointed kick-start pedal.” (G. Sarti, 2006)

In the February 1946, after acknowledging the reliability of the solutions presented by Corradino, Piaggio technicians' led by D'Ascanio, define the final project to be mass-

produced for the market (Museo Piaggio, 2018), indeed, minimal modifications were required: from asymmetrical to symmetrical side-panels and the relocation of the horn from under the saddle to the leg-shield (G. Sarti, 2006). However, the lack of adequate machinery prevented the production of the mould for the Vespa bodywork in the Pontedera plant (Museo Piaggio, 2018). Therefore, Piaggio is forced to outsource the production to an external supplier (Museo Piaggio, 2018). This leads to the “Serie Zero” (“Zero Series”) – which is effectively the first batch of Vespa – to be produced with artisanal techniques, as a matter of fact, the bodywork was obtained through riveting (Museo Piaggio, 2018). Finally, in April 1946 – thanks to the deal with Alfa Romeo – the first moulds are delivered to Piaggio, therefore, marking the beginning of the mass market production (Museo Piaggio, 2018). In the 24th of April 1946, at midday, Enrico Piaggio files the patent – Modello di Utilità n°25546 (Utility Model n°25546) – for a: “motocicletta a complesso razionale di organi ed elementi con telaio combinato con parafanghi e cofano ricoprenti tutta la parte meccanica“ (“motorcycle composed of a rational group of parts and elements with a frame combined with mudguards and a casing covering the entire mechanical part”) at the Ministry of Trade and Industry, in the central patents office of Florence (Piaggio & C. SpA, 2018).

“The creation of Vespa marked the start of a new page in the history of Piaggio, a page that would be totally different from the preceding 60 years of the company’s existence because, starting from Vespa, the Pontedera factory would abandon aeronautical projects and production to courageously ride ahead on the scooter market.” (Piaggio & C. SpA, 2018)

The models

Vespa is initially produced with two different engines: 98cc – the Italian standard version – and 125cc. Because of the different laws governing the taxation on registered vehicles, the former type is destined to Italian users, while the latter to the foreign market; indeed, the 125cc version will enter the Italian market only in 1948 (Museo Piaggio, 2018). However, the production of 137 vehicles with the 125cc version, show how Enrico is following since the beginning the dream of selling the Vespa all over the world (Museo Piaggio, 2018). Some documents give evidence how – already in the late 1946 – Vespa arrived to Switzerland, USA and South America (Piaggio & C. SpA, 2018). Indeed, right after the first, Enrico started to file specific patents for foreign countries to extend the protection against imitations (Piaggio & C. SpA, 2018).

With respect to the models, Vespa is initially produced in two different models: “Lusso” (“Luxury”) and “Normale” (“Normal”) (Piaggio & C. SpA, 2018). The second one is distinguished from the first for the painted and non-chromed handlebars, for the support strips to the platform in Dural profile without rubber seal and for the saddle in artificial leather instead of natural leather (Museo Piaggio, 2018). The luxury type comprehended extras like: odometer, lateral kickstand and the tyre with the white side (Museo Piaggio, 2018). The models came at different costs: Lire 61.000, for the luxury version; Lire 55.000 for the normal version (Museo Piaggio, 2018). At the end of 1946, Enrico acknowledges that offering a cheaper version to boost the selling is no more necessary, and therefore, the normal model will not be produced anymore (Piaggio & C. SpA, 2018). From here after several models will be created and introduced every year in an always more differentiated market; one famous example being the Vespa 50 cc which thanks to its design it addressed the segment of the young people, who because of their age could not drive any vehicle since they did not had the driving licence. Indeed, especially in the ‘60s and moreover in the ‘70s, a sort of “obsolescence” (Fiduciaria Italo-Svizzera S.p.A., 1975) phenomenon took place, in the sense that the old models were replaced by new ones at an always faster rate. This was also an effect of the introduction, in the ‘70s, of the “motivation research”²⁵ (A. Arvidsson, 2001). Indeed, to quote Arvidsson: “through motivation research, young people could be made into a new market niche.” (A. Arvidsson, 2001).

The introduction into the market

Before the mass market production, in March 24th, the MP6 made its first public appearance (Museo Piaggio, 2018). It is officially presented in Torino at the “Mechanics and Metallurgy Exhibition” where it is possible to try it on the road (Museo Piaggio, 2018). The event is attended by the media, and in the same day the MP6 appears for the first time on a magazine: Motor (Museo Piaggio, 2018). The new version of the “Paperino” is also presented to the society the 29th of March 1946 at the “Acquasanta” Rome Golf Club (Museo Piaggio, 2018; M. Abo Abia, 2016). It is still a prototype version, however the event is attended by the American newsreel Movietone and the US general Stone on behalf of the allied military government (Ansa, 2015). So it happens that the Vespa prototype appears also on the header

²⁵ Originally developed by Ernst Dichter, the method consisted of “in-depth interviews that attempted to uncover previously hidden or repressed desires.” (A. Arvidsson, 2001).

of “La Moto” magazine the 15th of April 1946 (Ansa, 2015). Finally, in the 12th of September (Fiera Milano SpA, 2019), the patented and final version of the Vespa is presented at the “Fiera di Milano” (“Milano Exhibition”) (Ansa, 2015).

Although, the first 50 Vespa are sold with some effort, Enrico Piaggio demonstrating the same audacity of his father, orders the production of 5000 scooters (Museo Piaggio, 2018). However, the first commercial year is controversial (Piaggio & C. SpA, 2018). Difficulties in acquiring raw materials cause a lower production rate to the point where at the end of the year only 2484 Vespa have been produced (Piaggio & C. SpA, 2018; Rivista della produzione e della organizzazione Piaggio, 1956). This caused the final product to be more expensive than expected and for this reason the selling price, starting from the first month of production, is progressively increased throughout the year (Museo Piaggio, 2018).

In the first two years affording a Vespa is prohibitive for the majority of the population (P. Zanon, 2018). Indeed, at a time when a Vespa costs Lire 61.000 (tax excluded), the average wage of a worker is around Lire 10.000 (P. Zanon, 2018). Therefore, the first buyers are mostly doctors, freelancers, landlords and wealthy people in general (P. Zanon, 2018). These people often never rode a motorcycle, they are indeed, very different from the typical biker (P. Zanon, 2018).

The initial problems leads Enrico to offer to the Count Parodi – manufacturer of “Moto Guzzi” motorcycles – the distribution rights for the Vespa, in order to get his vehicle into the retail network of the better-known brand (Museo Nazionale Scienza e Tecnologia “Leonardo da Vinci”, 2019; R. Lieback, 2010). However, Parodi refuses, considering the Vespa a product of little success (Museo Nazionale Scienza e Tecnologia “Leonardo da Vinci”, 2019; R. Lieback, 2010). Indeed, the motorcyclists – from a broader perspective – found it hard to share their feelings and experiences with the Vespa’s fans, as for them the Vespa represented only a surrogate. The “Vespisti” – or those who ride a Vespa – consider their vehicle simple and comfortable, suited for short-distance tourism; ideal for the bourgeoisie (P. Zanon, 2018). Qualities which are, indeed, diametrically opposed to those which represents and characterizes the typical biker. However, this scenario – to quote Paolo Zanon referring to the bikers’ attitude “of sufficiency, and sometimes even contemptuous” – is foreseen by Enrico Piaggio (P. Zanon, 2018). Indeed, Enrico offers the firsts resale agreements to car dealers (P. Zanon, 2018), as a consequence of which, he starts to collaborate and rely on Lancia’s distribution network (Piaggio & C. SpA, 2018; Museo Nazionale Scienza e Tecnologia

“Leonardo da Vinci”, 2019; R. Lieback, 2010). The reasons behind this strategy are basically two: (1) car dealers’ customers were generally wealthier; and (2) both the car dealers and their customers were less tied to two-wheels prejudices (P. Zanon, 2018). As a proof of this, Zanon observes that only one out of the eight Vespa concessionaire located in the national territory at the beginning of 1946 had a past as motorcycle dealer²⁶.

Among the reasons which increased the “cultural” distance between the bikers and the “Vespisti” there is also the new movement independence acquired by women thanks to the Vespa (P. Zanon, 2018). For these reasons, mostly of cultural nature, the first Vespa enthusiasts rarely shared trips with the bikers (P. Zanon, 2018). Therefore, in the summer of 1947, small groups of “Vespisti” began to form spontaneously in different cities of Italy (P. Zanon, 2018). The first group reported in the news is the so called “Gruppo Vespistico Anconetano”, from there after several other groups will form in the cities of Turin, Rome, Milan, Naples and Catania (P. Zanon, 2018).

Despite the marketing strategies, only in the late 1947 – and especially in March 1948 with the release of the Vespa 125²⁷ – a long phase of productive affirmation begins (Piaggio & C. SpA, 2018). Vespa sales took off so much that this period is remembered as the beginning of the “Vespa miracle” (Piaggio & C. SpA, 2018; Museo Piaggio, 2018; Museo Nazionale Scienza e Tecnologia “Leonardo da Vinci”, 2019; R. Lieback, 2010; M. Duckworth, 2012). Indeed, Vespa became so popular – especially among the young – that to avoid waiting lists a black-market was built up (M. Duckworth, 2012). Beside the relatively inexpensiveness and the uniqueness of its style, the success of Vespa relies upon three – and at the time being – innovative marketing factors: the positioning, the distribution network and the introduction of payment by instalments – which was quite unusual especially for the Italian market (First Versions, 2019; M. Duckworth, 2012; Piaggio & C. SpA, 2018; Museo Nazionale Scienza e Tecnologia “Leonardo da Vinci”, 2019).

²⁶ His name was Luigi di Gennaro (Rome) (P. Zanon, 2018).

²⁷ With respect to the 98cc model the Vespa 125 presented a series of mechanical, aesthetical and security improvements (e.g. a new anti-theft system) (Museo Piaggio, 2018). Moreover, the introduction of the “Teleflex” transmission gearbox system leaded to time and economic gains (or savings) from a business perspective: for each vehicle, the production process required 2 hours less of working and Lire 730 less of raw materials (Museo Piaggio, 2018). For these reasons the 125cc model completely replaced the 98cc in the production chain (Museo Piaggio, 2018).

The birth of Vespa and Piaggio as brands

The first company names used by Enrico Piaggio senior were originally tied to elder traditions, they were long and informative like: Società anonima di Navigazione (Anonymous navigation company) (M. Boldrini, 1995). Only later in the century, when the business develops thanks to Rinaldo Piaggio, the company will inherit the family name, giving birth to the brand as it is known nowadays: Piaggio & C.

The background history tells us that when the brand name is created, we are located in the north of Italy, where, the industrialisation is an “event fully achieved and with the highest success, (at least in the north of Italy)” (M. Boldrini, 1995). Therefore, as Maurizio Boldrini and Omar Calabrese say: “It so happens, of course, that those who have been the pioneers of the Italian economic renovation were proud of the accepted and won bet, and felt – but were also seen – like the new “heroes” of the end of the century. Therefore, the name of those entrepreneurships was in itself “mythical” in the imagination of the time.” (M. Boldrini, 1995). Indeed, Piaggio still represents the symbol of the successful Italian companies in the raising capitalism era: the entrepreneurship of a family and its progenitor. There are, as a matter of fact, several examples of company names tied to the respective family names, like: Lancia, Marzotto and Breda (M. Boldrini, 1995). Nowadays, all these company names carry a story, a particular type of culture and traditions which evokes in the consumers’ mind a specific set of values. These brands were so relevant and well-known that they even became part of the Italian history. It is suffice to say that the culture behind these brands and their products is, still in these days, learnt through the narration of personal stories of the elders. Even more, the values which are tied to the brands are also, by reflection, associated to products (and vice-versa), particularly, when these represented an era, like the Vespa. From the consumer perspective, these symbols represented an array of life achievements; e.g. freedom, emancipation and individualization: acquired thanks to the possibility of independently travel longer distances (A. Arvidsson, 2003).

After the brand name institution, various attempts were made to find how to write it, until the company opted for thick and raised characters, which became a real trademark (M. Boldrini, 1995). This solution was chosen to represent the identity of the company, which is characterized by the need to produce different kinds of products following the “diversity in unity” criteria; the strategy was that of preventing competition in the market (M. Boldrini, 1995). Unity, represented by the name, led to an anthropomorphic interpretation of the company activities, in the sense that every product was “humanised” and symbolically seen as

a “son” of the latter, and therefore, of its founder (M. Boldrini, 1995). If this is true for the company it also does for its flagship product, which became a brand itself; as Andrea Rapini states in “Il romanzo della Vespa”:

“La Vespa è certamente lo scooter più famoso del mondo, anzi, per svariati decenni, almeno sino alla fine degli anni ottanta del Novecento, quando la concorrenza giapponese è diventata molto aggressiva, la sua fama è stata tale da sovrapporre il nome proprio Vespa al nome comune scooter nell’immaginario collettivo. In altri termini, Vespa è stato sinonimo di scooter: un autentico miracolo semiotico rincorso da ogni marchio industriale!” (A. Rapini, 2006)

“Vespa is certainly the most famous scooter in the world, indeed, for several decades – at least until the end of the 1980s – when the Japanese competition became very aggressive, its reputation was such as to overlap the proper noun “Vespa” to the common noun “scooter” in the collective imagination. In other words, Vespa has been a synonym of scooter: a semiotic miracle chased by every industrial brand!”

