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Did the Compagnie du canal de Suez assume its tasks to adapt the canal equipment to transit shipping (1900-1956)?

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Abstract

Harsh arguments accompanied the development and the history of the Suez canal company either among nationalist Egyptians (just before, during or just after the nationalisation of the canal in 1956) or among some historians dedicated to find out clues of imperialist powers on key tools and moves of world economy. Whilst some historians (D. Landes, S. Saul, C. Niquet) denounced the financial tutelage exerted by the Suez company on Egypt, a commonplace opinion reproached the Company to have neglected the basic investment to modernize the Suez canal and had accused it of enlivening privileged incomes without managing a broad engineering project to allow the canal to reach standards of modern shipping.

Our paper will scrutinise the evolution of the canal after its inception and emerging period, at its apex. It will gauge the financial figures of the investment moves of the company, the equipment of the canal management in Port-Saïd, Ismaïlia and Suez Port, the actual evolution of the canal ability to face transit constraints, and the technical level reached by the piloting entity. It will also raise the question of the Egyptianisation of the staff but will not consider the question of the contribution of the canal developments to Egypt's development, which will take place elsewhere. Such a paper will be intimately linked to maritime history as it will study a key water-way of international maritime roads and ponder the relationship between the evolution of shipping and transit on one side and the equipment and modernisation of the Suez canal on the other side. Its long-range scope will avoid a too much restrained case study and help consider far-reaching debates and conclusions.

Key-words: Suez canal, maritime transport, shipping companies, Egypt, the Indian route, shipping lanes

Titre français : *La Compagnie du canal de Suez a-t-elle assumé sa mission de modernisation du canal (1900-1956) ?*

Mots clé : Canal de Suez, transport maritime, armateurs, Egypte, route des Indes

JEL Classification: N7, N75, H54, L9, L92

The nationalization of the Suez Canal in July 1956 – symbolized by the toppling of Ferdinand the Lesseps' statue which had been erected in 1899 – marked a watershed in the fight against Occidental imperialism in the Middle East and the emerging third world.[1] Apart from geopolitical considerations, the fight against the *Compagnie internationale du canal maritime de Suez* ("Suez Maritime Canal International Company") was often justified by its Egyptian detractors on technical grounds such as the accusation that it was becoming increasingly more complacent and losing its entrepreneurial spirit resulting in a decline in the investments required for modernizing the canal. This in turn meant that it could not cope with the development and changes in the traffic through the Isthmus of Suez during the first half of the 20th century. In fact, throughout its history, the Company was dogged by numerous controversies. David Landes[2] turned the Company into an imperialist economic tool used as a financial lever in Egypt. During the years 1875-1884 it found itself imbroiled in debates regarding British influence in Egypt.[3] Later, it became a symbol of the radiating influence of imperial France. It was hotly contested over in the two World Wars and even the Ottomans made a grab for it in 1915. Finally, in the early 1950s, its future lay in the debates regarding certain pockets of foreign influence in Egypt.[4]

The Company itself always wanted to remain "neutral", away from all controversies regarding nationalism or imperialism. It just wanted to be a "service company" which would aid in the development of the isthmus, help meet the needs of the world maritime and commercial community and contribute in opening up the economies on the other side of the canal. Endowed with a unique statute, it enjoyed the advantages of being registered as an Egyptian company in France and as a French company in Egypt. Though this ambivalence undoubtedly served its financial and fiscal interests, it also permitted it to be a kind of international organization mainly at the serice of shipowners, shippers and maritime freight forwarders.

Our work here is not to exonerate the Company, but rather to understand how its investment strategy adapted itself to the quantitative and qualitative change in the traffic and how the technology (in terms of draught, width, capacity of the canal, transit times, etc.) responded to the demand. For that, we need to look at the threesome: money-navigation-investment. An over-investment would have resulted in hiked tariffs and blunted the company's profits. An under-investment on the other hand would hamper traffic and thus reduce receipts and dividends. As for any corporation, it was a question of the optimum allocation of resources and the perennial dilemma regarding the profitability of an investment, that is to say, at what point would an additional investment lead to a significant increase in the income and in profits (the famous return on investment) or, on the contrary, lock up funds for years in the form of new equipment which fail to increase the income sufficiently.

It must also be noted that, from the legal standpoint, the Company benefited from a "concession" granted by the Egyptian government in 1857 – provided of course, that it abided by its clauses. On one hand it had to consider the growth in traffic and undertake the

[1] *Cf.* George Edgar-Bonnet, *Ferdinand de Lesseps. Le diplomate, le créateur de Suez*, Paris, Plon, 1951. Ferdinand de Lesseps. *Après Suez, le pionnier de Panama*, Paris, Plon, 1959.

[2] David Landes, *Banquiers et pachas. Finance internationale et impérialisme économique en Égypte*, Paris, Albin Michel, 1993 (published in English since 1958).

[3] Samir Saul, *La France et l'Égypte de 1882 à 1914. Intérêts économiques et implications politiques*, Paris, Committee for the economic and financial history of France, 1997.

[4] *Cf.* Hubert Bonin, *Suez, du canal à la finance, 1857-1987*, Paris, Économica Publishings, 1987. Our book was based mainly on the archives preserved at the Headquarters of the Company.

necessary maintenance and modernization works, failing which the contract would be nullified – if at all we can imagine that a government so dependent on the British could ever take such a step – and on the other, it was made clear right from the start of the 1950s that the Company would keep in mind the date of concession, fixed for 1968, at which point it would return the Canal in a proper working order. It was in this latter clause that, as the investments in the "major works" required at least half a dozen years to plan and implement, technological and financial considerations came together in a volatile mix.

I. The situation of the canal at the beginning of the 20th century

The first decades of the history of the Suez Canal were marked by incertitudes regarding the success of such a venture. In fact, in spite of the huge advantage offered in terms of navigation times[5], the expected increase in traffic was delayed because the Great Depression of 1880-1890 brought to a virtual halt all investment in steamships and sailboats (mainly clippers) continued to ply the oceans. Moreover, technical glitches surfaced and cast a shadow on the safety of the transit through the canal. The company thus faced great financial problems as the income barely rose.

The ship-owners also protested against the delays which plagued the opening of the canal and finally, in the early 1880s, British corporations rose in revolt against the Company and serendipitously discovered their informal clout in the world maritime community. They went on to form a pressure group (that of "shipping" and also the trio of ship-owners, shippers and freight forwarders) which could mobilize entire governments and the major financial institutions of the world. The rise of British influence in Egypt (military occupation in 1882, High Commissioner Cromer in 1883 to 1907, a protectorate in December 1918) and on the Company itself (the buying out of its Egyptian shares by British interest groups) reduced considerably the leeway given to its directors.

