

Losers in power-plays? Small states and international cartelization (1919-1939)

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In this article we try to combine two general issues: firstly, the imbalance of power between small and large states, and secondly, international cartels as a tool in this power-play. Are small countries more exposed to economic exploitation than large ones? How were negotiated relations shaped in the economic sphere against the background of an imbalance of power? We pursue this question by examining the activities of international cartelization at its peak, the period between the two world wars. Two large cartels are used as examples: the steel cartel (ELA) and 'Phoebus' regarding light bulbs.

1. The Issue

It is highly improbable that anyone would deny that large nations can exert more power, including economic pressure, on their smaller counterparts than vice versa. In the debate on the economic development of states, the striking expression "open veins" has been used to illustrate what an imbalance of power might entail.¹ There are two positions as far as economic relations and power are concerned: the liberal position, which presumes equality between competitors, and a more politicized position, which maintains that economic and political power cannot to be separated. For many years advocates of liberalistic globalization have confronted their counterparts, who were proposing protected development. The issue of power and economic development has been on the agenda since the time when Vladimir I. Lenin published

¹ Eduardo Galeano, *The Open Veins of Latin America*, (New York 1973).

his *Imperialism, the Highest Stage of Capitalism* in 1916. Thus, the concept of exploitation by means of power has been well established. There is, however, an important gap: the role of cartels within this concept. The issue had been addressed by distinguished economic experts and politicians: in 1930 a German parliamentary enquiry into economic conditions suggested political reconciliation and trust as a precondition for international cartelization.² Their view reflected politics: the switch from confrontation to reconciliation between France and Germany, represented in politics by the Treaty of Locarno and in the economy by the EIA.³ A decade later, this positive interpretation was reversed by President Franklin D. Roosevelt, who wrote to his Secretary of State: 'Moreover, cartels were utilized by the Nazis as governmental instruments to achieve political ends. The history of the use of the I.G. Farben trust by the Nazis reads like a detective story.'⁴ During the 1940s Roosevelt's opinion was reinforced by several publications, while Alice Teichova questioned it in 1974.⁵

If Roosevelt was right, if large countries were indeed able to exploit one other, how did the small states fare? Because of the imbalance of power, small countries must have been even more exposed to exploitation by such insurmountable international institutions. In this article we examine the confrontation and cooperation between small and large countries as far as international cartels are concerned. The concept of examining small states has been made use of by Peter Katzenstein, Timo Myllyntaus, Margrit Müller, and others,⁶ but has not yet been adequately

² Enquête-Ausschuß, *Kartellpolitik*, (Berlin 1930).

³ The close relationship between them was the subject of several publications, e.g. Bernd Weisbrod, *Schwerindustrie in der Weimarer Republik*, (Wuppertal 1978).

⁴ Letter printed in: Ervin Huxner, *International Cartels*, (Chapel Hill 1945) Appendix VI, 404.

⁵ The most famous are G.W. Stocking and M.S., Watkins, *Cartels in Action: Case Studies in International Business Diplomacy*, (New York 1947). Alice Teichova, *An Economic Background to Munich*, (Cambridge 1974).

⁶ Peter J. Katzenstein, *Small States in World Markets. Industrial Policy in Europe*, (Ithaca/New York and London 1985). Margrit Müller and Timo Myllyntaus (eds.), *Pathbreakers, Small Countries Responding to Globalisation and De-globalisation*, (Bern et al. 2008); Timo Myllyntaus (ed.), *Economic Crises and Restructuring in History*.

applied to the issue of cartelization.⁷ The above-mentioned authors took the idea of exploitation for granted and did not systematically compare the differences between large and small countries. This is what we aim to do in the field of international cartelization in the interwar period.

All the above-mentioned authors defined small countries as states with fewer than about 15 million inhabitants. Their enquiry, like ours, focuses on developed industrial states which were similar in structure, though not in size, to large countries. These small states shared a relatively liberal approach and an openness to foreign trade during the interwar period. Myllyntaus went further and pointed out several structural elements which these states have in common and which distinguish them from large countries.⁸ In the context of our research, their dependency on foreign markets, their openness 'to all kinds of foreign influences', which leads to a particular economic flexibility, and their concentration on certain products, which were determined by natural resources or by history, are all important. According to Myllyntaus, this makes it especially worthwhile to confront and compare small and large countries with one other.⁹ And so we shall compare five small countries, Austria, Belgium, Luxembourg, the Netherlands and Switzerland