Therefore, after its introduction, Vespa (and Piaggio) became the symbols of the Italian mobilization up to the point where the same was associated at the “motorcycle of the people” concept developed by Tassinari.

The “Vespa miracle” phenomenon

To explain the origins of the “Vespa miracle” phenomenon it is necessary to introduce Renato Tassinari²⁸. He has been a very well-known figure in the fields of journalism and sport; firstly as the redactor of the “Gazzetta dello Sport”, and secondly – from 1938 to 1942 – as the director of the sports newspaper “Il Littoriale” (P. Zanon, 2018). Tassinari, who has also been the vice-president of the Royal Italian Motorcycling Federation²⁹, raised in his articles – since the 1930s – the need for an economic motor vehicle for the benefit of a larger group of people (P. Zanon, 2018). The subject, discussed on his newspaper “Il Littoriale”, was on the agenda under the headline “La motocicletta popolare” (“The motorcycle of the people”) (U. Leonardi, 1939). The articles arouse a debate – about the characteristics of the utility motorcycle – that

²⁸ He was born in Milan in the 17th of August 1899. Graduated in law, he was a publicist and a journalist (Parlamento Italiano, 2019).

²⁹ Former name – from 1933 to 1945 – of the Federazione Motociclistica Italiana (FMI) (“Italian Motorcycling Federation”) (Comitato Olimpico Nazionale Italiano (CONI), 2019).

engaged not only technicians and manufacturers, but also institutional figures. Thanks to the contribution of the participants the result was, to quote Paolo Zanon: “a sort of identikit of the ideal utility motorcycle”:

“a) cilindrata non inferiore ai 220 cmc. e ciò in considerazione della natura montuosa di gran parte del territorio nazionale; b) velocità non superiore ai 70 chilometri ora più che sufficiente ai bisogni della pratica della circolazione; c) consumo nella misura di un litro ogni 35-40 chilometri; d) prezzo il più basso possibile.” (U. Leonardi, 1939)

“a) cylinder capacity not less than 220 cmc. and this in consideration of the mountainous nature of large part of the national territory; b) speed not exceeding 70 kilometres, now more than adequate for the needs of circulation; c) consumption of one litre every 35-40 kilometres; d) price as low as possible.”

“[...] contare su forniti magazzini per i ricambi in modo da garantire all’utente assistenza pronta e capillare.” (A. Seiling, 1938)

“[...] rely on stocked spare parts to guarantee a prompt and widespread user assistance.”

Moreover, the theme of “propaganda” emerged, since the specific consumer category still did not exist; to quote the engineer Alberico Seiling:

“[...] la motoleggera va pensata con una “linea” accattivante e raffinata perché nessuno abituerà gli italiani al brutto.” (A. Seiling, 1938)

“[...] the motorcycle should be designed with a catchy and refined “line” because nobody will accustom Italians to the ugly.”

Above all these considerations the most relevant factor, underlined both by Leonardi, Seiling and Tassinari, was the price, which represented the highest entry barrier for the motorization of the normal citizen. It was such a relevant topic that in the 20th of January 1939, in occasion

of the “XX° Esposizione del Ciclo e Motociclo”³⁰ (“XX° Cycle and Motorcycle Exhibition”), Tassinari remarked the event by saying:

“[...] non può sfuggire anche al visitatore più superficiale una tendenza, ormai diffusa in tutte le Marche espositrici, verso un tipo di motocicletta economica.” (R. Tassinari, 1939)

“[...] even the most superficial visitor cannot fail to notice a tendency, now widespread in all the exhibiting brands, towards a type of economic motorcycle.”

All these aspects will be very well interpreted by Piaggio, D’Ascanio and his team. In fact, the “motorcycle of the people” becomes a reality after the war, finding its highest expression in the Vespa (P. Zanon, 2018). Tassinari, in 1947, realized that the ideal he first promoted – even without the contribution of the state, as he had hoped years before – was finally about to become reality (P. Zanon, 2018).

Indeed, in 1946, Piaggio introduces 2484 scooters in the market which becomes 10.535 in 1947 and 19.822 in 1948 (Archivio Storico Piaggio, Press Piaggio Group, 2018; Rivista della produzione e della organizzazione Piaggio, 1956; J. Meletti, 2017). From this moment onwards the so-called “Vespa miracle” takes place. In 1950 the production starts also in the first German Licensee and 60.000 models are manufactured, while three years later 171.200 vehicles cross the doors of the establishments (Archivio Storico Piaggio, Press Piaggio Group, 2018; Rivista della produzione e della organizzazione Piaggio, 1956; J. Meletti, 2017). In the 28th of April 1956 (*Archivio di Stato di Pescara, Archivio D’Ascanio*, file 32) the millionth Vespa is produced (E. Piaggio, 1956), while in 1960 the two-millionth leaves the Pontedera establishment and so does the four-millionth in 1970 (Piaggio & C. SpA, 2018). In 1988 the milestone of the ten-millionth Vespa is reached, to achieve – up to this day – a grand total which exceeds the 16 million units (Piaggio & C. SpA, 2018).

Especially during the ‘50s, the foreign markets started to look with interest at the birth of the scooter which raised curiosity and admiration of both people and press (Museo Nazionale Scienza e Tecnologia “Leonardo da Vinci”, 2019). The “Times” talks about “un prodotto interamente italiano come non se ne vedevano da secoli dopo la biga romana” (“a fully Italian

³⁰ The event which took place in Milan was considered as one of the most important in the world of the motorcycling. In fact, all the highest figures [of the motorcycling field] participated with their creations, displaying their progresses and innovations (R. Tassinari, 1939).

product the likes of which has not been seen since the Roman chariot”) (Archivio Storico Piaggio, Press Piaggio Group, 2018; Museo Nazionale Scienza e Tecnologia “Leonardo da Vinci”, 2019). In 1950 Vespa starts to be produced in Germany (Lintorf), by the Hoffmann Werke company (M. Hahn, 2011). In the following year, the production kicks-off also in France and Great Britain with the licensees ACMA (Paris) and Douglas (Bristol) (M. Hanlon, 2005). Enrico promotes Vespa in the foreign countries through several initiatives like a worldwide service network and the Vespa Clubs, leading, in 1953, to an incredible 10 thousands Piaggio’s service stations all over the world (Asia and America included), and almost 50 thousands members registered at the Vespa Clubs (Museo Nazionale Scienza e Tecnologia “Leonardo da Vinci”, 2019). In 1953, the production starts in Spain (Madrid) with the Moto Vespa S.A. company (founded in 1952; today comes with the name: Piaggio España) (M. Hanlon, 2005, Piaggio & C. SpA, 2018). Subsequently, several plants starts to produce the Vespa models: Jaette (Bruxelles), Bombay (India) and Brazil (Piaggio & C. SpA, 2018).

The popularity of Vespa is recognized to the point where it becomes the flagship product of Piaggio, as well as, a social phenomenon, to quote three of the major authorities in this field:

“Vespa diviene sinonimo di libertà, di fruibilità per lavoro e per tempo libero. Vespa stimola iniziative, gare, competizioni, raduni di vespisti e vespiste, in manifestazioni che segnano la particolarissima storia di questo scooter.” (Piaggio & C. SpA, 2018)

“Vespa becomes synonymous of freedom, of availability both for work and leisure. Vespa stimulates initiatives, races, competitions, reunions in events that mark the particular history of this scooter.”

“Andare in Vespa diventa sinonimo di libertà, di agile sfruttamento degli spazi e persino di rapporti sociali più facili. Il nuovo scooter è ormai un fenomeno di costume, che caratterizza un’epoca: nel cinema, nella letteratura e nelle immagini pubblicitarie. Vespa compare infinite volte tra i simboli più significativi di una società che sta cambiando.” (Museo Nazionale Scienza e

“Driving a Vespa becomes synonymous of freedom, of agile use of spaces and even of easier social relationships. The new scooter is a trend which characterizes an era in different fields: cinema, literature and advertising. Vespa appears countless times among the most relevant symbols of a changing society.”

Tecnologia “Leonardo da Vinci”, 2019)

“Lo scooter italiano è diventato il simbolo del “miracolo economico”, dischiudendo, grazie ai dispositivi della pubblicità aziendale, immagini di libertà, di seduzione, di femminilità, di sportività e di giovinezza.” (A. Rapini, 2004)

“The Italian scooter has become the symbol of the “economic miracle”, disclosing, thanks to the means of corporate advertising, images of freedom, seduction, femininity, sportiness and of youth.”

Moreover as it can be seen in the interviews reported in the Piaggio magazine of 1969, the introduction of the Vespa caused, and is therefore associated with, the phenomena of: “family emancipation” (A. Arvidsson, 2001), “individualization and women emancipation” (A. Arvidsson, 2003; Rivista quadrimestrale della produzione e della organizzazione Piaggio, 1969). All of this while Lambretta Innocenti, the first – real – Vespa competitor, has just been introduced in the market (Museo Nazionale Scienza e Tecnologia “Leonardo da Vinci”, 2019).

The Vespa Clubs

A prominent and extremely relevant factor characterising the “Vespa miracle” phenomenon has been the foundation and development of the Vespa Clubs. The Vespa Clubs became – in every respect – not only part of Piaggio’s marketing strategy, but also of the Italian history, as well as, culture.

It all starts in the early days of 1948, when Enrico Piaggio identifies in Tassinari the right person to promote his product (P. Zanon, 2018). The journalist, who immediately accepts the role due to his difficult personal situation and position after the war³¹ (P. Zanon, 2018), becomes – what we would call today – a “brand ambassador”. As a first move, Tassinari asks Enrico’s approval and support for the organization of a large gathering in Milan (P. Zanon,

³¹ Tassinari had a kinship relationships with the Mussolini family: he was Vittorio's brother-in-law, who was the second son of Benito Mussolini (P. Zanon, 2018). Therefore, during the previous government – and especially, in war time – Tassinari found himself particularly exposed at the political level (P. Zanon, 2018). All of this, resized Tassinari’s authority and caused the impossibility for him to occupy any relevant position at the political and/or social level.

2018). The purpose is twofold: (1) to launch an advertising move, and (2) to test the real aggregating possibilities of Vespa (P. Zanon, 2018). After receiving the consensus of Enrico, the gathering time and place is established: the 9th of May 1948 at the “Milano Exhibition” (P. Zanon, 2018). The initiative is a success: more than thousands people participate, giving rise to what will go down in history as the “Sciame d’Argento”³² (“Silver Swarm”) (P. Zanon, 2018). Tassinari encouraged by the outcome of the event, submit to Piaggio an ambitious project which aims at coordinating all the “Vespisti” present in the Italian territory through a series of initiatives (P. Zanon, 2018). The project, immediately approved, specifically aims at promoting tourism, aggregation and therefore the brand, with the consequent benefits for the sales (P. Zanon, 2018).

Thus, in a short time, the efforts of Tassinari get repaid. In fact – on the 4th of July 1948, in Modena (Gazzetta di Modena, 2018) – on the initiative of a group of passionate owners of the Vespa, the first “Vespa Club” is founded (P. Zanon, 2018). This group of Modenese are remembered as the forerunners of the use of the word “Vespa Club” (P. Zanon, 2018). In the 15th of July 1948, the magazine “La Moto” wrote:

“Pensiamo che il Vespa Club di Modena sia il primo club interamente formato da possessori di scooter, ma il merito maggiore dei suoi fondatori non sta solo in questo ma nel fatto di avere, mentre ancora si stanno preparando i quadri organizzativi, già organizzato e degnamente condotto un raduno di Vespa.” (P. Zanon, 2018)

“We think that the Modena Vespa Club is the first club entirely formed by scooter owners, however, the greatest contribution of its founders lies not only on this, but also in the fact of having – while the organizational frameworks are still being prepared – already organized and worthily conducted a Vespa meeting.”

As a matter of fact, the Modenese association – which in June counted already about forty members – organized its first meeting at Abetone (P. Zanon, 2018). The gathering is also attended by the “Vespisti” of the neighbourhood provinces, and moreover, by the engineer Vittorio Casini (manager of the Piaggio Experimental department) who would have later reported to Enrico his impressions on the initiative (P. Zanon, 2018). The deeds of this small Club came also to the national press providing food for thought to other groups (P. Zanon, 2018). Indeed, in just few weeks the name “Club” is recognized as the signature of a group of

³² Appellative suggested by the predominant colour of the participating Vespa (P. Zanon, 2018).

“Vespisti”, and therefore, it became the flag under which people who shared the same passion for Vespa could gather. Even the Ancona group changed its name from “Gruppo Vespistico Anconetano” to “Club Vespisti di Ancona” (P. Zanon, 2018).

The “Vespa Club d'Italia” (“Vespa Club of Italy”) arises just a few months later, to quote Paolo Zanon: “[...] un documento di recente ritrovamento dimostra infatti come il 3 gennaio del 1949 questo [riferendosi al Vespa Club d'Italia] avesse già emesso le proprie linee guida volte alla costituzione dei Vespa Club locali.” (“[...] a document recently found shows how on the 3rd of January 1949 the latter [referring to Vespa Club of Italy] had already issued its guidelines aimed at the establishment of the local Vespa Clubs.”) (Figure 5) (P. Zanon, 2018). Consequently, to acquire the helm of the national movement, Piaggio appoints Tassinari as the temporary president (P. Zanon, 2018).