The Company had to enter into negotiations with these ship-owners in November 1883 and accept seven of them into its board of directors which then counted 10 Englishmen out of a total of 32. The first result was a regular lowering of the transit toll which dropped by a total of 38.5% between 1884-1885 and 1913-1918. Next, a series of works was launched in 1884-1885. It was the second such program after the original excavations and the efforts to solve the still persisting "black points". Thanks to these efforts at widening and deepening of the Canal, ships could now cross without having to slow down or be subjected to yawing due to hydro-dynamic forces. The depth attained 8.5 meters in 1890 and then 9 meters. The draught went from 7.8 meters in 1890 to 8 meters in 1901. The average width went up from 22 to 37 meters in 1898. Certain sections attained widths of 65 meters with bends going up to 75-80 meters. The "stations" were enlarged to facilitate the transit of larger ships. The embankments were fortified by plantations and stone pitching.

This program of some hundreds of millions of Francs was nevertheless spread over time (sixteen years instead of seven) as technological advances allowed the Company to improve the navigating conditions by means other than dredging. Nighttime navigation was introduced

[5] In 1900, the journey from London to Calcutta required between 32 and 69 days covering some 11,686 km via the Cape and only between 22 and 47 days (8,109 km) passing through Suez. Similarly, going from Marseille to Saigon via the Cape required between 33 and 71 days (11,989 km) while it took only between 20 and 42 days (7,168 km) through Suez.

in 1886-1887, the number of experienced pilots increased and telephony was pioneered. The engineering philosophy of the Company took shape in this decade (1880-1890) and it set upon a methodical and non-spectacular series of small improvements whose modesty or triviality was at odds with what could have been a vast and radical transformation. A quiet, systematic program of modernization supplanted the glamour and excitement of a growth based on massive investments.

2. A strategy to match the growth in transit (1900-1940)

The modest changes in the transit, the embankments and the canal stood in stark contrast to the rapid transformation during the first third of the 20th century. The canal finally came into its own and made a mark on the world economic map when the countries of the Indian ocean, the far East and Oceania began to figure prominently in the "North-South" trade flow.

A. The growth of the clientele

At the turn of the 20th century, the structure of world shipping changed considerably. Clippers gave way to steamers which took full advantage of the stocks of coal at all the ports of call, for example at Port-Said (where the French corporation Worms[6] had its store). Next came ships which ran on fuel oil – the first went through Suez in 1908 – followed by ships powered by diesel engines (first through Suez in 1912). And soon the entire world shipping fleet had been modernized. In 1930, a fifth of the tonnage passing through Suez was transported by diesel driven vessels. The growing world economy and the development of overseas empires benefitted greatly from this technological advance. Transits through Suez went up exponentially. Between 1895 and 1900, some 3,400 to 3,500 vessels had passed through annually. That figure passed 6000 in 1928-1929. In 1880-1889 some eight ships negotiated the canal on a daily basis, in 1900-1919 it was 11 and in 1920-1929 it went up to 14 – this in spite of the slowdown caused by the war, the loss of Germany's colonies and the recession of 1920-1921. Globally, the traffic quadrupled between 1900 and 1930 and in spite of the crisis in the 1930s, it stabilized at around 30 million tonnes before the War.

Table 1. Net annual tonnage passing through the Canal (millions of tonnes)

1892-1897	8	**1922**	20.7
1900	10.8	**1922-1925**	23.8
1904	13.4	**1925**	26.8
1907	14.7	**1927-1929**	31.4
1909-1912	17.5	**1929 (new record)**	33.5
1910	16.6	**1930**	31.7
1912 (pre-War record)	20.3	**1932**	28.3
1914	19.4	**1935**	32.8
1917	8.4	**1937 (new record)**	36.5
1918	9.3	**1939**	29.6
1920	17.6		

This growth in the transit[7] can be explained by the extension of the links between Europe and the overseas countries. While the Indian peninsula dominated the trade links, the Far East also played a part, as did Oceania and East Africa. Understandably, due to its crude oil, the Middle

[6] *Cf.* Irène Bénilan, *Le journal de la compagnie navale Worms, 1882-1982*, Paris, PEP Publishings, 1982.
[7] *Cf.* André Siegfried,"Les échanges de marchandises par le canal", in *Suez, Panama et les routes maritimes mondiales*, Paris, Armand Colin, 1948.

East too figured prominently in the 1930s (from 2% of transits in 1913 to 24.8% in 1938). South to North trade dominated the flow and accounted for two thirds of transits in 1910-1930 as well as in 1935-1937. Cotton, cereals (Indian and Australian wheat, rice), cane sugar, groundnuts, copra, soya, oilseeds, etc. were sent to Europe as were rubber, jute and Indian hemp and manganese. Later, Indonesian and Middle-Eastern crude too joined the list.[8]

Table 2. The traffic passing through Suez by geographic point of origin in 1902-1912

China, Indochina, Japan	23
East India (Calcutta)	22
West India (Bombay)	20
Pacific islands	12.4
Oceania	9.1
East Africa and nearby islands	3.5

Table 3. The traffic passing through Suez by geographic point of origin in 1937

India, Burma (Myanmar), Ceylon	24.4
China, Japan, Philippines	20.4
East Africa and nearby islands	6.9
Oceania	6.5
The U.S. Pacific coast	1.2
Ports in the Red Sea and Gulf of Aden	7.6
Ports in the Persian Gulf	16.6

The maritime influence on the economy of the Canal was exerted by a number of large corporations, mainly British. In 1901, 22 of the first 37 shipping companies using the Canal were English including the Peninsular & Oriental (1st), Océan SN (3rd), Clan-Line (7th), Samuel (Shell Line, 9th) and Harrison (10th). Five German (Nordeutsche Lloyd, 2nd ; Hansa, 4th ; Hamburg Amerika Linie, 6th) and the lone Austrian (Lloyd Austrian, 8th) came before the three French (Messageries maritimes[9], 5th) and two Dutch companies. The British domination continued throughout the inter-War period and 1929 saw 28 of the best 55 clients of the Suez Company originating from England.

Table 4. The tonnage of British shipping passing through the Suez Canal

1890	78
1901-1910	67.3
1920	61.7
1930-1933	55
1935	48
1938	50
1939	51.4

[8] In 1909, Persia acquired the Anglo-Persian which had its own fleet, *British Tanker*. *Cf.* J.H. Bamberg, *The history of the British Petroleum company*. Volume 2. *The Anglo-Iranian years, 1928-1954*, Cambridge University Press, 1994. Stephen Howarth, *A century in oil. The "Shell" transport and trading company, 1897-1997*, London, Weidenfeld & Nicolson, 1997. Some 5 million tonnes of oil passed through Suez in 1934 against the 800,000 tonnes in 1920.