Experiences of Small Countries, (St. Katharinen 1998). Gerrit van Roon raised a similar question of power-relations for Europe during the 1930s in his study on the "Oslo states". However, because he presented more wishful thinking than evidence, we will not use his book. (*Kleine landen in crisistijd, van Oslostaten tot Benelux, 1930-1940*, (Amsterdam 1985)). In contrast, many authors have published on a single small nation: an early work was by Martin Fritz, *The Adaptable Nation. Essays in Swedish Economy during the Second World War*, (Stockholm 1982), while a more recent work is by Keetie E. Sluyterman, *Dutch Enterprise in the Twentieth Century. Business Strategies in a Small Open Economy*, (Abingdon 2005).

⁷ For instance: Andreas Resch (ed.), *Kartelle in Österreich, Historische Entwicklung, Wettbewerbspolitik und strukturelle Aspekte*, (Vienna 2003); Alice Teichova, *Kleinstaaten im Spannungsfeld der Großmächte. Wirtschaft und Politik in Mittel- und Südosteuropa in der Zwischenkriegszeit*, (Vienna 1988); Pål T. Sandvik, 'Big business, market power and small nations', in: Sven-Olof Olsson (ed.), *Managing Crises and De-globalisation: Nordic Foreign Trade and Exchange, 1919-39* (London 2010); Idem and Espen Storli, *A Small State and International Cartels. The Case of Norway, 1919-1939*, ms. (2009).

⁸ Timo Myllyntaus, 'An introduction to comparative analysis of small countries', in: Myllyntaus, *Crises*, pp. 3-22, 7ff.

⁹ *Ibid.*, 8.

to two large ones, France and Germany. These have been chosen on account of their physical and cultural proximity. These countries relied on one other; their largest and second largest trade-partner were in this group. They knew one other very well. Many of the different protagonists even knew one other personally from before World War I. Consequently a cultural factor, which might entail profound misunderstandings of one other's behaviour, is to be excluded. Significantly different levels of technical development, income or culture need not be considered.

Small developed nations cannot offer or produce all that a modern society requires in the way of products and services. They rely heavily on foreign trade. Myllyntaus pointed out that they often concentrate on a few products in which they have developed special competitive advantages and simply import the rest of their necessities. Consequently the best economic policy they can follow is free trade and monetary stability.¹⁰ This entails two general disadvantages concerning cartelization. Firstly, the more liberal and open a country is, the more it is exposed to powerful international cartels – especially during the interwar period, when governments of large countries tried to safeguard their own industries and markets; and secondly, people trained and accustomed to free trade may theoretically be less experienced in the habits and proceedings of cartelization.

From the structural point of view, small countries are in a less favourable position than their larger counterparts when it comes to questions of power and of international cartels; this is another reason to stress the argument of immense exploitation.

The logic of power leads us to our theory: the imbalance of power between large and small states is reflected by international cartelization; in short, small states were more exploited by international cartels than large ones.

The examples of our cartels are chosen according to their economic

¹⁰ See Hein A.M. Klemann, 'The international economic relations of small countries in the 1930s. Belgium and the Netherlands', in: Timo Myllyntaus (ed.), *Economic Crises and Restructuring in History. Experiences of Small Countries*, (St. Katharinen 1998), pp. 145-168.

and political weight, their importance being directly translated into power and influence. A country's military potential could be measured by its steel production: consequently, steel was of the utmost importance. From the start, the steel cartels represented in financial terms one of the largest examples of cartels. Steel meant power, and – in Roosevelt's view – a steel cartel consequently was an instrument of power. Incandescent light bulbs, besides generating a high income, represented a core-product of the second industrial revolution and thus also reflected a substantial potential of a country's economic development: electric lamps were linked to valves and electronics – the future of an industry with the huge military importance of wireless communications also.

However, we are faced with extremely difficult questions of methodology: how do we measure exploitation? The levels of output and export before and after cartelization could be compared; after international cartelization, was industry in small countries more restricted than in large ones? The problem is that any changes in output or sales could have been caused by many other reasons, such as outdated products, differences in finances and so on – and the same applies to prices. Consequently caution must be used when figures are involved. However, it may be asked whether consumers paid higher prices than their neighbours. Did cartelization reduce innovations in enterprises more in small countries than in large ones? In any case, both qualitative and quantitative evidence needs to be considered in the evaluation of our sources and literature.