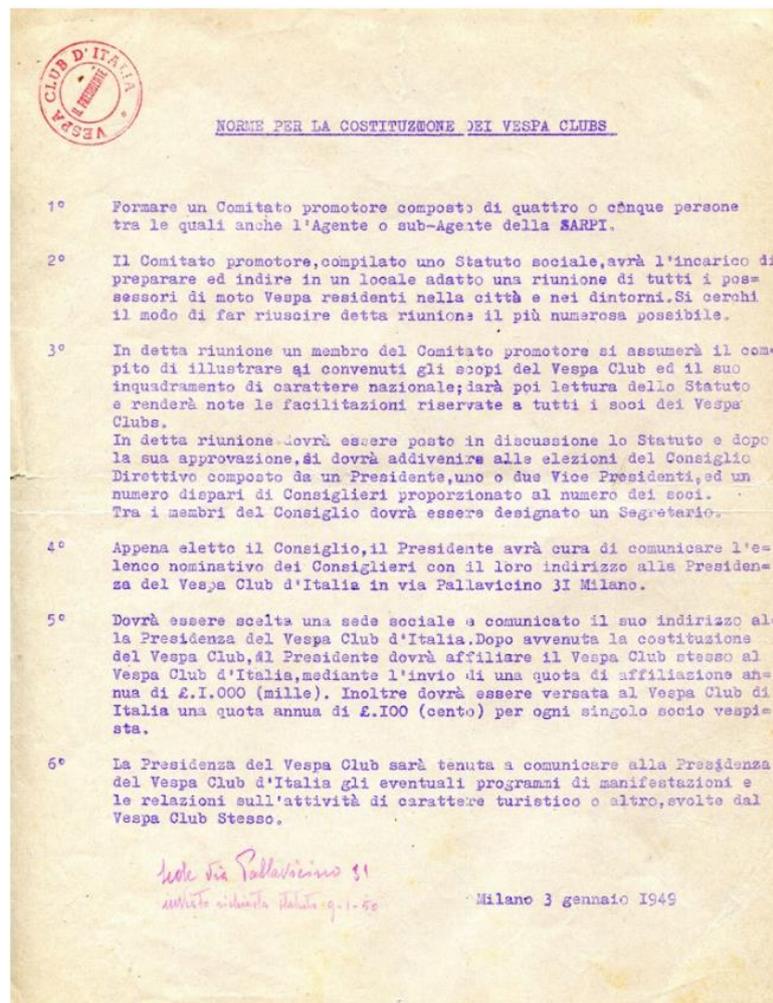


Figure 5: Document, drawn up and formalized – through the stamp “Vespa Club d’Italia - Il Presidente” – by Renato Tassinari, reporting the first guidelines for the establishment of the Vespa Clubs; 3rd of January 1949 (P. Zanon, 2018).

On the 23rd of October 1949, day of the first Congress, the delegated chairmen of the 27 already formed clubs met in Viareggio (P. Zanon, 2018). Here, the Statute, the Tassinari's office of president, the appointment of the board and the name "Vespa Club d'Italia"³³ are all officially approved (P. Zanon, 2018).

Subsequently, it is worth mentioning: (1) the third Congress which took place in Rome the 8th and 9th of December 1951, where among the most important innovations there is the publication of the magazine "Vespa Club d'Italia" sent for free to all the members (Vespa Club d'Italia, 2019); and (2) the "Giornata Italiana della Vespa" ("Italian Vespa Day") which took place in 1951, where the total number of participants reached the 20.000 "Vespisti" (Elogio alla vespa, 2018; Moto, 2007).

³³ The Vespa Club of Italy is the first federation of branded clubs in the world (P. Zanon, 2018).

3. The history of Piaggio & C. after the Vespa

After the birth of Vespa, the most significant moments for the production of the company are the 1963 with the introduction into the market of the Vespa 50 cc., a scooter which motorized the younger generations, and the 1966 with the birth of the scooter “Ciao”, which symbolized the recovery after the destruction caused by the flooding occurred the 4th of November of the same year³⁴ (Piaggio & C. SpA, 2018).

From a business structure perspective, in 1964, the company is divided into Piaggio & C. (Pisa and Pontedera) and I.A.M.³⁵ Rinaldo Piaggio³⁶(Piaggio & C. SpA, 2018). In the following year Enrico Piaggio dies prematurely in the 17th of October (Piaggio & C. SpA, 2018). The death of Enrico comes at a time of high social tension between the company and workers; to the extent which, in that very same day the workers are striking (Piaggio & C. SpA, 2018). In fact, starting from 1962 there is an inversion of what has been, until then, called the "economic miracle" (V. Castronovo, 1976; L. Calandri, 2019). As a matter of fact, from 1945 until 1962, Italy experienced an industrial economic growth, based especially on low inflation (V. Minerva) and on the achievement of full employment, which in turn increased the bargaining power of workers against the employer (L. Calandri). However, the full employment – especially in Northern Italy – is marked by low labour costs and a large migratory flow coming from the South and the North-East towards the North-West (V. Minerva). Therefore, the early ‘60s are characterized by an improvement of the regulations and an increase in wages, which in 1962 grew more than the production and the contractual strength of the trade-unions (L. Calandri). To quote the Administrative Board of 1966:

“La produzione dei motoveicoli, travagliata da quando fu colpita dalla istituzione dell’obbligo della patente di guida [...] non poteva non risentire delle caratteristiche generali della economia italiana nel 1965. [...] In primo luogo, degli aumenti del costo

“The production of motorcycles, troubled since it was hit by the establishment of the obligation of the driving license [...] was also affected by the general characteristics of the Italian economy in 1965. [...] First of all, the increases in labour costs, started in 1962 in

³⁴ Caused by an extraordinary bad-weather the flooding led to the overflowing of the river Arno in Tuscany, as well as, other extreme events like the “Acqua Granda” in Venice (R. Bianchin, 2005).

³⁵ Industrie Aeronautiche e Meccaniche (“Aeronautical and Mechanical Industries”).

³⁶ This is the final act of a long process of production differentiation which sees on one hand Enrico Piaggio engaged in two and three-wheeled vehicles, and on the other hand, his brother Armando in the aeronautical sector (Piaggio & C. SpA, 2018).

del lavoro, iniziati nel 1962 in misure exceeding the possibility allowed
eccedenti la possibilità consentita dalla by the dynamics of income production [...].”
dinamica della produzione del reddito [...].”
(Assemblea Generale Ordinaria degli
Azionisti, 1966)

The reaction of the industrialists, to the reduction of their profits as a result of the achievements of the workers, is “an attempt to recover, through a generalized increase in prices, what had been lost during the wage struggles” (A. Graziani, 1989). While, at the same time, the banks kept the cost of money low, with the aim of compensating for the progressive decrease of the financing possibilities (V. Minerva).

Graziani explains how the increase of the prices was possible because in those years the “global demand was growing strongly” (A. Graziani, 1989). However, if at a national level this “upward game” was feasible, in the international field it was not, because one of the secrets of the growth of the Italian products’ exports was the low cost (L. Calandri). This led to a reduction of the profits of the industries (L. Calandri), which consequence was an increase in loans (especially in the short-term) that combined with the growth of the wages caused an increase of the inflation (V. Minerva). Therefore, a decline in production which led to unemployment followed shortly after, causing a serious crisis (V. Minerva). This situation caused heavy repercussions on the social structure of the country: the resumption of trade-union struggles and the explosion of social conflicts, highlighted the imbalances that the “economic miracle” was not able to smooth (G. Crainz , 2005; L. Calandri).

Lorenzo Calandri explains how, according to the analysis of Graziani and Castronovo, this depression – which was not exclusively limited to the 1963, because the significant signs of recovery will be only at the end of the decade – was not seriously addressed by the authorities (L Calandri). In fact, on the contrary, Graziani explains how the crisis: “has been consciously let go [...] with the aim, not only to reduce the trade-union combativeness through unemployment, but also and above all to allow industry to carry out a technological and financial restructuring. In fact, [...] in these years the true response of the capital to the wage increases was a technological reaction aimed at achieving substantial increases in productivity.” (A. Graziani, 1989)

Anyhow, Piaggio overcomes the difficulties of the '70s (Piaggio & C. SpA, 2018). As a mono-sector company, it records phases of expansion and crisis, as is natural in a long-term trend, but in the critical moments it is always able to find the capacity to react (Piaggio & C. SpA, 2018). Everyone does his/her part: from the Board to the management, from workers to technicians³⁷ (Piaggio & C. SpA, 2018). After the “terrible” seventies, the 1980s are influenced by the improved economic conditions of Italy and of the world market (Piaggio & C. SpA, 2018). New products are launched in the market and the recovery is followed by the growth of the number of employees in the Piaggio & C. plants, and moreover, by the conquest of new international markets (Piaggio & C. SpA, 2018).

As stated in the history of the company itself, Piaggio & C. is characterized by ups and downs tied to the major historical events. Therefore, with the aim of better understanding the relation between the Italian history and its impact on the finances of the company and on the diffusion of the Vespa, the following study focuses on the analysis of the balance sheets and income statements of the company.

³⁷ A concept which is clearly emphasized in almost all the Administrative Board reports. Indeed, even during bad times, the reports stress the state of the relationship between the board, the management, the workers and the technicians, suggesting reconciling points.

4. The Financial analysis

The quantitative method of analysis is based on the study of the Piaggio’s balance sheets and income statements, in a period ranging from the 31st of December 1945 to the 31st of December 1972. The sources can be found in the “Archivio Storico Piaggio” (“Piaggio’s historical archive”) located in the “Piaggio museum and exhibition” of Pontedera. The period of study is tied to the documentation I had access to. The study is broken down into several analysis, referring to different indexes that highlight an array of phenomena and events.

Macro approaches

The first two analysis adopt a macro approach in order to acquire a broad perspective about the financial state of the company. In particular, starting from the balance sheets, the first analysis is a cluster of all the total assets and liabilities (Figure 6).

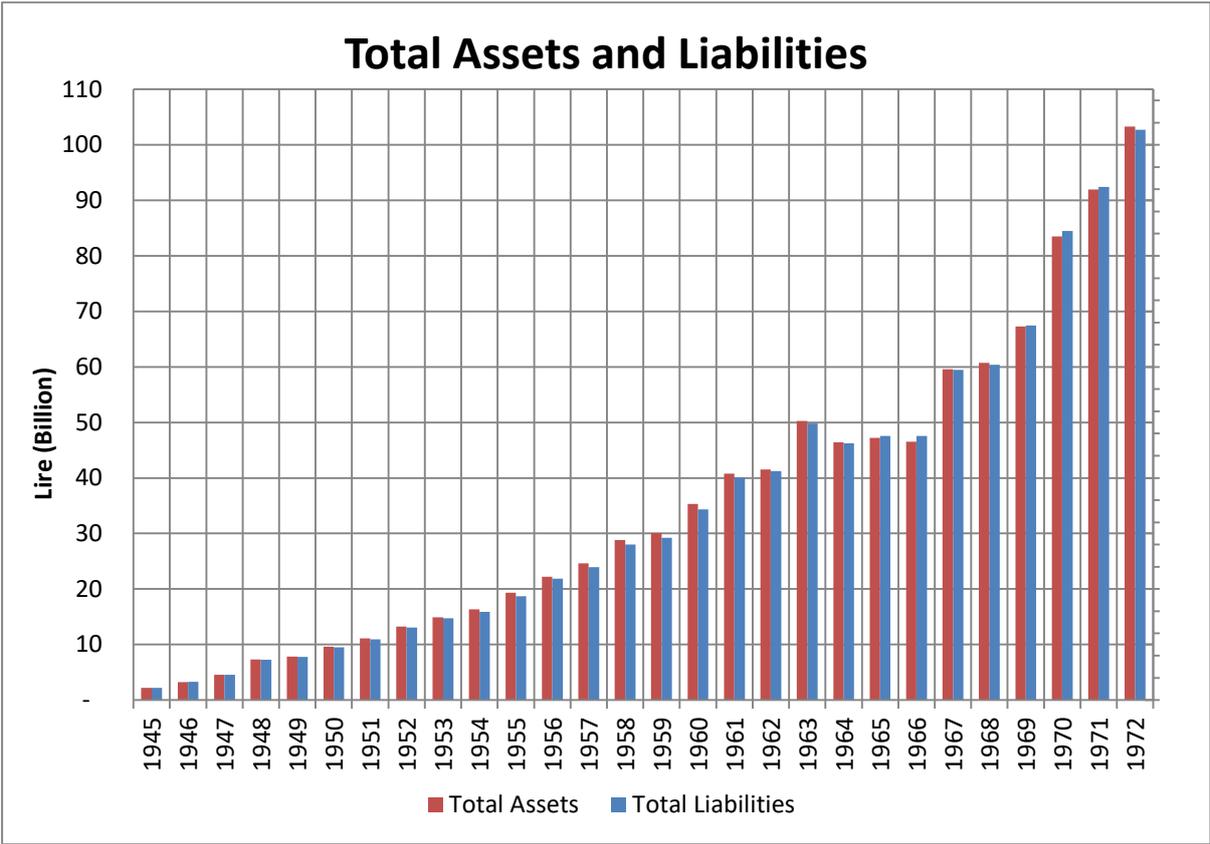


Figure 6: Total Assets in relation to Total Liabilities; 1945 – 1972 (Archivio Storico Piaggio, Assemblée Generale degli Azionisti, 1946 – 1972).