[9] .*Cf.* Marie-France Berneron-Couvenhes, "The internationalisation of Messageries maritimes steamship company fom 1851 to 1914: the defense of the French flag overseas", in H. Bonin (*& alii*, eds), *Transnational Companies, 19th-20th centuries*, Paris, P.L.A.G.E Publishings, 2002.

Imperialism can explain some of the changes in the transit nationalities: while Italy gained importance with its conquest of Ethiopia, Germany lost ground after losing its African colonies. Thanks to the development of its Indonesian interests, The Netherlands too gained while, despite its empire, France was overtaken by Japan. Paradoxically, though France was represented on its board of directors[10] (most often in the name of its three largest shipping corporations: *Messageries maritimes, Chargeurs réunis* and *Havraise péninsulaire*), the French carried little weight in the power games being played out between the Company's shipping partners.

Table 5. The traffic (in tonnes) by ship-owners' nationality

	1901-1910	**1920**	**1930**	**1930-1934**	**1935**	**1939**
Italy	1.4	9.1	4.7	6.6	18.5	14.4
Germany	15.6		10.7		8.2	7
Netherlands	4.7	8.1	10.5		7.1	8.3
France	6	4.4	6.3	5 to 7	5.4	5.5
Norway	0.6	1	3		4.2	4.3
Japan	1.6	9.1	3	3 to 5	2.5	1.8
United States			2.1		1.6	1.5

B. The technological pressure exerted on the Company

Now that the Canal had assumed a major and essential role in the economic trading of the world, ship-owners began to equip themselves with larger and larger ships, both in power as well as tonnage. The Company thus found itself faced by the technological challenge of accommodating a growing number of large vessels with draughts greater than eight meters (warships, liners, livestock transporters, etc.). The sign of things to come were already visible before the First World War with 213 such large ships (5.6% of the clientele) in 1908 and 374 (7%) in 1912.

Table 6. Tonnage of steamships passing through the Canal

4,000	44 % of the total	1913
5,000		1880s
6,000	The first in:	1886
Appearance of the 14,000 to 16,000 in the 1910s		
16,949	*Empress of Russia*	1912
Appearance of the 18,000 to 20,000 in the 1920s		
42,745 gross registered tonnage	*Empress of Britain*	1931 (then twice a year)

[10] André Lebon represented the maritime express on the Board in 1906-1938, just as Georges Philippar did in 1939-1958. Pierre Mirabaud represented the united shippers in 1905-1909. Jules Charles-Roux, who was a director since 1889, became the president of the General Transatlantic Company in 1904.

Table 7. Average gross tonnage of all vessels passing through the Canal

3,500	**1890-1899**
4,500	**1900-1909**
5,300	**1910-1919**
6,900	**1920-1929**
7,700	**1930-1939**

C. The technological response by the Company's engineers

To keep abreast of these requirements, the Company had set up a pool of some two dozen engineers (graduates of the *École centrale de Paris*, the *École des Arts & Métiers*, the *École Polytechnique*), draughtsmen and "conductors", technicians who operated from three bases and who were each responsible for an entire sector of the Canal – at Port-Said, Ismailia and Port-Thewfik. All working under a Chief Engineer (such as Louis Perrier, a graduate from the *École polytechnique* and the *École des Ponts-&-Chaussées* – and thus a high intellectual – who held the post from 1902 to 1918 and Paul Solente from 1920 to 1936). They took advantage of the large knowledge-base that had been gathered over the decades and especially during the third works program (1884-1900). This whole team was supervised by an international works consulting committee composed of fifteen experts from diverse countries who met every year to evaluate the progress made by the Canal to adapt itself to the demands of world shipping.

During the first third of the 20th century, the Company continued along the lines it had laid out for itself during the previous two decades, i.e., to find the optimal balance between investing freely in a major modernization program and investing just enough to consolidate and thus avoid any excess spending while at the same time to adapt itself sufficiently to the quantitative and technological changes in the ships. Three new work programs for modernizing the canal were thus implemented in one after another[11] in a kind "flowing plan". They were themselves modified to suit changing circumstances: the "third plan" which was conceived in 1901 was upgraded in 1903 and then again in 1906. A fourth program was launched in 1908. The fifth, though finalized in 1912, could be implemented only in 1924 due to the War. Meanwhile the sixth was launched in 1921. These plans brought about a gradual, almost imperceptible improvement in the depth and draught of the Canal.

Only the sixth program (1921 to 1934/1936) made a clear mark: the width of the Canal was standardized at 60 meters (instead of the previous 45 m) and a depth of 10 meters. This was possible because the crossing "stations" which had been put in place earlier linked up seamlessly. At the bends, the width was increased to 80 meters. And by 1936 the draught attained 10.36 meters (34 feet). To summarize: the width of the Canal which measured 37 meters in 1898 was uniformly widened to 60 meters in the mid-1930s (+38%), the depth increased from 9 meters in 1900 to 12 meters in 1934 (+25%) and the draught from 8 to 10.36 meters (+23%). The most important change were the standardization which greatly facilitated navigation, the increased width in the curves and the new crossing stations which could accomodate the largest vessels.

[11] *Cf.* Christian Funck-Brentano (ed), *Compagnie universelle de Suez*, Paris, Éditions de Clermont, 1947 (a book commissionned by the Company).

Table 8. Chronology of the works between 1900 and 1940

	programs	depth	draught	width
1870				22 meters
1885-1900	second program	8.5 meters in 1890, then 9 meters	7.8 meters then 8 meters in 1901	width enlarged from 22 to 37 meters in 1898; some sections of 65 meters, with 75 to 80 meters at the bends; stone pitching; installation of crossing stations in 1898
1901-1907 (upgraded in 1903 and again in 1906)	third program			Increase in the number of crossing stations
1907		10		
1908-1924	fourth program	11	8.5	
1912				installation of new, larger stations in 1912
1914		12	8.84 (29 feet)	Crossing stations link up; 45 meters (with 10 meters of depth)
1912	fifth program			
1921-1934/1936	Launch of the sixth program			The stations with the new dimensions link up: progressive unification in width; Crossing at two large stations at the 22 and 40 km mark
1924	Completion of the fifth program			60 meters between the lakes of Amer and Suez, in 1925
1936			10.36 (34 feet)	60 meters achieved in 1934; bends measuring 80 meters

A permanent dredging program was initiated to desilt the Canal, as part of the modernization works and, in the case of the channel at Port-Said, to clear the sea alluvium. Between 1884 and 1914, the Canal itself was cleared of some 90 million cubic meters and then of another 50 million between 1914 and 1939. This total of some 140 million cubic meters represents twice the volume of the earth excavated (74 million) when the Canal was first dug through the desert. On the average, some 3 to 4 million cubic meters per year were moved between 1900 and 1925. This number went up to 5 and 6 million between 1927 and 1929. With the number of equipment (mainly dredges) increasing, new buildings for their maintenance had to be constructed. This equipment, which up till then had been housed on the African side of Port-Said, was shifted to the Asiatic side between 1907 and 1919. Some hundreds of employees (1500 in 1956) too settled there and Port-Fouad saw the creation of a whole township by 1915-1916.