2. The International Steel Cartel (EIA)

In 1926 Belgium, France, Germany, and Luxembourg founded the *Entente Internationale de l'Acier* (EIA).¹¹ It collapsed in 1931, but was revived again in June 1933 and this time lasted until World War II. The

¹¹ The Saar region was considered as an individual entity until 1932, but it had no voice: two thirds of its votes were governed by Germany and one third by France. After 1932 quotas and votes became 100% German.

EIA represented only 30% of global steel production but was decisive in global exports, where it commanded a share of two thirds. During its first period production was cartelized, whereas, during the second period, only exports were cartelized. Especially during its first years, the EIA had two aims, one economic and the other political. The economic aim was to maintain prices, because of surplus production, and the political aim was to control each other's power. A contemporary steel-manager wrote: 'Steel is not the sole element but it is one of the most significant elements in determining the war potential of a nation.'¹² After the world economic crisis any notion of common markets was abandoned. Therefore the EIA focused only on steel exports. In 1935 the UK, and in 1938 the USA, became members. While the steel industry in Germany was both the largest and the best organized, its counterpart in Belgium, in this case the most important of the small states examined, unfortunately had no comparable organization. During the first phase, German suggestions to organize the cartel according to German principles, with top- and sub-cartels for each group of products, were never put into practice. But during the second phase of the EIA, this suggestion was adopted to a great extent.

The Dutch steel industry was connected to the EIA with special contracts. In the case of the Netherlands, Ervin Hexner, himself a representative of a small country, characterized the cartel's relations as 'rather favourable to the Dutch.'¹³ The Netherlands, together with Switzerland and the Scandinavian states, represented an "organized market": an importer's association had signed a contract for all transactions

¹² Ervin Hexner, *The International Steel Cartel*, (Chapel Hill 1943) 217. Hexner used to be the Czechoslovakian representative in EIA. See also Daniel Barbezat, *International Cooperation and Domestic Cartel Control: the International Steel Cartel, 1926-1938*, (Urbana 1988); Ulrich Nocken, 'International cartel and foreign policy: the formation of the international steel cartel 1924-1926' in Clemens A. Wurm (ed.), *Internationale Kartelle und Außenpolitik*, (Stuttgart 1989) 33-82; Berger, Françoise, « Les milieux économiques et les états face aux tentatives d'organisation des marchés européens dans les années trente » in Eric Bussière, Michel Dumoulin and Silvia Schirrmann (eds.), *Europe organisée, Europe du libre-échange. Fin XIX siècle – années 1960*, (Brussels), 2006, pp. 71-105

¹³ Hexner, *Steel Cartel*, p. 132.

of both parties to buy exclusively from the cartel. The associations received a bonus and full freedom to set prices.

What evidence is there for our theory that small states were impoverished by cartels belonging to their larger neighbours? For instance, how did the small country's output fare?

Table 1 (p. 550) shows how growth rates increased and decreased (plus German armament expansion). However, a significant difference between large and small states is not to be seen. There is, perhaps, one exception: economic swings were less evident in the small states. This is strange, because small states are said to be more exposed to international swings than large ones (exports are known for their volatility). Smaller swings are, however, an advantage to any economy. The table shows no evidence that smaller countries suffered more than large ones; instead, it shows the reverse. In 1931 the EIA was discontinued because of an imbalance to the detriment of Germany, a large state. In 1926, eight years after its shattering defeat, Germany had not the political power to achieve a larger steel-quota. It, therefore, had to pay substantial fines for overproduction to the other nations and consequently terminated the contract when it felt strong enough.

What about the quotas? These were the core-idea of the EIA regulating production volumes. The quotas were flexible: one applied up to a lower limit of 25,278 million tons of combined production, and a second one above an upper limit of 29,278 million tons, while in between, a sliding scale was negotiated. Consequently the quotas had to be re-adjusted regularly for each quarter. *Table 2* shows a distribution which was in favour of the smaller countries up to the lower limit, while from the upper limit one large country, Germany, was allowed to expand at the expense of the others. This meant that the risk of volatility was shouldered by only one country, and this was a large state. All the others could enjoy the advantages of relatively stable sales.

In 1933, an EIA variation was resumed, this time targeting not production but exports. However, the basic ideas remained the same: a lower and an upper limit were fixed, with a sliding scale in between. The figures show a similar distribution to that of 1926: the small nations of Luxembourg and Belgium enjoyed the advantage of a stable basis.