Although, the analysis per se does not involve any particular study, it can be noticed a regular up-ward trend which interrupts only in the period between 1964 and 1966. This period, which will be prominent throughout all the study, is characterized – at an industry level – by a sudden reduction of sales which will end in 1966 into a market breakdown³⁸. This phenomenon, tied to the Italian economic depression, reveals to be in line with the analysis of Lorenzo Calandri explaining that the latter occurred not only in 1963 but also is the following period and almost until the end of the decade. However, in spite of this, the graph represents a good situation, in the sense that the company acquired value, in the form of both assets and liabilities, throughout its lifetime. The bar chart exhibits how the differences between the total assets and liabilities are never substantial, typical feature of this sector, demonstrating nonetheless a slow but constant grow. Notice how the assets are generally higher than the liabilities, 21 out of 28 years, again indicating a positive profitable trend.

³⁸ In 1966, the market demand for motor vehicles decreased by 28% (M. Boldrini, 1995).

The second analysis relates to the income statement (Figure 7). In particular, here we have a relation between the gross profit and the total losses/profits.

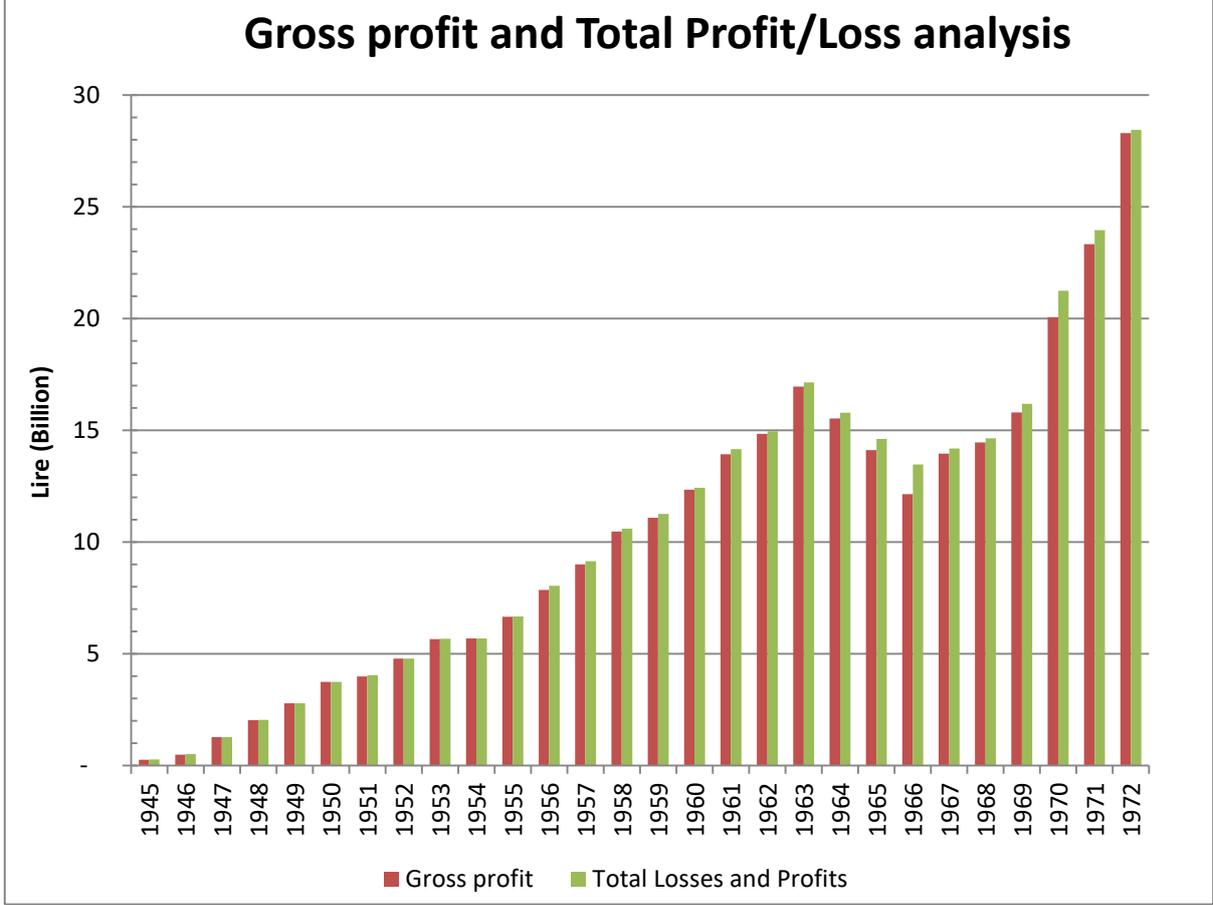


Figure 7: Gross profit and Total Profit/Loss comparison and curve; 1945 – 1975 (Archivio Storico Piaggio, Assemblea Generale degli Azionisti, 1946 – 1972).

First of all, the fact that the gross profit reveals to be positive through the period, is a good sign about the stability of the company. The shape of the chart is somewhat similar to that of the previous analysis, exhibiting a downward trend in the period 1964 – 1966 which, however, gets back at the same level only from 1970 onwards. Again, the relative closeness of the two measures indicate a relatively stable gross profit which is, most likely, a characteristic shared across all the industry. This is true especially for the post-war period up until the ‘60s. As explained above, the downward period (1964 – 1966) is justified by the market downturn, however, this analysis reveals that there has also been a long-term impact, finding further confirmation from Calandri perspective. Indeed, the business has been affected not only until 1966, but also for the following three years: as this was the time necessary for the gross profit to return at the same level.

Net income analysis

The third analysis goes deeper into understating the business financial state. Here is represented the graphical trend of the net income (Figure 8). As it can be seen, the curve reflects several highs and lows that the economic facts previously described had not yet highlighted in the financial state of the company.

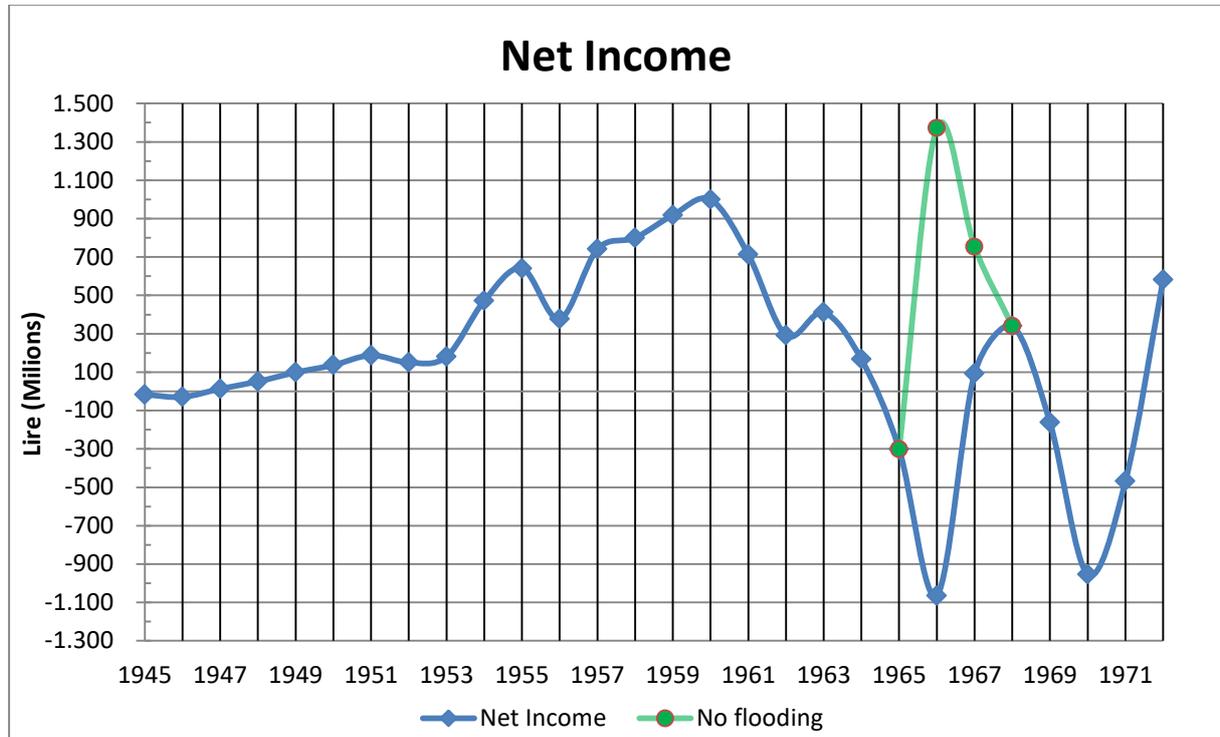


Figure 8: Net Income analysis on the fluctuations and trends; 1945 – 1972 (Archivio Storico Piaggio, Assemblea Generale degli Azionisti, 1946 – 1972).

The curve starts with a positive and stable trend until 1960, highlighting a low-positive in 1956. From 1961 to 1964 the net income is decreasing but still positive, and from 1965 onwards it goes up and down around the 0 line with a prevailing negative tendency and two particularly low points in 1966 and 1970.

The first trend, from the immediate post-war to the 1960, is the perfect reflection of both the “Vespa miracle” as well as the Italian “economic miracle”. With respect to the 1956 low, the analysis reveals that it is a consequence of the increase of the share capital, from Lire 1 billion to Lire 3 billion; an indicator of the company’s growth through the reinvestments of its profits. The following downward period, basically starting from the 1961 and ending in 1971, is (contrary to the previous one) the perfect reflection of the Italian economic depression and

of its consequences. What stands out, differently from the previous analysis is the drastic reduction of the net income occurred in 1962, 1966 and in 1970. Further analysis of the reports of the Administrative Board of 1963 and 1964, reveals how this sudden decrease in net income is tied to the general increases of the costs of labour, in particular, due to “more than 70 days of striking” (Assemblea Generale Ordinaria e Straordinaria degli Azionisti, 1963). This demonstrates the strict relation between the Italian depression and the company financial state. Indeed, starting from this period and until the late ‘80s the conditions and costs of labour will greatly influence not only the finance of the company but also, at a more general level, the history of Italy. As a matter of fact, two periods are renowned in the Italian history for their link with the working conditions: “autunno caldo”³⁹ (“hot autumn”) and “anni di piombo” (“years of lead”).

Another extremely prominent reduction occurred in 1966. The analysis of the balance sheet reveals that this sudden decrease in net income is not only tied to the market downturn but also to the flooding that occurred the 4th of November 1966 (Assemblea Generale Ordinaria e Straordinaria degli Azionisti, 1967). The flooding, which invested almost the entirety of the country, caused such damages⁴⁰ to the establishments and the machinery that it took two years to return back to the original situation (Assemblea Generale Ordinaria degli Azionisti, 1968). Represented with a green line, it is possible to see how the net income analysis would have looked like without the extraordinary event. This gives a clear understanding of how the flooding negatively influenced the business activities, from the costs side. Indeed, it has to be kept in mind that the event was – most likely – one of the main causes which led to the sudden sales’ reduction which characterized this year; and to an extent not quantifiable from the company perspective. Finally, also the 1970 low is quite prominent, and it can be attributed to two main reasons: (1) the end of the negotiations which led in November 1969 to

³⁹ Occurred in the 1969, in coincidence with the conclusion of the three-years employment contracts, especially those of steel-workers, it was a particularly troubled period characterized by strikes, trade union struggles, absenteeism, occupations, etc. (Corriere della sera, 2019). The workers and the trade-unions forced the political authorities out of their passive position, by increasing their bargaining power from a contractual perspective (Corriere della sera, 2019; ISMEL, 2019). This resulted in the negotiations of better conditions like: wages increases and the Statute of workers (ISMEL, 2019). This period will be the prologue of the “years of lead”.

⁴⁰ Quantified in Lire 2.436.445.466 for the 1966 competence, and Lire 660.776.611 for the 1967 competence, for a total of Lire 3.097.222.077.

the acquisition of the Moto Gilera S.p.A⁴¹ (Assemblea Generale Ordinaria e Straordinaria degli Azionisti, 1970); and (2) the huge increase in the cost of labour, caused mainly by the large strikes which characterized the “hot autumn”, as witnessed in the 1971 report of the Administrative Board (Figure 9).

RELAZIONE
DEL CONSIGLIO DI AMMINISTRAZIONE

REPORT
OF THE ADMINISTRATIVE BOARD

Dear Shareholders,

Signori Azionisti,

sottoponiamo alla Vostra assemblea il bilancio dell'esercizio 1970 che chiude con una perdita di L. 791.381.210.

E' ancora un risultato sfavorevole superiore a quello dell'esercizio precedente.

Il commento del bilancio deve aprirsi sottolineando, come certamente avverrà per molte altre aziende, i problemi incontrati nei rapporti di lavoro.

Come è noto, nel 1969 venne rinnovato il contratto nazionale per le aziende metalmeccaniche, le cui nuove condizioni hanno avuta piena applicazione nell'esercizio 1970; ne sono conseguiti oneri retributivi, maggiori contribuzioni previdenziali, aumento delle indennità di risoluzione dei rapporti di lavoro che si sono aggiunti agli oneri derivanti dalle variazioni della indennità di contingenza, dall'assetto zonale e dagli accordi sul premio di produzione.