D. An easier, faster and more regular crossing

Now that crossing the isthmus had become rather simple and, more importantly, regular and safe, with risk of accidents considerably reduced, the shipowners on the whole were satisfied.. The transit times too had been greatly improved and though much of the gain had been achieved during the second works program (- 67%), which took some of the shine off the later improvements (- 30% between 1900 and 1938), the introduction of nighttime navigation and the possibility of handling any ship at any time were major advances achieved in the last fifteen years of the 20th century. The shipowners' satisfaction can also be judged by the fact that there were no more claims for damages as there had been in the early 1880s.

Table 9 : Transit times, in hours

1885	1888	1890	1895	1900	1905	1938
43	30 3/4	24	19	18 1/2	18	13

Only, in the middle of the 1920s they got together with the Canal Company to review the required adaptations to the Canal so that it would be able to accommodate still larger ships, particularly the oil tankers ("benziniers" as they were called by the Company) which were growing both in number and size. In 1928-1931, the team of engineers set about drawing up precise plans in order to increase the draught to 40 feet, otherwise these ships were well capable of triggering hydraulic phenomena which would accelerate the erosion of the banks and cause even greater technological problems. But then the depression in the world economy and the resultant dip in traffic took the urgency off this project: the four large work programs accomplished between 1901 and 1934 could comfortably carry the Canal through the 1930s.

E. A fine balance between investments and benefits

The initial cost of the Canal is estimated at 433 million francs, of which 300 million went into works (such as for the embankment and dredging, etc.)[12]. Since the 1880s a total of 518 million francs had been expended on the subsequent work programs. A different estimate puts the total at 366 million francs: with 242 million spent between 1870 and 1914 and another 124 million between 1914 and 1939. Money-wise, it was as though a second canal had been dug and the volume excavated was, as we have seen, double the amount dug out for the original canal.

Table 10. Estimated assets of the Suez Company (in millions of constant francs of 1913)

Initial cost of the canal	433
Upgradation work between 1881 and 1939	518
Cost of the canal in 1939	951
Value of the Company's material and equipment in 1939	128
Value of the Company's buildings in 1939	80
Total value of the Canal and the Company's movable and immovable assets	1 161

[12] Let us recall that the cost of the Panama Canal is estimated at 1 400 million francs for the work done between 1881 and 1921.

In fact, had there been a need for it, the Company could have easily spent much more as its revenues had increased substantially. It had not increased its capital since 1866 and its loans[13] after 1918. Between 1868 and 1902 its loans amounted to 273 million francs and added up to some 150 million francs between 1909 and 1918. Thus, all its investments in works, material, constructions and equipment were mostly self-financed.

The canal was so profitable that its cost was very quickly amortized. The work programs were financed with ease and paid back for themselves in a few months by the resultant increase in traffic and revenues. In the 1920s, these revenues were supplemented by exceptional exchange rates (thanks to the revaluation of the Pound Sterling against the franc, especially around 1923 to 1926). And in spite of the devaluation of the Pound in 1931, the 1930s saw continued gains in profits because the Company had made many short term investments which brought in handsome dividends.

Table 11. Estimate of the Company's and its shareholders' revenues (in constant francs of 1913)

	Total revenue	Distributed as dividend
1875-1914		2 347
1901-1910	1 134	
1911-1914	533	
1915-1929	1 500	1 032
1930-1939	2 920	1 376
1915-1939	4 420	2 407

Table 12. Estimate of the Suez Company's money flow (in millions of constant francs of 1913)

Upgradation work between 1881 and 1939	518
Value of the Company's material and equipment in 1939	128
Value of the Company's buildings in 1939	80
Loans between 1909 and 1918	150
Loans between 1887 and 1902	100
Liquid assets in treasury in 1939	335

It is true that the Company made serious efforts at the modernization of the Canal and in extending its capacity. But, is it possible that, given the extent of its revenues, the generous dividends showered upon its shareholders (which included the British Crown) and its financial investments, it could have further reduced its transit tariffs? After the major reduction in tariffs (- 38.5% up to 1913-1918) agreed to as a result of an understanding arrived at with the ship-owners in 1883, the Company increased them again (+36% between 1913-1916 to 1918-1920) – pointing at the inflation of the War years and the 1920s and the need for financing a new program of works. It is also true that it resorted to loans between 1915 to 1918. This hike helped in tiding it over the inflation years and the extra revenue allowed it not only to continue investing but also reward its shareholders. Still, when the situation changed and prices dropped, the ship-owners prevailed on the Company to again reduce its rates (in 1930, 1931 and 1934) by a total of 17% between 1929-1930 and 1934-1935. We would have thought that a still greater reduction would have been easily possible

[13] The Company borrowed 100 million francs in 1868, 46 million francs in bonds in 1871-1874, 27 million in 1878-1882, 100 million in 1887-1902, 30.5 million in 1909-1914 and 119.5 million in 1915-1918.

given the size of the benefits, the reserves and the percentage of the gross profit distributed as dividend (almost two-thirds).[14]

Looking at the other side, we have to admit that the Company did well by giving up taking loans and financing itself. It even managed to finance its work programs very comfortably. Still, a closer look at the percentage of the receipts distributed as dividend between 1915 and 1939 (54%) and the proportion of the transit revenues which were turned to dividends (75% in 1929, 58% in 1939) would seem to indicate that a much larger reduction in the transit fees was very much possible. The Company could afford to have its way as it had a clear monopoly in the field. The British Crown too found it convenient as two-fifths of the dividends (a little more than 44%) went into its own pocket – and that too at the expense of its own ship-owners! As the only alternative across the isthmus was by rail or road, the Company found itself, with the happy consent of the British Crown, firmly in the driver's seat. On the other hand, could it be that a big reduction in the tariffs would have been more than adequately compensated for by a resulting increase in the traffic?