Furthermore, the upper intervention point of 11,5 million tons was so high that it was never reached. The advantages this time for the two large countries would have commenced only when that amount was surpassed. During the EIA's second phase the two large nations, Germany and France, shouldered the risk for all the steel producers.

With the second cartel, quotas had to be regularly re-negotiated. Hexner mentioned only one incident which caused major turmoil. In 1938 the Belgian Monceau-sur-Sambre company was allowed to expand its quota:¹⁴ a success for a small country.

The EIA operated through a chairman and a committee. It was agreed to rotate the chairmanship annually. However, because of a deep mistrust between France/Belgium and Germany, Luxembourg was entrusted with the chairmanship for the EIA's entire life. Emil Mayrisch, the Chairman of Luxembourg's most important steel company ARBED, became the EIA's first Chairman. In 1928 he was succeeded in both functions by Alois Meyer, who went on to become Chairman of the ISC (International Steel Cartel) until 1939. Luxembourg was considered politically the most neutral and consequently the most trustable country. The administration office, responsible for the accounting, was also attached to the Luxembourg group. As pointed out by Ervin Hexner, the cartel was founded on trust; much was not defined or written down. Against the background of structural mistrust between the French and Belgians on the one hand and Germany on the other, it was very important to have a handful of persons trusted by both sides. These men came from the small state of Luxembourg. According to Ervin Hexner, the Director Hector Dieudonné from ARBED was even called 'the embodiment of the spirit of the ISC.'¹⁵ For similar reasons, another small state was chosen for the auditing: the Swiss firm Schweizerische Treuhandanstalt in Basle.

This trust in small nations presents us with a new idea: small states enjoyed an advantage based on their ability to mediate between larger

¹⁴ Hexner, *Steel Cartel*, p. 90.

¹⁵ Hexner, *Steel Cartel*, p. 98.

states. We can presume that Mairisch's, Maier's, and Dieudonné's work for the cartel, albeit doubtlessly perfectly honest, was not undertaken to the detriment of their own Luxembourg enterprise.

Lastly, did the customers fare differently according to the size of the country? The answer is no. Steel-prices were kept high in nearly all steel-producing countries by both the cartel and the governments, because steel was a strategic product. The lowest steel-prices were charged in Belgium, which corresponded to the EIA export-prices for steel.

3. 'Phoebus': the International Cartel for Incandescent Light Bulbs

Until World War I the USA and Germany dominated the global production of incandescent light bulbs; and Germany dominated world exports of light bulbs. The relative strength of competitors depended as much on their share of production as on their patents. Reliable figures are rare in this industry, but in 1903 European producers had signed an agreement called the VVG (*Verkaufsstelle Vereinigter Glühlampenfabriken, Berlin*), which provides us with a hint of European production facilities: Germany (excl. Auer, Bergmann and others): 52.1%; The Netherlands: 14.5%; Austria: 13.1%; Hungary: 11.3%.¹⁶ According to Keetic Sluyterman, it was not the Germans, used to cartels, who suggested the agreement, but the Dutch enterprises.¹⁷ During the years before 1914, electric lighting advanced with the introduction of bulbs with metal filaments and later gas-filled bulbs. In both fields, patents were owned almost exclusively by American and German enterprises, which, after years of legal contest, in 1911 constructed a patent-pool (known as *Drabtvertrag*). The two principal US firms General Electric (GE) and Westinghouse and their German counterparts AEG and Siemens had signed comprehensive technical and market agreements

¹⁶ Andries Heerding, *The History of N.V. Philips' Gloeilampenfabrieken*, vol. 2, (Cambridge 1988), pp. 71ff; Bärbel Rath, *Entstehung und Auflösung von Kartellen in der Glühlampenindustrie* (ms.) (Tübingen 1986), supplement II.

¹⁷ Sluyterman, pp. 21ff.

and were on very friendly terms. Both sides gave each other full access to inspect plants and R&D facilities at any time. Until then light-bulb production was a high-tech industry, whereas in the interwar period it reached maturity. Until the 1920s, patents and know-how played a key role in the light-bulb industry, but much less so after the mid-1920s. During the same decade, some bulb-producers branched out into valves. In doing so, they founded an industry which was also important for military strategy.