Il costo del lavoro ha superato di 6526 milioni quello del 1969. Purtroppo a questo già notevole onere si è aggiunto quello derivante dai periodi di agitazione attraversati dalle aziende della Vostra Società, in conseguenza dei quali è derivata una perdita di 585.000 ore di lavoro sulle 9.500.000 programmate. Particolarmente gravi sono stati gli oneri derivanti da una vertenza svoltasi fra il luglio e l'ottobre dello scorso anno; gli accordi stipulati a livello aziendale e che hanno posto fine alla medesima, hanno comportato un maggior costo del lavoro, rapportato ad un intero anno solare di attività, stimato in 760 milioni.

Dobbiamo anche nostro malgrado segnalare che lo stato dei rapporti con le maestranze nei Vostri Stabilimenti, non è quello necessario per un proficuo svolgimento dell'attività produttiva e per un suo ordinato sviluppo. Il riassorbimento dei mutamenti dei livelli retributivi che hanno oltrepassato il ritmo di sviluppo della redditività, esigerebbe che l'attività industriale potesse svolgersi in pieno clima di collaborazione. Riteniamo che, non per volontà di tutte le nostre maestranze, né di parte prevalente di esse, questa condizione non sia ancora raggiunta, ma auspichiamo che possa esserlo nel più breve tempo possibile.

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Figure 9: 1971 first part of the report of the Piaggio & C. Administrative Board explaining the causes which led to a huge net income loss during the operating year 1970, with particular

we submit to Your assembly the balance sheet relative to the operating year 1970 which closes with a loss of Lire 791.381.210.

It is still an unfavourable result worse than that of the previous operating year.

The comment of the balance sheet has to open highlighting, as certainly will happen for other companies, the problems encountered with the employment relationships.

As is known, in 1969 the national contract for the steel-worker companies was renewed, of which the conditions were fully applied in 1970; this led to remunerations' burdens, higher social insurance contributions, an increase of the severance payments which added to the duties arising from the variations of the cost-of-living allowances, of the regional framework and of the agreements on the production bonuses.

The cost of labour has exceeded of [Lire] 6.526 million that of 1969. Unfortunately to this already considerable burden it has been added that deriving from the periods of agitation which affected Your company, as a consequence of which 585.000 hours of work were lost out of the programmed 9.500.000.

⁴¹ Although the company was divided in 1964, the diversification strategy was still present even if limited in the scope of the industry. Indeed, the acquisition had the purpose of strengthening the position of Piaggio in the motorcycles segment.

references to the higher costs of labour (Assemblea Generale Ordinaria degli Azionisti, 1971).

Especially severe were the burdens deriving from a dispute held between July and October of the previous year; the agreements concluded at a national level which terminated the same, resulted in a higher cost of labour, which related to a whole calendar year of activity, is estimated in [Lire] 760 million.

We must also report – despite ourselves – that the state of the relationships with the workers in Your Establishments is not that necessary for a profitable development of the productive activity and of its orderly development. The reabsorption of the changes in salary levels that have exceeded the rate of development of profitability, would require that the industrial activity could be held in a climate of full collaboration. We believe that neither by the will of all our workers, nor by the prevailing part of them, this condition has not yet been reached, but we hope it will be, as soon as possible.

Overall, the net income for the entirety of the period averaged a positive Lire 191.709.601; and, if the flooding is taken out of the equation the average rises to Lire 302.324.675, a 57.7% increase.

Gross profit analysis

The fourth analysis relates to the profit margins with respect to the gross profit⁴² (Figures 10 and 11). The objective is twofold: (1) deepening the understanding of the company’s financial situation; and (2) analyse its performance with respect to the expenses. Here you can see two graphs: the first one gives an idea about the proportion between the gross profit and the net income, giving evidence of the huge amount of expenses the company had to face⁴³; while, the second chart focuses especially on the profit margins fluctuations (with respect to the gross profit) throughout the period.

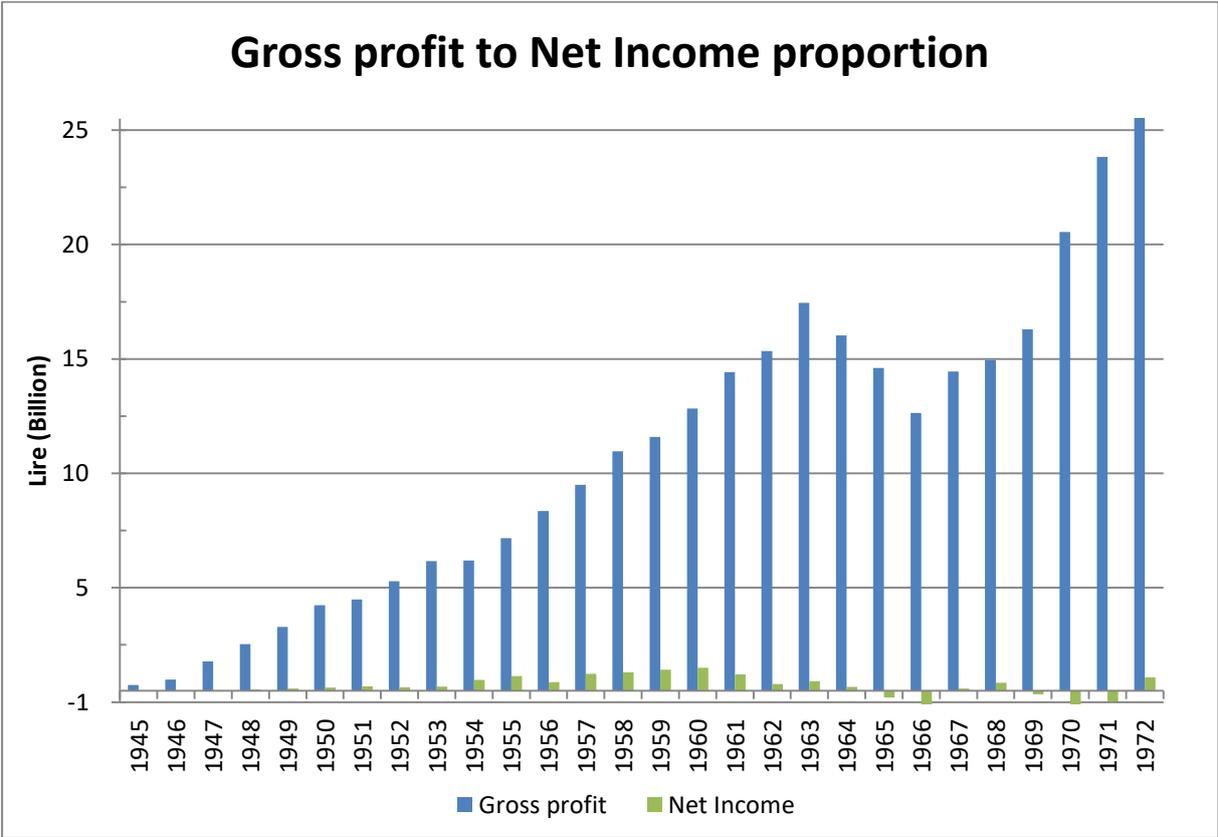


Figure 10: comparison between the magnitude of the Gross profit to that of the Net Income; 1945 – 1972 (Archivio Storico Piaggio, Assemblée Generale degli Azionisti, 1946 – 1972).

As it can be seen in this first graph, the gross profit is way higher than the actual net income. The relatively low net income is marked by the huge costs characterizing the business. As

⁴² In this case the gross profit is used instead of the net sales because the latter is not available. However, here it represents an acceptable approximation since the amount of returns, allowances, and discounts are not displayed nor reported in the balance sheets, and therefore, are assumed marginal.

⁴³ Even after subtracting the costs of goods sold.

seen before, the costs increased throughout all the period of study, but especially in the '60s. Indeed, starting from 1962 onward it is can be noticed how the net income gets lower and lower and in some points negative. This, even though the gross profit is higher; indeed, a key factor highlighted in almost all of the Administrative Board reports is how the volume of the sales “increased with respect to the previous year”, with the exception of the 1964 -1966 period. Over the market downturn and flooding explanations, among the main reasons why this period is characterized by a lower gross profit (and therefore sales volumes), the lack of a central figure for the company and the introduction of new traffic regulations must be added.

The premature death of Enrico Piaggio and the consequent division of the businesses negatively affected the Piaggio & C.'s turnover, reducing the company's market diversification and also part of the revenues. To understand how important was the figure of Enrico, we can take a look at how he was remembered by the Administrative Board of 1966, and also, acquire some insights about his personality:

“il 17 ottobre 1965 è immaturamente scomparso il Dott. Ing. Enrico Piaggio, Presidente e Amministratore Delegato della Vostra Società.

Egli fu un Uomo particolarmente dotato per i compiti che aveva scelti con la Sua vita di lavoro. Ricco di intuito, con una personalità fortissima, rappresentava tipicamente l'industriale genovese legato al suo lavoro da molteplici e saldissimi vincoli.

Animatore instancabile di tutti i suoi collaboratori attraverso la continua presenza personale nelle cose grandi e piccole della Azienda, dette alla Vostra Società una guida sicura profondendovi senza parsimonia tesori di energie personali.

Così, ripresi gli stabilimenti sociali dopo il passaggio della guerra, in un momento particolarmente difficile per le gravi

“In the 17th of October 1965 the Dr. Eng. Enrico Piaggio, Chairman and Managing Director of Your Company, died prematurely.

He was a particularly gifted Man for the tasks he had chosen with his working life. Rich of intuition, with a strong personality, he represented the typical Genoese entrepreneur linked to his work by multiple and tight bonds.

Untiring animator of all his collaborators through the continuous personal presence in the large and small things of the Company, he gave to Your Company a sure guidance [leadership] – committing without thrift – treasures of personal energy [an incredible and great effort].

In this way, – resumed the social establishments after the passage of the war, in a particularly difficult period due to the

distruzioni che avevano subite e per il disorientamento generale, ne operò la conversione, la graduale ripresa e lo sviluppo, creando una nuova attività, dandole una organizzazione di portata mondiale, con un passione inestinguibile per il Vostro complesso aziendale e per la Vespa che ne rappresenta il frutto migliore.

serious destruction suffered and for the general confusion – he worked to carry out the conversion, the gradual recovery and the development of a new activity, giving it a world-wide significance, with an unquenchable passion for Your business and for the Vespa which represents its best result.

His memory will remain indelible [...]"

Il ricordo di Lui rimarrà incancellabile [...]"
(Assemblea Generale Ordinaria degli Azionisti, 1966)

The introduction of traffic regulations increased the costs of travelling⁴⁴, and also, reduced the categories of consumers⁴⁵. These issues will be faced with both the introduction into the market of the Vespa 50 cc⁴⁶ (Assemblea Generale Ordinaria degli Azionisti, 1964) – in 1963 – and with the absorption of the expenses right up-front:

“Le gravose ripercussioni derivanti dagli alti aumenti verificatesi nei componenti dei costi di produzione, sono state da noi fronteggiate, [...] migliorando l’efficienza della Vostra organizzazione commerciale, [...] dedicando ogni nostro massimo sforzo nell’opera di ammodernamento dei mezzi [...].

“The heavy repercussions deriving from the increases in the components of the production costs, were faced by us, [...] by improving the efficiency of Your commercial organization, [...] dedicating our utmost effort at the modernization of production facilities [...].

⁴⁴ The driving licence became de facto compulsory for every vehicle with cylinder capacity higher than 50cc. Indeed, the requirements to possess and always carry the driving licence – introduced already in the 28th of July 1901 – were enforced with the introduction of the arrest from 3 to 6 months and the payment of an amendment of Lire 10.000 up to Lire 40.000 (R. Chianca, 2013). Moreover, also the third party liability insurance became mandatory (Assemblea Generale Ordinaria e Straordinaria degli Azionisti, 1962).

⁴⁵ A new traffic regulations reinforced in the 15th of June 1959, established a different categorization of the vehicles; also with respect to the age of the driver (R. Chianca, 2013).

⁴⁶ Specifically designed to stay out of the range of scope of the regulations, it required neither the registration of the vehicle nor the driving licence (Assemblea Generale Ordinaria degli Azionisti, 1964).

produttivi [...].

Alla fine dell'anno 1963 abbiamo immesso sul mercato un nuovo tipo di veicolo: la Vespa 50 cc. Le qualità particolari di questo veicolo, [...] hanno fatto conseguire a tale modello un immediato successo, superiore alle più ottimistiche aspettative.” (Assemblea Generale Ordinaria degli Azionisti, 1964)

At the end of the 1963, we introduced in the market a new type of vehicle: the Vespa 50 cc. The particular qualities of this vehicle, [...] have made this model achieve an immediate success, exceeding the most optimistic expectations.”

Finally, this chart highlights how the overall costs' increase – and especially the labour costs – were not fully absorbed, but rather, how much they negatively impacted the business even when the gross profit was increasing. To quote the 1972 – 1973 Administrative Board:

“Le ore di lavoro perdute nell'esercizio che stiamo esaminando, in conseguenza di agitazione sindacali, sono state ingenti, anche se minori del 1970. [...] Complessivamente, il costo del lavoro nel 1971 ha avuto, rispetto all'anno precedente, un ulteriore aumento del 10% circa.” (Assemblea Generale Ordinaria degli Azionisti, 1972)

“The hours of labour lost in the operating year we are examining, as a result of the collective actions, have been huge, although minor than 1970. [...] Overall, the cost of labour in 1971 had, compared to the previous year, a further increase of about 10%.”