Table 13. Some financing items of the Suez Company (in millions of current francs)

	1929	**1938**
Transit receipts	1 044	1 660
Total receipts	1 190	1 784
Operating expenses for the transit	76	142
Operating expenses for the maintenance of the Canal	81	158
Total	157	300
Loans	83	168
Provision for upgradation work	80	0
Amortization of material and buildings	25	50
Put in reserve	25	15
Paid to Egypt	0	53
payments to owners of "civil shares" representative of advances to the Company; founder's shares; to the administrators and to shareholders	781	969
Benefits distributed to employees	15	18
Percentage of transit receipts allocated to other (non personnel) benefits	75 %	58 %
Three asset items in 1938		
Investments, cash and deposited in banks	1 906	
Reserves	468	
Net profit	915	

[14] As a ruling of 1925 constrained it to pay back its outstanding debts and to pay dividends in their pre-War gold equivalent.

3. The debate over a second canal (1945-1956)?

Over the years the Company could well imagine that the times followed a classic rhythm: the economic crisis slowed the traffic through the Canal, the problem was compounded by the War and transits fell by 80% between 1937 and 1942. It was only in 1947 that the pre-War (1937) level was regained. On the other hand, during peace times, with the increase in fuel-oil driven ships, interest in the Canal grew as it meant a big reduction in refueling stops.

A. The surge in traffic at the beginning of the 1950s

The beginning of the 1950s saw a massive increase in the traffic which more than doubled the maximum attained at the end of the 1930s. It was the era of the "Korean boom" with the Korean War and the rearming of NATO which meant that daily transits doubled between 1947 and 1951. And then the traffic went further up by another 40% between 1951 and 1956.

Table 14. Growth in the traffic passing through the Suez Canal

	Number of ships	Tonnage (millions of tonnes)	Ships per day
1929	6 274	33.5	
1937	6 635	36.5	17 to 18
1939	5 277	29.6	
1942	1 646	8.3	
1945	4 206	25.1	
1946	5 057	32.7	14
1947	5 972	36.6	16
1948	8 686	55.1	24
1949	10 430	68.9	
1950	11 751	81.8	
1951	11 694	80.4	32
1952	12 168	86.1	
1953	12 731	92.9	
1954	13 215	102.5	36
1st quarter of 1954			37.13
1955	14 666	115.8	
1st quarter of 1956			44
9 Mach 1958			84 (a record till 1975)

Though the mass of the North to South traffic went down a bit as compared to the pre-War years, it doubled between 1920-1929 and 1949-1955. In the same period the South-to-North transits quadrupled. The petroleum revolution expanded the traffic as the exports from the Middle-East were shared equally between the pipelines joining the Mediterranean and the Canal. Tankers accounted for 60% of the traffic in 1948 instead of the 17% in 1938 with the shippers from the Gulf countries making up 60% of the total instead of the 18% share they had in 1935-1939. Moreover, this change also affected the makeup of shipping companies as the "flag of convenience" began playing a major role in Canal traffic. Though the United Kingdom still dominated the Company's clientele, the flags of the Scandinavian countries, Panama and Liberia came to occupy prominent positions.

Table 15. Growth in the traffic passing through the Suez Canal (in %)

	1920-1929	1949-1955
Classified by the major items in the South to North traffic		
Minerals and metals	9.4	5.4
Cereals	17.7	3.4
Textiles	11.9	3
Petroleum	15.8	75.4
Classified by the major items in the North to South traffic		
Metallurgical goods	29.6	17.8
Intermediate goods		19.7
cement	4.7	9
fertilizer	4.2	8.5
Wood pulp and paper	3	2.8
Food products		14.6
sugar	1.3	4.4
salt	4.9	3
cereals		7.2
Energy products		19.7
coal	7.8	1.3
Petroleum products	3	18.4

Table 16. Countries classified according to the weight of the shipping passing through the Suez Canal in 1950-1955

	Percentage of total traffic	Percentage of tanker traffic
1st. United Kingdom	One third	21 %
2nd. Norway	13 to 15 %	17.5
3rd. Liberia		17
4th. France	9 %	10
5th. Italy		8.7
6th. Panama		9.5
7th. Netherlands		
8th. Sweden		4
9th. United States		
10th. Denmark		
11th. Germany		

B. The increase in the size of the ships

Year after year it had become increasingly more clear that the growth in the traffic is no more just a question of extrapolating from the numbers attained in the inter-War years – the surge in traffic was such that the Company was hard pressed to think up of ways to adapt the Canal to this phenomenon.

The size of the ships too began to increase. The average gross tonnage went up significantly and crossed the 10,000 tonne mark – double the figure attained in 1910-1919 and one-and-a-half times that of the years between 1940 and 1944. Already in 1955, vessels of more than 20,000 tonnes constituted almost 5.5% of the total traffic. Very large ships – with either lengths exceeding 190 meters or widths of over 26 meters – represented some 6 and 4%

respectively of all transits in 1955. The number of vessels with drafts of over 30 feet was also on the rise and accounted for 5% of the total in 1948 as compared to 1% in 1936-1943. The clearance of the Canal could barely accommodate the growing number of ships such as aircraft carriers, battleships, whalers, ore tankers and especially the oil tankers for which, a draught of 32 to 35 feet had become extremely common in the post-War era. The biggest of these ships (such as the aircraft carrier *Valley Forge* in 1948, or the battleship *Richelieu*) had to take great precautions and slow down markedly while crossing as a clear warning had been flashed by the 45,500-tonne *Ile-de-France* which ran aground on both the occasions that it crossed the Canal in 1946.

Table 17. Growth in the tonnage

Average gross tonnage of the vessels passing through the Suez Canal	
1940-1944	6,900
1945-1949	8,500
1950	9,394
1950-1954	9,700
1953	9,808
1954	10,375
Average tonnage of the oil tankers passing through the Suez Canal	
1953	16,000
1954	18,000

It is evident that the trend was towards increasing size with the ship-owners vying with each other to manufacture ever larger oil and ore tankers[15]. "In 1954 […], we could not have foreseen that the number of ships with draughts greater than 36 feet would grow to such an extent as to have an impact on the depth of the Canal." "For a long time to come, the vast majority of the ships passing through the Canal would draw less than 34 or 35 feet and the shipowners did not feel that the Company needed to spend any money on upgradations which would benefit only a tiny minority […]. And then, from 1955, orders flowed in in numbers that were unimagined up till then."[16] "There were almost 700 tankers ordered or actually under construction […] of which 12 tipped the scales at over 50,000 tonnes and 195 at 33 to 50,000 tonnes, against only the 35 in this category which were in service at that time. All these ships would be commissioned by 1960 […]. As of today, the largest ship to transit the Canal (the *Iberia*) barely crossed 32,000 gross tonnes and the largest tanker (*Tina Onassis*) 31,000 tonnes"[17], which passed through the Canal in December 1953.