During the First World War, US industry became predominant, while German industry emerged undermined. Sizeable German-owned plants had been situated in the UK, France and Italy, all of which became competitors. Apart from German losses of FDI, the war had caused two other major changes: some countries built their own industries, while the Dutch company Philips took over most of the German export markets. Thus, in 1919, the situation had become potentially explosive. The US companies wanted to rule the world, the German ones wanted to reacquire "their" markets, and the Dutch did not intend to step back. During the years after World War I, all the players jockeyed for a strong position in a cartel that they envisaged. As far as our problem is concerned, the stage was set perfectly: the US and the German firms aimed at a renewal of their cartel. Would the wartime profiteer Philips be ground between the two large "millstones", the USA and Germany? And what role did other countries play?

During the war, Philips relied entirely on non-owned trading-firms for its exports, as it had not invested in a sales network abroad. It made its first investment abroad in Belgium 1919, and one year later in France. In 1921 an own-distribution firm was set up in Poland, while in 1922 subsidiaries followed in Italy, Norway, Sweden and Switzerland.¹⁸ In 1919 Philips started minority joint-ventures concerning production firms

¹⁸ Ineke Van den Berg and Erwin Karel, *Philips. multinationalisering van en onderneming* (ms.), (without location 1978) 12; P.J. Bouman, *Growth of an Enterprise. The Life of Anton Philips*, (London and Basingstoke 1956); Ivo J.M.N., Blanken, *Geschiedenes van Philips electroniscs N.V., De ontwikkeling van de N.V. Philips Gloeilampenfabrieken tot elektronisch concern*, (Leiden 1992).

in Spain and England. Together with Osram, Philips also invested in production enterprises in Switzerland (Glühlampenwerke Aarau) and Austria (Vertex), in both cases each partner owning 50%.

German industry knew it would be difficult to regain its former position. In 1917 the Germans constructed a cartel with firms from Austria-Hungary, which then attracted the Scandinavian and Swiss cartels and, in 1919, also Philips. In the same year, the three largest producers (AEG, Auer and Siemens) merged their lamp-assets into Osram. This company became the core of a cartel on prices and conditions called IGP (*Internationale Glühlampen Preisvereinigung*) signed in May 1921, in which the above-mentioned firms/countries took part. IGP already had strict rules, with an assembly of members and its own organization with an executive board for direction and control. It even owned a warehouse in Switzerland. Differences had to be settled through a defined court of arbitration, which was also in Switzerland. The organisation clearly bore the signature of William Meinhardt, Osram's chairman, who had already organised the industry before World War I. Insiders perceived IGP as an instrument for manoeuvring for a world-wide agreement.¹⁹ In the same year Osram signed an agreement for the British market with the English General Electric Company. However, Philips declined Osram's suggestion to found a Dutch holding company in which Philips and Osram would each have owned 49 percent.

The Americans had also prepared. GE had acquired Westinghouse's lamp-investments and had founded IGEC (International General Electric Company) for dealing with foreign markets.²⁰ Consequently IGEC was the world's largest player. In 1919 IGEC signed contracts of collaboration with Philips', *Compagnie des Lampes* (a former German FDI in France), to which it added the English GEC (General Electric Company – totally independent from GE), Kremenezky and Watt in Austria, and

¹⁹ William Meinhardt, *Entwicklung und Aufbau der Glühlampenindustrie*. (Berlin 1932), pp. 96ff; Heerding, p. 332.

²⁰ In the following we use both abbreviations. In fact IGEC was just part of GE; for instance, international contracts were signed by IGEC, patents were owned by GE but international negotiations on them were conducted by IGEC.

with Bergmann and Pintsch (both outside Osram) in Germany. IGEC took a stake in Thomson-Houston, the leading enterprise in France, with strong connections with Italian and Greek firms. In 1919 GE suggested setting up a large 'Continental Company' with a capital of 100 million French francs for producing lamps in Western and Southern Europe, a firm in which Thomson-Houston, Philips and IGEC would each own 25%. Although this never came about, it was by no means part of 'brief flirtations and *ad hoc* arrangements which were utterly divorced from economic reality.'²¹ Instead IGEC and Philips signed a cartel allocating markets, called 'the Principal Agreement'. Great Britain, France, Italy and Greece, as well as some smaller firms in Germany and Austria, moved into GE's orbit. Agreements were fashionable; even in the generally less cartel-enthusiastic UK, the industry formed a cartel, called the Electric Lamp Manufacturers' Association of Great Britain Ltd (ELMA) in 1919.