“[...] Il costo del lavoro ha ulteriormente registrato un aumento [...] del 12.3%”. (Assemblea Generale Ordinaria degli Azionisti, 1973)

“[...] The costs of labour has further increased [...] by 12.3%.”

Only in the late 1972 the company had the chance to recover and got back into a positive net income:

“Le ragioni di questa inversione di tendenza, sperata ed attesa sono complesse.”

“The reasons for this trend inversion, hoped and awaited are complex.”

[...] Da alcuni anni abbiamo ritenuto che il modo migliore per compensare la ricordata lievitazione dei costi, fosse quello di potenziare la produttività degli Stabilimenti, aggiornandone gli impianti al progresso tecnologico e migliorandone l'organizzazione produttiva. Questo esercizio ha comportato i notevoli investimenti degli ultimi esercizi [...].

Gli sforzi della Vostra Società sono stati altresì dedicati all'espansione delle vendite, che è stata ottenuta sia per la perfetta corrispondenza dei nostri prodotti alle esigenze della clientela, sia per il continuo miglioramento dell'attività promozionale della nostra Direzione Commerciale [...].

La duplice direzione nella quale abbiamo operato ci ha consentito di mantenere e di aumentare, nonostante i maggiori costi, il livello della occupazione aziendale e di limitare il ricorso agli adeguamenti dei prezzi di vendita, che sono sempre condizionati al comportamento della clientela e dei concorrenti e contribuiscono ad una spirale inflazionistica che abbiamo cercato di evitare nell'ambito delle nostre possibilità.” (Assemblea Generale Ordinaria degli Azionisti, 1973)

[...] For some years we have considered that the best way to compensate for the remembered rising of the cost, was to increase the productivity of the Establishments, updating their facilities and equipment to the technological progress and improving the production chain. This strategy resulted in the considerable investments of the last operating years [...].

The efforts of Your Company have also been dedicated to the expansion of sales, which was achieved both for the perfect correspondence of our products to the needs of customers, and for the continuous improvement of the promotional activity of our Sales Department [...].

The double direction in which we operated has allowed us to maintain and increase, despite higher costs, the level of company employment and to limit the use of adjustments to sales prices, which are always influenced by the behaviour of customers and competitors and that contributes to an inflationary spiral which we have tried to avoid within the framework of our possibilities.”

The report of the Administrative Board underlines how the technological improvement was one of the major contributor in the overcoming of the crisis. Indeed, the Administrative Board, especially in the latest reports, frequently criticized the lack of action and of a reaction from the government authorities. This analysis, is in line with those of Graziani and Castronovo, about the passive position adopted, un purpose, by the government authorities,

with the objective to reduce the “trade-unions strength [...] and to allow industry to carry out technological and financial restructuring.” (A. Graziani, 1989)

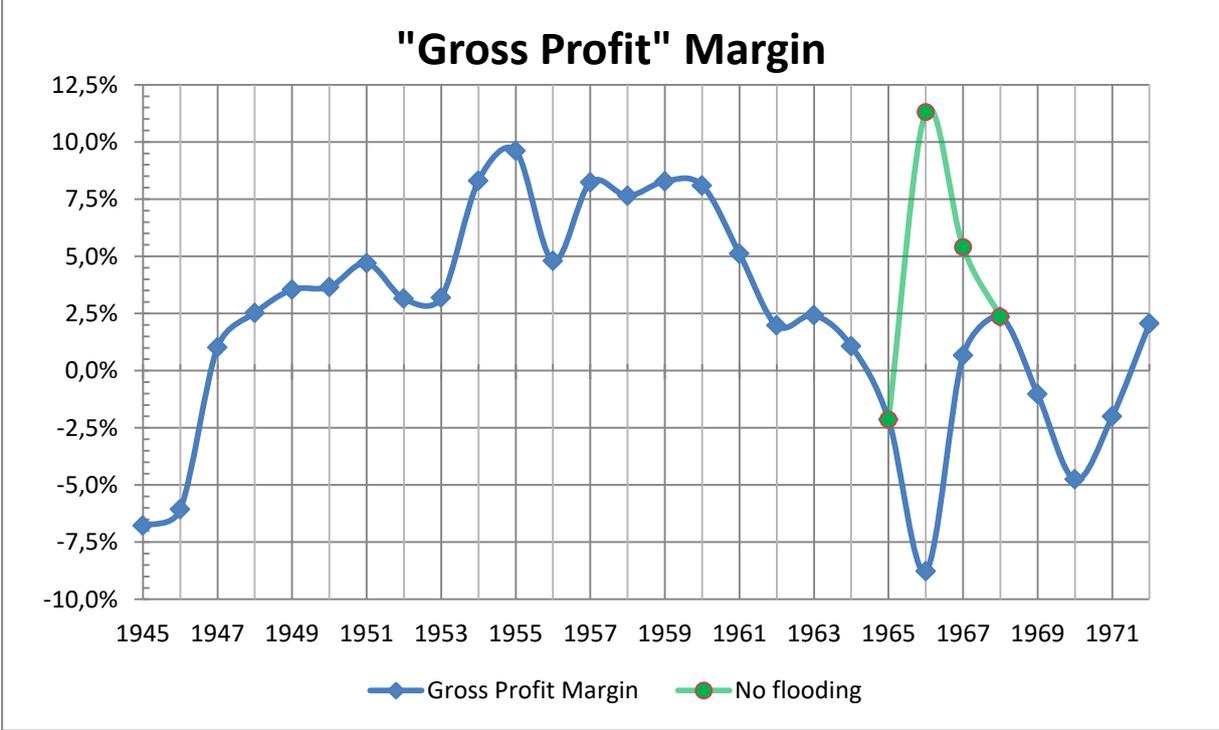


Figure 11: Net income relation to gross profit (net income/gross profit) trends and fluctuations analysis; 1945 – 1972 (Archivio Storico Piaggio, Assemblea Generale degli Azionisti, 1946 – 1972).

In this different display of the proportion between the net income and the gross profit, notice how the curve shares a shape close to that of the net income. This similarity confirms the influence of the external events, as well as, the trends previously explained. Moreover, what stands out is the relatively narrow range in which the net income is located with respect to the gross profits; no more than 9.62% and not less than -8.78%⁴⁷. This ratio suggest an overall good performance, which can be considered good in the first 9 years, outstanding in the following 7, and quite poor in the last 12. However, it is worth mentioning that in the last 5 years – where the trend was coming back to a positive – the negative period 1969 – 1971 is mostly tied, as witnessed in the 1973 Administrative Board reports, to the large investments

⁴⁷ If the damages done by the flooding are taken out of the equation, the range would change: minimum -6,78% (in 1945), maximum 11.31% (1966).

done by the company to modernize the machinery; again finding evidence in the studies of Graziani and Castronovo.

EBIT analysis

The fifth analysis diverges from the previous ones and focuses on the earnings before interests and taxes (EBIT) with the intent to reveal the business performance from an operating perspective (Figure 12).

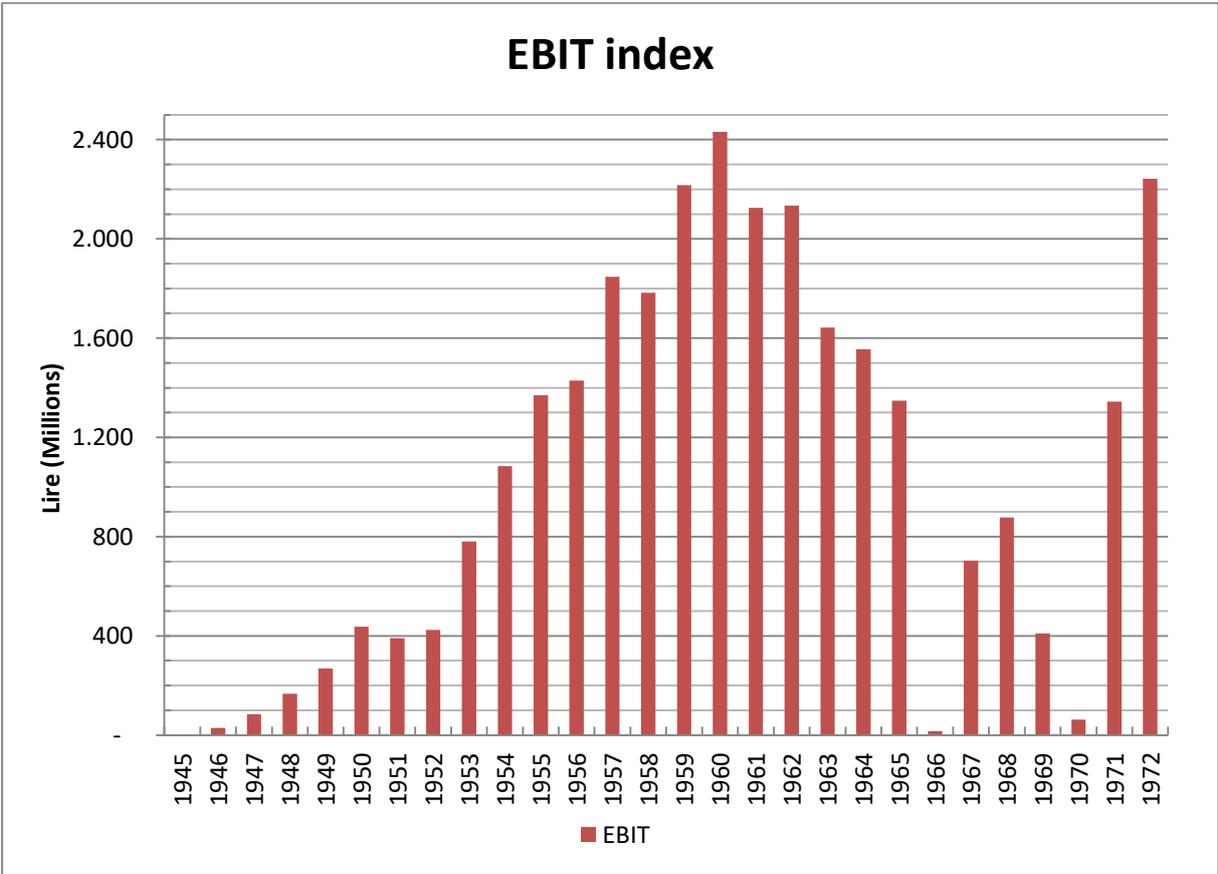


Figure 9: EBIT analysis (net income + interests and taxes), earnings generated solely by operations (with a low-negative in 1945); 1945 – 1972 (Archivio Storico Piaggio, Assemblea Generale degli Azionisti, 1946 – 1972).

At a first sight the analysis reveals a positive EBIT throughout all the period, with the except of 1945⁴⁸. This is a really good sign of stability and proper use of debt⁴⁹ in running the

⁴⁸ The data is not shown since it is negative for a negligible amount (Lire -2.688.418). This year is, indeed, considered as part of the post-war period where the expenses are significantly influenced by the plants and

business, especially for a company in a capital intensive industry. As seen for the other analysis, there is a positive trend up until 1960 which then falls down until 1971 – 1972. This is a further evidence of the impact, on the company, of the economic depression. Again, it is visible the downward trend occurred in the 1964, 1965 and the extremely low results of the years 1966 and 1970.

This analysis starts to highlight the limitations of a single company approach study. Indeed, the index would acquire much more significance if compared to that of competitors or the average industry performance. In this sense, the Administrative Board reports gives a hint, which is that the company generally performed better than the average performances of the industry as a whole. However, this holds true with respect to the data measured for the purposes of the balance sheets. And perhaps even more importantly, accordingly to an industry study level on cycles, motorcycles and scooters in 1972 Piaggio was producing around the 55% – 60% of the overall scooters present in the market⁵⁰ (Fiduciaria Italo-Svizzera S.p.A., 1975). This data carries two major implications: (1) the company cannot be significantly compared to other manufacturers of the same segment, but at most to the entirety of the motorcycle industry; and (2) Piaggio itself was basically defining for the most part the industry performance index against which it was compared.

establishments “reconstruction” (Figure 14) (Assemblea Generale Ordinaria degli Azionisti, 1947; Assemblea Generale Ordinaria degli Azionisti, 1946).

⁴⁹ Necessary to the long term-growth of the company. It is, indeed, required to finance the machinery and the equipment, and in general all the fixed assets, in particular, in the mobilization industry where the latter play a quite significant role.

⁵⁰ This percentages are also influenced by the market exit in 1972 of Innocenti, one of the major competitors (Fiduciaria Italo-Svizzera S.p.A., 1975). However, it has to be kept in mind that the same percentages would not differ by a lot considering that the cycles, motorcycles and scooter industries were not the core business of Innocenti (Fiduciaria Italo-Svizzera S.p.A., 1975).

ROA and ROE analysis

Finally, the sixth and last analysis focuses on the management of the capital, in particular, on the study of the ROE and ROA indexes (Figure 13).