This growth in size caused major problems to the Canal. In 1952-1954, studies on models conducted at the Company's offices in Ismailia and at the hydraulic laboratory at Dauphiné (Neyrpic-SOGREAH), in Grenoble, France, indicated that the passage of large ships would great increase the erosion of the embankments. The basin of the Canal being too small, these large ships would create enormous eddies when they went full steam ahead in order to maintain their speed, particularly downstream where they would be subjected to currents. These ships would thus hasten the erosion of the embankment below the water-line: "the bermes near the riprap have been greatly eroded, while at the same time, the bottom of the

[15] *Cf.* Bernard Cassagnou, *Les grandes mutations de la marine marchande française (1945-1995)*, Paris, Publishings of the Committee for the economic & financial history of France, 2002.
[1616] Note by Charles Ribeyre, an engineer of the Suez Company, in 1979, the Suez Company archives.
[17] Note by Charles Ribeyre, an engineer of the Suez Company, 1955-1956, the Suez Company archives. *Cf.* Paul Reymond, *Histoire de la navigation dans le canal de Suez*, Cairo, French Institute of Oriental Archeology, 1956. Paul Reymond was the Company's Chief Agent at Port-Saïd.

basin has filled up rapidly. Thus from 1947, dredging operations were required far more frequently than before which also meant a corresponding increase in expenses."[18]

C. Keeping to the original scheme of works

And yet, at the turn of the 1950s, the Company chose to stick to its original plans, i.e., investing in segments as and when the need was felt. Every investment was weighed against its marginal cost – even though the theory of marginal cost was not used – so as to keep a clear check on the expenses. Due to the War, dredging had to be suspended at Port Said in 1941 and during the first quarter of 1942 and in the Canal between April 1940 and November 1943. Thus after the War, an urgent "restoration program" was undertaken by the Company with dredging being given the first priority. The embankments were also renovated with hundreds of kilometers of ripraps reconstructed between 1945 and 1955. Sheet piles had to be driven and the embankments covered with a concrete lining to counteract the erosion caused by the backwash of passing ships.

The functionality of the Canal was further enhanced with the addition of pilot-boats, tow-boats and safety-boats (about a hundred in total). The assets increased by 65% between 1936 and 1956. Additional pilots[19] too were hired and by 1956, their number had grown to 187 of which 55 were English and 31 Egyptian. From 1948, the transit was re-organized into "convoys", with ships being grouped at Port Suez and Port Said and made the crossing in single file in one direction per day. This avoided the mid-canal crossing of large ships which had necessitated that some had to anchor in mid-Canal to let the other pass. This continued till 1951 when a by-pass channel was opened with fixed zones for crossing.

A seventh work program was launched between 1948 and 1954 comprising mainly of the digging of an 11 kilometer by-pass channel (between Kantara and El Ferdan, from the 49.8 to the 61.7 kilometer mark) which would serve as a crossing zone in addition to the already existing one in the Amer Lakes. This "Farouk Diversion" (named after the King) was opened in July 1951. Meanwhile, the increase in the dredging improved the depth by half a meter and a draught of 35 feet was achieved in March 1955. The Port Said basins too were enlarged. Swept forward by this renewed dynamism, a new dredging record was set in 1950 with the excavation of 11.582 million cubic meters breaking the old one of 11.252 million which had been set in 1908. The by-pass channel itself required the moving of some 14.5 million cubic meters.

D. The technological dilemma faced by the Suez Company

In spite of all this work (the restoration program followed by the seventh works program), the Company began to feel uneasy in the face of the rapidly increasing traffic. "It has been already two years [in 1953] that detailed studies have shown that after the completion of the seventh works program, the maximal output of the Canal in the most favorable circumstances, would not be more than some 40 ships a day on an average. We are already almost at this limit as the average number of daily transits in the month of April came to 39.2."[20] The financiers and the engineers of the Company were thus confronted by the problems caused by the explosion in the traffic and the difficulties faced by the ships passing through the Canal.

[18] Note by the engineers regarding the eigth work program, 1955, the Suez Company archives.
[19] *Cf.* Captain Parfond, *Pilotes de Suez*, Paris, France-Empire editions, 1957.
[20] Note on the eigth work program, 1955, the Suez Company archives.

At the same time, the opening of the *Transarabian pipe-line* in 1951 brought about the distinct possibility of being faced by a competing network.

Table 18. The explosion in the traffic passing through the Suez Canal in 1955-1956

	Number of ships		Net tonnage (thousands of tonnes)	
	1955	1956	1955	1956
January	1 193	1 331	9 476	10 551
February	1 174	1 276	8 950	10 010
March	1 348	1 397	10 213	10 886
April	1 249	1 390	9 731	11 193
May	1 274	1 404	10 015	11 321
June	1 128	1 324	9 132	10 664
July	1 182	1 426	9 445	11 673
August	1 217	1 261	9 606	10 390
September	1 197	1 183	9 551	9 648
October	1 255	1 299	10 024	10 670
November	1 208		9 666	
December	1 241		9 947	

An eighth works program was thus set in motion and spread over five years, between 1955 and 1960. The idea of a second canal was dropped in favor of a major modernization program of the existing Canal. It comprised of adding two by-pass channels: one (of 2.3 km) to the south of Port Said which would facilitate the movement of the descending convoys and the other, of some 3.7 km, to the south of the Great Amer Lake to shorten the trajectory and equalize the transit times between the three sections separated by the two crossing zones. Seventy-eight percent of the work was completed by July 1956. The plan also called for the widening and deepening of the basin which attained a depth of first 36 and then 37 feet. The dredging record set in 1950 was broken in 1955 with the extraction of 11.555 million cubic meters.

E. The strategic dilemma faced by the Suez Company

At the same time, we must admit that the Company's enterprising spirit did not falter in any way. During the seventh and eighth programs, a total of 54 million cubic meters were moved between 1950 and 1955 – more than what had been done in the years 1914 to 1934 and the equivalent of two thirds of the 74 million which had been excavated by digging the canal in 1859 to 1869. The whole canal was widened and deepened while a tenth of the entire length (amounting to 17 km) was duplicated. Already in January 1956 the engineers were putting together a ninth works program which would create a double passage between Port Said and Lake Timsah on one hand, and between the Great Amer Lake and Port Suez on the other – a total of some 105 km, two thirds of the length of the entire Canal. A tenth program would then duplicate the central section.