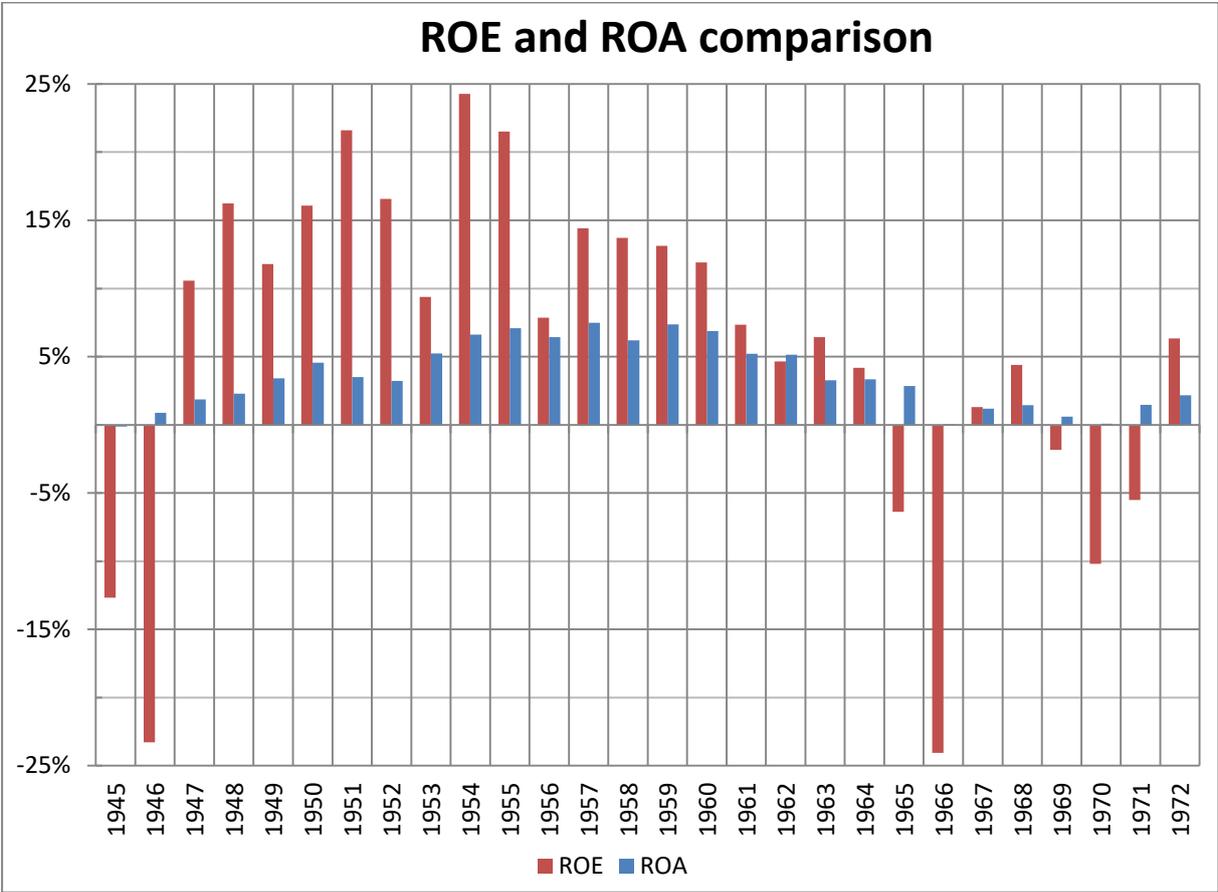


Figure 10: ROE (net income/capital and reserves) and ROA (EBIT/total assets) analysis, trends and comparisons; 1945 – 1972 (Archivio Storico Piaggio, Assemblea Generale degli Azionisti, 1946 – 1972).

First and foremost, taking in consideration only the ROA it can be noticed how this is low but positive throughout all the studied period with the exception for the 1945, due to the damages sustained by the plants in the post-war period. This measure indicates an efficient use of the resources in the period 1950 – 1960, a moderate/good use from 1960 to 1964, and it highlights again the two critical years, 1966 and 1970. These years have a basically zero ROA⁵¹ due to the absorption of the costs tied to inactivity of the production caused, as known, by the flooding and the strikes. Overall, the average ROA for the entirety of the period taken

⁵¹ 0.03% and 0.08% respectively.

in consideration is 3,56% which is a good result considering the magnitude and duration of the impact of the external events.

Looking at the ROE it is quite clear when the “difficult times” occurred. However, it is worth mentioning how the ROE significantly highlights the 1946. Indeed, as reported in the Administrative Board of 1947, the business could not reach the expected productivity mainly due to the lack of raw materials and of the electricity in winter months (Figure 14) (Assemblea Generale Ordinaria degli Azionisti, 1947). However, The average ROE for the entirety of the period is 5,70% which is overall a moderate result.

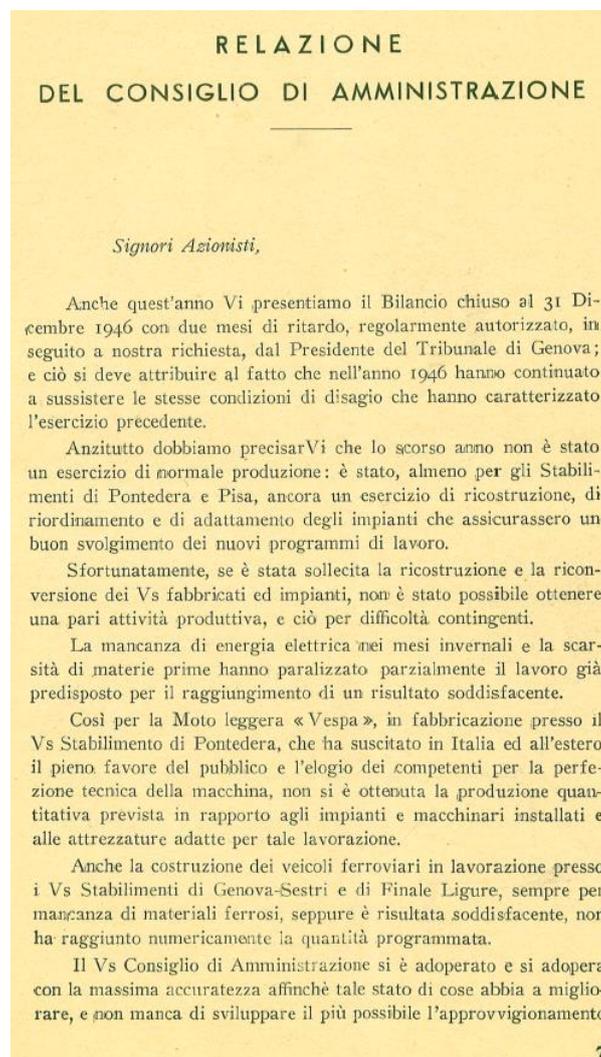


Figure 114: 1947 first part of the report of the Piaggio & C. Administrative Board witnessing the “reconstruction” period and explaining the difficulties encountered during the operating year 1946, in particular, the lack of raw materials and electricity in winter months (Assemblea Generale Ordinaria degli Azionisti, 1947).

Finally, comparing the ROE and ROA indexes it is evident how the ROE is significantly higher or lower than the ROA in the first period, indicating that the company used financial leverages. In fact, this pattern is coherent with the post-war economy: by taking on debt the company increased its assets; an action necessary for the accomplishment of the “reconstruction”. Indeed, moving forward in the x axis the distances between ROE and ROA decrease somewhat gradually until 1961 – 1964 where they are relatively close. Finally, the last period is characterized by substantial differences – between the indexes – in 1966, 1970 and 1971 reflecting the flooding, the market breakdown and the strikes. However, what emerges from the analysis is that all these events were faced with the funds earmarked in the extraordinary reserves, indeed, exactly for this reason, the share capital never decreased⁵² although the shareholders’ equity did.

Results of the financial analysis

Overall, in the studied period, the financial state of the company reveals to be relatively good, especially in the years of the “economic miracle” and “Vespa miracle”. The activity is profitable and able to face medium and short-term debts with its own capital and reserves, although this holds true on average and there are no certainties about how the management performed during the crisis in the ‘70s.

On the long run the business demonstrated a constant growth, supported by the reinvestments – on the company itself – of its profits, confirmed also by the increases of the share capital. Finally, the negative non-recurring events which impacted the company, were overcome thanks to the wise management of capitals and reserves.

It can be concluded that the indexes here calculated needs further testing for the period 1950 – 1970. Indeed, as abovementioned, what emerges from the review of the Administrative Board reports, is that the company generally performed better than the industry, even during hard times. Of course, as seen from the industrial studies of 1972, this vision could be influenced by the weight that Piaggio exercise in the scooter market, and therefore, should be tested against the performances of other major competitors: e.g. Aprilia and Innocenti.

⁵² As a matter of fact, the share capital always increased between 1946 – 1973 (balance sheets years): Lire 52.500.000 (1946 – 1948); Lire 210.000.000 (1949); Lire 630.000.000 (1950 – 1953); Lire 1.050.000.000 (1954 – 1956); Lire 3.150.000.000 (1957 – 1967); Lire 5.000.000.000 (1968 – 1973).

5. A relation between the financial analysis and the Vespa rate of production

To deepen the quantitative approach analysis, it is worth to take a look at the Vespa rate of production⁵³ (Figures 15 and 16).

Operating year	Vespa Produced (cumulative) ⁵⁴	Production increase (w. r. to the previous year)	Production Delta ⁵⁵	Vespa production rate	Year gap
Year	Units	%	Units	%	Years
	Production Delta t1 + Production Delta t2	(Vespa Produced t2 / Vespa Produced t1) - 1	Vespa Produced t1 - Vespa Produced t2	(Production Delta t2 / Production Delta t1) - 1	Year t2 - Year t1
1946	2.848	0	2.848	0	0
1947	13.383	370%	10.535	270%	1
1948	33.205	148%	19.822	88%	1
1949	68.883	107%	35.678	80%	1
1950	130.764	90%	61.881	73%	1
1951	221.812	70%	91.048	47%	1
1952	352.897	59%	131.085	44%	1
1953	524.097	49%	171.200	31%	1
1954	706.712	35%	182.615	7%	1
1955	920.199	30%	213.487	17%	1
1956	1.159.602	26%	239.403 ⁵⁶	12%	1
1960	2.000.000	-	840.398	-	4
1970	4.000.000	-	2.000.000	-	10

Figure 15: Vespa production analysis reporting the known data about the production; 1946 – 1970 (Rivista della produzione e della organizzazione Piaggio, 1956; E. Piaggio, 1956; Piaggio & C. SpA, 2018).

⁵³ The data from 1946 to April 1956 comes from the Piaggio internal journal of 1956 (Rivista della produzione e della organizzazione Piaggio, 1956), while the others are calculated as the differences between the production milestones of the Vespa reported in chapter 1: The “Vespa miracle” phenomenon. Unfortunately, I could find only few data related to the production of the Vespa and it was not possible to reliably extrapolate, from the balance sheets and the income statements, the numerical values about the volume of production.

⁵⁴ Data calculated for the period 1946 – 1956; while known and reported for the years 1960 and 1970.

⁵⁵ Data known relatively to the period 1946 – 1955; while calculated for the years 1956, 1960 and 1970.

⁵⁶ Estimated data: it is known that in April 1956 the production of the Vespa reached the million milestone. Data calculated assuming that the production rate of the first 4 months has been constant for all the year: $(1.000.000 - 920.199) \cdot 3 = 239.403$.

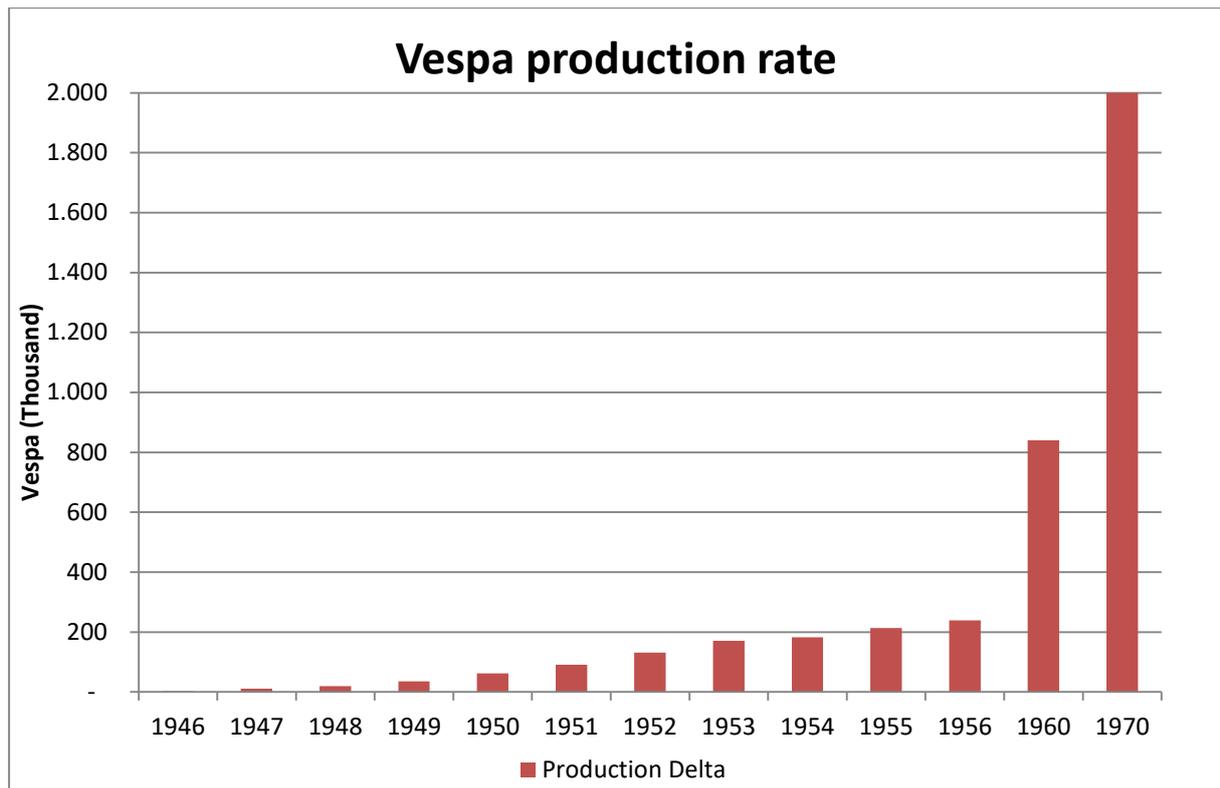


Figure 16: Vespa rate of production analysis, displaying the production delta; 1946 – 1970 (Rivista della produzione e della organizzazione Piaggio, 1956; E. Piaggio, 1956; Piaggio & C. SpA, 2018).