Technologically the Company still retained its efficiency and this expense was, "materially, required, and morally, it attested to our commitment and our tradition of serving the international community to the best of our abilities."[21] It depended much on the increase in revenues brought about by the improvements to amortize these works. But, the situation had changed completely: the pace of the work needed to be stepped up significantly if the Canal

[21] Annual Report of the Suez Company for the year 1955, 12 June 1956.

was to meet the rapid growth in demand. At this point, the historian would have to note that for some reason or the other, there seemed to have been a delay of several months before this was realized. It was only in 1955 that the directors seemed to recognize the problem and begin to seriously question the objectives set in the eighth works program.

The rise in the traffic was indisputable as the first five months of 1956 already saw the daily transit of some 45 ships. The foundations on which the Company's engineers had based their theories were rudely shaken: "The unexpected jump in 1955 came just as the eighth program had got under way. Did that mean that a total revision would be required?" [22] The Company then launched a major enquiry in 1955-1956 aimed at the ship-owners and oil companies with a view to get sufficiently reliable data and chalk out the outlines a new program of investments in keeping with the projected increase in traffic. The American company Ebasco was asked to submit a prospective analysis of its projected requirements up till 1972. Its report made it clear that a revolution in maritime transport was underway and that the South to North traffic through the Canal would double between 1952 and 1960 and attain some 121 million tonnes. By the time of the Canal's concession, it would reach 250 million tonnes and in 1972, 330 million.

Already as things stood, the Canal was close to the saturation point. The delays imposed on the larger vessels in their transit, the inconvenience of the routes themselves and the necessary creation of "convoys", were all causes which explain why the transit times did not improve anymore. Though it had always required (since 1929) around 11 hours to pass through the Canal, it now increased, with the passage from Port Said to Port Suez taking up to 13 ¾ hours in 1946-1948 and then to 15 to 15 ¼ hours in 1949 to 1956. It did go back to its 1920 level, but that meant the annulment of much of the gains achieved in the 1930s.

As a result, though no one could have predicted, *ex ante*, that the world was on the threshold of a 20-year economic boom, the Company seemed to be somewhat left behind for several months by the rebound of the global economy (after the recession of 1952-53) and the surge in oil production. Habituated to gradual changes, it could not apprehend the speed and scale of the revolution already in progress. "The most important is the urgent need to implement new works which would anticipate […] the needs of the traffic in the intermediate years between 1960 to 1970. In this regard it would seem that the crucial moment would be 1965. One must face the fact that the eighth program was too mild as regards the pace of the events which were unleashed a little after its launch. Its effects in 1959 were too modest and proved quite inadequate in face of the demands. It is therefore imperative that the ninth program be implemented at the earliest – from 1957, if possible."[23] "The eighth program was charted out in 1954 based on the forecasts made in 1953. Very soon it became clear that these forecasts which were already quite impressive, would be far exceeded by the extraordinary growth in the oil demands. The Company also wanted to review them in order to set up a ninth program which would be implemented even before the completion of the eighth."[24]

We can thus see the reasons for the delay (of some months) by the Company in evaluating and facing the revolution in maritime traffic in the middle of the 1950s. We do not think that this delay was caused by any mean financial considerations stemming from the awareness of the approaching end of the concession. The Company had in fact ample funds and could have

[22] Note by Charles Ribeyre, an engineer of the Suez Company, 1955-1956, the Suez Company archives.
[23] Note by the engineer Charles Ribeyre, 1954-1955, the Suez Company archives.
[24] Note by Charles Ribeyre, 1959, the Suez Company archives.

easily financed faster and more extensive work programs. It is true that after a gain of 9% in 1950, the transit receipts stagnated for the next two years (-2% in 1951 and +2% in 1952), but they regained ground quickly with 8% in 1953, 5% in 1984 and 6% in 1955. In current francs, the receipts doubled from 1948 to 1955. Total receipts between 1947 and 1955 added up to 2,348 million gold-francs (of 1913) – an average of 252 million annually – some 76% more than during the interwar period. The Company spent a total of 502 million francs in investments, amounting to half of what it had spent between 1859 and 1939 on long-term investments (non-maintenance) and more than the entire cost of the construction of the Canal. The total net profit between 1947 to 1955 came to 1,183 million francs, half the total turnover.

Table 18. The main accounts of the Company in 1947-1955, in millions of gold-francs (of 1913)

Total receipts	2 348
Investments (apart from maintenance)	502
Upgradation work	67
Net profit	1 183
Put in reserve	224
Paid to Egypt (apart from taxes)	77
Dividend to shareholders	815

Table 19. Average annual dividend in millions of gold-francs (of 1913)

1947-1955	91
1914-1939	96
1891-1914	81
1870-1914	52

Seen from this angle, it is true that the shareholders did not get a dividend during the War (in fact till July 1947), but later they did very much get their part of the net profit (two thirds): "*Ships leave golden wake of dividends [...]. It is one of the greatest parade of profit ever devised by man*."[25] Money was being continually put aside to face any unexpected managerial requirements and to have the reserves which would be needed to pay back the capital (to the tune of 90 million gold-francs in real value to be paid to the shareholders against a par value of 250 million francs[26]) at the end of the concession in 1968. The amount of money spent on investment and maintenance (some 569 million francs) represented 24% of total revenues and 48% of net profit. There is thus no room for talk about a "policy of neglect" which the Company was accused of by those who wanted to nationalize it. According to them, "The government has already taken note of the negligence of the public services companies when the end of their concession draws near. It was thus necessary that something be done in good time so as not to be saddled by a service in complete disarray. It was for these reasons that the Company was nationalized." [27]

[25] *Life* Magazine, 22 October 1951.

[26] In fact, a part of the capital (442 616 certificate of shares) had already been repaid to the shareholders through the means of the « capital amortization » begun in 1876. Only some 357 384 shares of 250 gold-francs remained to be paid back to the shareholders.

[27] Speech by the Egyptian Minister of Commerce, 27 July 1956, in *Journal d'Égypte*, 28 July 1956. *Cf.* also the critical work by Mostapha El-Hefnaoui, *Les problèmes contemporains posés par le canal de Suez*, Paris, Guillemot & Lamothe, 1951.

There is no evidence whatsoever that any of the directors of the Company tried to delay any work under the pretext of financial considerations[28]. On the contrary, in June 1955, the board decided not to increase the dividend over the previous year, which meant that it was prioritizing further investment, without any thought towards any untoward financial gains. We are sure that the delay of the three to five quarters in dealing with the realities of the growth in the traffic can be explained by the inertia within the "organization" which the Company had become. It was thus a victim of a common defect in the functioning of any "enterprise" – making investments based on obsolete data which greatly misled the forecasting of the trend in the demand.

One could well speculate on the growth and implementation of these work programs if nationalization had not intervened: the scope and pace of these programs would have been decided in the course of 1957, i.e., by 1958. It is only in terms of some months that the question of the Company's "delay" regarding its scheme of modernization has been posed. There is no question of doubting any short-sightedness, ill will or archaism on its part. At the discharge (relative) of the Company, it would do well to remind ourselves that the years 1952-1953 were marked by the mounting nationalist tensions in Egypt and that some of its directors were more concerned by keeping up good relations with the Egyptian government and calming the stormy social seas. This could very well have played its part in their being more concerned about the geopolitical destiny of the Canal than its technological one.

On the other hand, if the investments had not been whittled down, we could have thought that the ship-owners had perhaps been sacrificed for the sake of the shareholders. The first hike took place between 1941 and 1947 (+39% compared to the level in December 1938) due to the inflation caused by the War and the after-War period and the necessity to finance the "restoration program". The higher rate set in 1941 was maintained till September 1951. In spite of a few reductions, the "taxes" paid by the ship-owners were higher than those paid in 1938-1950 and almost equal to those of 1935-1936. This left the ship-owners with precious little: in fact, over the years 1948 to 1955, they ended up paying an extra 42 million francs compared to what they would have paid had the tariffs been maintained at the 1935-36 level and a whopping 717 million francs more if the 1938-1939 level had been sustained. The Company could have used a part of the undistributed profit balance to take off some of the load from the heavy tariffs, but the link which had been established between an increase in the dividend and a reduction in the transit tariffs as a compensation had been severed in 1900.

It seems that the ship-owners did not come together to put pressure on the Company for a reduction in the tariffs. It may be that the growth in maritime transport allowed them to pass on the extra cost to the shippers by hiking their own rates. It was only in September 1951, then later in June 1953 and in March 1954 that the Company agreed to lower its transit tariffs in accord with the demands of the British government and the ship-owners. Even then the changes were rather modest in comparison to the reductions which could have been easily possible in view of the revenues pouring in. All this in spite of the ship-owners being well represented on the board of directors: there was Harrison Hughes (since 1919), alan Anderson (since 1927) and especially, William Currie (of the Peninsular & Oriental, since 1945) and Lord Rotherwick (of the Clan Line Steamers, since 1946).

[28] *Cf.* Jacques Georges-Picot, *Souvenirs d'une longue carrière. De la rue de Rivoli à la Compagnie de Suez (1920-1971)*, Paris, presented and annotated by Hubert Bonin & Nathalie Carré de Malberg, Paris, Committee for the economic and financial history of France, 1993.

Table 20. Condition of the ship-owners using the Suez Canal with the rise in transit tariffs

	Compared to the tariffs of July 1935- July 1936	Compared to the tariffs of December 1938- December 1940
Tariffs of September 1951 - July 1954	- 0.16 %	+ 30.2 %
Tariffs of July 1954 - July 1956	- 7 %	+ 21.3 %
Extra amount paid by ship-owners over the years 1947-1955	42 million francs	717 million francs

Table 21. Change in transit tariffs (in gold-francs of 1913)[29]

	On the ship's cargo	On its ballast
1885	9.50	7
1920	8.50	6
1928	7	4.5
1934	5.75	2.875
1947	4.98	2.49
1954	3.01	1.37

Conclusion

The history of the "Suez Maritime Canal Universal Company" could not escape the geopolitical upheavals of the period 1930 to 1950. In the eyes of some Egyptian intelligentsia, it symbolized European imperialism, simultaneously British and French and the massive protests of 27 July 1956 were an indication that they had won over a large section of the Egyptian population. The "Suez Affaire" with the conquest of the isthmus by British and French troops to stop the nationalization of the Canal by Nasser inflamed the smouldering nationalist emotions. And yet, we have shown that the Company had done well by its responsibilities and had assured the proper functioning of the Canal and other related services (repair of ships, navigation, human resource management, etc.). It had successfully kept abreast of the growth, both in quantity and quality, of the traffic passing through. Its judicious program of investments widened and deepened the Canal which allowed it to accommodate a greater number of larger and faster ships. Its engineers and financial directors had hit upon an optimal formula to determine with relative precision the investments required and thus avoid the pitfalls of under or over investing.

Problems cropped up immediately after the Second World War when large ships – mainly the massive liners – found it very difficult to negotiate the Canal. The suspension of all investment for a half dozen years gave rise to the urgent need of a huge modernization program which resulted in a doubling of the waterway over almost half the length of the Canal. It was only in the middle of the 1950s that the Company was again shaken by the revolution in maritime traffic. Due mainly to the oil tankers, the number and size of the ships skyrocketed. There is no doubt that the implementation of a new work program to address the urgent need was delayed. The Company failed to be proactive and did not see the coming

[29] Henri Poydenot, *Le canal de Suez*, Paris, collection *Que sais-je ?*, Presses universitaires de France, 1955, page 62.

revolution in maritime traffic. Strategically, it thought that the changes taking place would more or less follow along routes already trod – that history would repeat itself. Its consequent investment policies were thus too meager and ineffective – only over the span of some months though – in spite of the fact that it had abundant financial resources.

The history of business firms is full of such time lapses and institutional inflexibilities. In most cases they only knew how to apply strategic and tactical corrections – and the Suez Company did finally put together an investment program to meet the challenges. Paradoxically, it is not these shortcomings which have caused raised eyebrows, but rather the extreme reluctance to lower its transit tariffs. What would the history of maritime transport be like had these tariffs been regularly and sensibly reduced in keeping with the funds available? Retrospectively we have shown that the cost of the Canal and the work program for its modernization were easily recouped. The work by Lesseps paid for itself by the end of the 19th century, the following work programs were autofinanced and the costs were recovered in quick time with the consequent increase in traffic and revenue. The amount of money put in reserve would have sufficed to face the end of the concession and pay back the capital – of which more than half had already been paid. The Canal thus became a "business", as the transit tariffs were not, according to us, reduced sufficiently.

The key question is: why did the ship-owners tolerate such an "extortion"? Was it because the British ship-owners – who made up the majority of the Company's clientele – had some pressure brought upon them by the Crown due to the fact that the British government, being a major shareholder of the Company, had large vested (financial) interests? We would need to have access to the English archives to uncover the *sub rosa* dealings between the British government and its ship-owners. It might also be interesting to evaluate the importance of the dividends pouring into the British coffers from the Suez Company. And finally, it would be interesting to see how a reduction in the transit tariffs would have caused an increase in the use of the Canal and in maritime traffic as a whole and, from a macro-economic viewpoint, resulted in a gain of how many percentage points in the global GNP…

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