At a first glance at the graph, the two highlighted periods appears to be 1960 and 1970 due to the larger year gap. However, and perhaps most importantly, it can be appreciated a slow but constant growth of the rate of production from the 1946 to 1956. 1956 is indeed an interesting year: the further increase in the production rate estimated in the table is only partially reflected by the financial studies. This may be due to several reasons, the first of which being the estimation method. Using a linear model and assuming that the production rate is constant throughout the year, is somewhat haphazard. Indeed, relating the estimation to the financial analysis shows different results. The gross profit graph does not report any increase (conversely it shows a reduction) meaning that the production was, at least, not promptly followed by the same sales growth⁵⁷. The net income analysis partially reflects this result

⁵⁷ This may be due to the fact that these are the years where the production starts in a lot of licensees, and especially out of Italy, where the product is not yet as popular as it used to in its native country. Indeed, the production in Germany, England, Spain and Belgium can be considered marginal with respect to that of France

since this year is affected by the tripling of the share capital, which, in any case, suggests a great period for the company. Finally, the ROE and ROA analysis seems to confirm the validity of such an estimate. In fact, in 1956, the graph exhibits a lower ratio between the two indexes, with a good ROA and a decrease in ROE (influenced by the increase of the share capital), indicating a lower debt and, at the same time, a good use of the finances.

Overall, from what has been studied up to now, the Vespa rate of production is in line with the company financial analysis. Both of them reveals to be growing, although at different rates, from 1946 up to the 1956. However, it would be interesting to understand and confirm what was the production rate from the 1956 onwards, to further compare them to the financial results. Indeed, this data would give, not only a clearer vision about the financial state of the company, but also some insights about who, and how many, could afford the so called “piccolo vettura a due ruote” (“little two-wheeled carriage”) (C. D’Ascanio, 1956), in the years linked to the crisis. It is indeed recurring, throughout the Administrative Board reports, how Enrico adopted a price reduction policy – especially on the Vespa – from 1952 (Assemblea Generale Ordinaria degli Azionisti, 1952) until his death.

Theoretical approach for further interpreting the Vespa production rate

Although estimating the Vespa production rate subsequently to 1956 could be tricky, there are some considerations which can be done. As it can be calculated from the table, after the 1956 the average rate of production stalls around the 200.000⁵⁸ vehicles per year (Figure 17, red line). In particular, 210.100 for the period 1956 – 1960 and 200.000 for the period 1960 – 1970. This estimates, would imply a sudden arrest of the growth of the yearly production rate, which is highly unlikely especially in the period between 1960 – 1970. Although there has been a slowing down of the rate of growth (of the Vespa production), a stationary situation for the entirety of the period is definitely not the case. Indeed, relating the model to all previous analysis, and especially the estimations of the net income and gross profits, underlines how there must have been some ups and downs in the production activity especially in the years in

and Italy (Rivista della produzione e della organizzazione Piaggio, 1956). Moreover, as seen from the industry rates and although marginal, also competition, rarely mentioned in the Administrative Board reports, has to be considered.

⁵⁸ Estimation calculated as the average production per year assuming a constant production: Production Delta / Year gap.

which it was influenced by strikes and events that forced the total inactivity of the plants. Moreover, It can be seen from the table how it has taken 16 years to reach the two-million milestone of Vespa produced, while afterwards, 10 years were enough to double this result, meaning that from a macro perspective the production rate increased to some extent. It can be added that if one would considers the production rate of the period 1956 – 1960 and forecast it into the next period 1960 – 1970 expecting 2.100.995⁵⁹ units, a sort of decrease can be found but with a relatively low difference (~5%). Therefore, I suggest here a theoretical curve (Figure 17) which might describe how the production could have developed after 1956 up to the 1970.

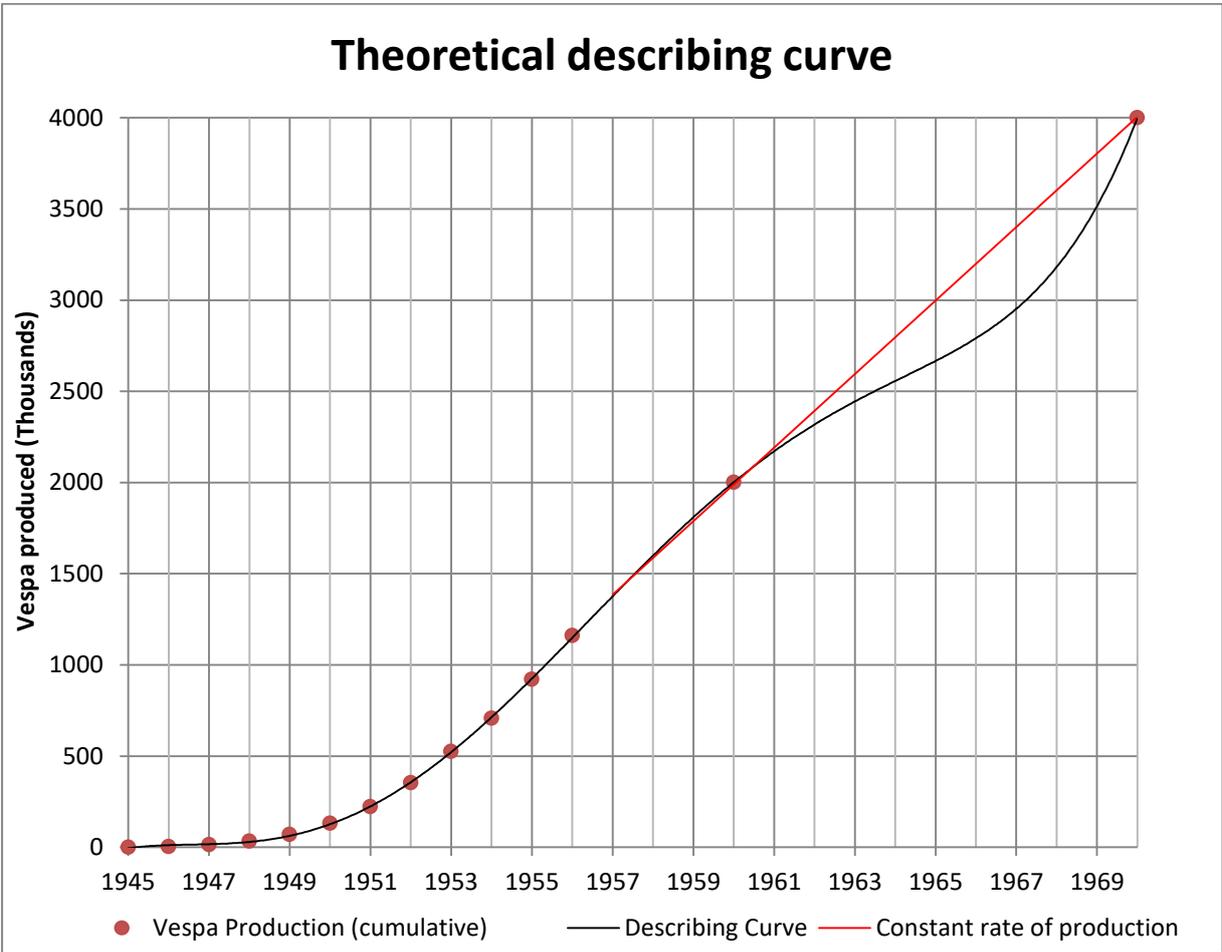


Figure 17: Theoretical model, in order to understand the production development, obtained through a 5th degree polynomial with a describing curve highlighting an inflection point in the period 1962 – 1969; 1946 – 1970 (Rivista della produzione e della organizzazione Piaggio, 1956; E. Piaggio, 1956; Piaggio & C. SpA, 2018).

⁵⁹ Estimation calculus: Production Delta of 1960 * 2.5 (to relate 4 year gap to a 10 year gap).

The curve here displayed is obtained through a 5th degree polynomial⁶⁰. The reason behind this choice is that of searching for the best describing curve (R^2 as close as possible to 1) with the data at my disposal, rather than trying to calculate a predicting model. The graph highlights two results: (1) a basically linear increase between 1956 and 1960 implying a constant rate of production; and (2) a particular inflection point in the period between 1962 and 1969. This curve seems to better describe the probable development of the Vespa production subsequently to the 1960. It is indeed very likely, based on the financial analysis and the known history that the production rate stalled around the 200.000 Vespa per year in the period 1956 – 1960. In particular, the net income and gross profit analysis shows in these years, close and constant results. But perhaps, more relevant is the inflection point highlighted by the describing curve. The decrease which starts in 1962 is in perfect alignment with the historical and financial analysis. Again, through the net income and gross profit analysis it can be seen the drastic and negative trend inversion which characterized this year. Moreover, as seen from the historical studies and the Administrative Board reports, this is exactly the year in which the costs of labour increased “in measures exceeding the possibility allowed by the dynamics of income production” (Assemblea Generale Ordinaria degli Azionisti, 1966). Finally, the “inflection period” identified by the curve between 1962 and 1966 (which is also the furthest point from the constant rate of production) correspond with the years in which the company was impacted by the economic depression and the flooding; and even more interestingly, the sharp rise in production of the 1970 finds evidence in the technological improvements introduced in those years.

Based on this model’s interpretations, the production of the Vespa had a particular down-up period from 1962 to 1970. This curve in relation to the financial analysis suggest that the rate of production decrease was also promptly followed by an overall decrease in sales, at least until the end of the ‘60s. Thus, it is likely that Enrico (and his successors) did not followed a constant prices’ reduction policy, but rather that the latter have been constantly adjusted, at least for the different models and products, accordingly to the situation. Therefore, one can interpret that what the Administrative Board reports wanted to truly stress, was how the efforts of the management were towards the achievement of the vision which the Vespa symbolized: that of representing (and actually being) the “motorcycle of the people”. This interpretation finds further support in the industrial studies, conducted by the Fiduciaria Italo-Svizzera S.p.A., in which are reported the prices of some models of Vespa in a period ranging

⁶⁰ Equation: $Y = 5,5147x^5 - 295,73x^4 + 4906,6x^3 - 18856x^2 + 31539x - 5443,3$. Goodness of fit (R^2) = 1.

from 1962 to 1972. The prices reveals to be increasing, but of a negligible amount in the period 1962 – 1965 to the suddently increase by 20% to 50% in a matter of years due to inflation (Fiduciaria Italo-Svizzera S.p.A., 1975).

6. Conclusions

It is undeniable that a deep relationship between the history and the economy of a country and those of a company exists. However, this generalization should not imply that the course of action of a business is defined solely by the events and phenomena occurring outside its range of scope. This analysis suggests how the spirit and actions of an entrepreneur can define or modify the history of a country. Rinaldo, Enrico, D'Ascanio, all the workers and the Piaggio overall, contributed to the history of the country as much as (and even more than) the Vespa contributed, as Tassinari would say "to the national mobilisation", or Arvidsson "to the emancipation of women and to the individualization". Therefore, with the purpose of highlighting these relationships it is prominent how Piaggio was influenced, since its origins, economically and historically by phenomena and events occurred at a national and world level. However, and perhaps more interestingly, it is also apparent how the company itself contributed in defining part of the history of the country with its efforts.

This thesis confirms the financial bonds which link the company to the country, and adds through the study of different sources and their interpretation several details and relationships not highlighted in the history of the company itself. Indeed, there is no doubt that Piaggio, and especially the Vespa, contributed to the "motorization of entire generations", however, this statement hides the difficulties which the company had to face on the long-run, e.g.: wars, economic depressions, crisis, strikes, *et cetera*. Not to mention the production and sales problems faced and overcame through the continuous research and development of new talents and genius able to create innovative products.

If one acknowledges the worldwide success which Vespa has experienced, it cannot go unnoticed the mix of knowledges and cultures which characterized its ascent. Starting from the intuition of the Dr. engineer Enrico Piaggio, going through the solutions adopted by the engineer Corradino D'Ascanio, to finally land on the phenomenon created and administrated by the journalist Renato Tassinari. Therefore, the linkages between the company, the Vespa, the history of Italy and its economy are all tied by the thoughts and actions of these people. With the objective of deepening, as much as possible, the environment and development characterizing the Vespa, it can be concluded as Arvidsson said: "the Vespa case does indicate that the neat distinctions between "system" and "lifeworld" are sometimes too simplistic and that as Fredric Jameson has famously suggested economy and culture are deeply entwined." (A. Arvidsson, 2001; F. Jameson, 1991).

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