Philips, like the English General Electric, engaged in double-dealing: while discussing with Osram an exchange of shares,²² it actually exchanged shares with GE in 1919. And, according to P.J. Bouman, it was not GE but Philips that was mainly responsible for bringing about this "Principal Agreement".²³ GE's stake in Philips stood at 20%, whereas Philips' stake in GE was insignificant. IGEC's investment in Philips continued until 1952. The exchange of shares to the benefit of IGEC fitted well into IGEC's general strategy of injecting order into the world market, mainly by minority stakes in significant competing companies. For Philips, the step was likewise of strategic importance, since it included an exchange of patents. Philips' weak position in this field was underlined by the fact that it had to pay licence fees. Furthermore, the mutual renouncing of selling on each other's home-market was to the one-sided advantage of the Americans. GE would hardly sell in the small Netherlands whereas selling in the US would have been a great opportunity for Philips. Why

²¹ Heerding, p. 329. IGEC followed this strategy successfully during the 1920s.

²² Meinhard's letter to Mammoth on his discussion with Swope, 2 Sept. 1920 (Siemens Archiv Akte (SAA) 27/La 877).

²³ Bouman, p. 95

did Anton Philips, who even in the company-financed official biography was portrayed as an aggressive businessman, agree to such detrimental terms? The answer is because Philip's position was weak in the fields of patents. Before the First World War the company had become large, partly because there was no patent law in the Netherlands up to 1912. Philips used to violate patents systematically. At the same time the company had little incentive to invest heavily in R&D under the given conditions.²⁴ The contract with GE reduced Philips' exposure to risk. At the same time it generated a potential new risk of a hostile take-over. In this respect Philips acted at once. One year after the exchange of shares, it created a holding company '...to maintain its national character.'²⁵ At that time Philips feared ending up between IGEC and Osram, both acting as "millstones". It preferred to side with IGEC, the less aggressive and more promising company. But IGEC still represented a "millstone"; re-insurance through a national holding company revealed Philips' cautiousness against potential threats. At the same time Philips signed a cartel-contract with the Germans. The company simply wanted to keep its options as open as possible. Unlike all the Dutch literature on Philips (see fn. 15, 17), which underlines the enormous expansion and success of the company, we examine the potential threats to the firm and how it safeguarded itself against them.

In early January 1920, Gerald Swope, the IGEC Chairman, approached K. G. Frank, the Siemens representative in New York, on the issue of a comprehensive general agreement between both enterprises. In July he travelled to Europe, starting negotiations with AEG, GE's strategic pre-war partner. On 2nd September 1920 William Meinhardt of Osram 'purely accidentally'²⁶ met Gerard Swope and others in Basle. They immediately started to discuss a drafted world-covering contract, which Swope, also

²⁴ From the 1920s Philips invested heavily in R&D, especially with regard to radio equipment.

²⁵ Article 3 of the purpose of N.V. Gemeenschappelijk Bezit van Aandelen Philips' Gloeilampenfabrieken (quoted after Bouman, p. 93).

²⁶ Meinhardt's 15-page report to Siemens, 2 Sept. 1920, p. 1 (SAA 27/LA 877). See also Blanken (pp. 17ff.) who seems to believe the story of an accidental meeting.

purely accidentally, happened to have in his pocket. It suggested in paragraph 3 the protection of domestic markets for both groups, common markets where both parties would respect each other, and totally open markets. There were differences on what constituted each other's domestic market. IGEC requested the whole of North America as far as the Isthmus of Panama while Meinhardt also criticised IGEC's demand to determine unilaterally the minimum prices in common markets. Concerning Philips' position, Meinhardt noted that Osram had to respect Philips' rights over a licence on all existing and future patents in Osram's home-market.²⁷ This had little to do with the negotiations with IGEC, but Philips was thought to lean to the Americans after their FDI, which had consequently led to a seat on Philip's board for Swope. The inspection of US sites was offered orally, but there was no written clause to this effect. A couple of weeks later, on 24 September 1920, official negotiations were conducted in Cologne. Both sides came with high-ranking officials: IGEC with its President Swope, Vice-President Carolan, Chairman Burchard, and Thurnauer, President of Thomson-Houston. The positions were more or less the same, causing a German participant (Jessen of Siemens) to say to Burchard that his draft read 'as a quite imperialistic document': Burchard replied openly: 'surely, ... in the end we have to control the bulb business in the world.'²⁸

Very much to the chagrin of the Americans, no contract was signed. Why did Osram not give in? They estimated their position to be stronger than IGEC thought, based on four points. Firstly, IGEC had already signed ten contracts with companies from other countries, and the Osram contract would have been the linchpin in a world-wide ring.²⁹ Of course, the owner of such a precious linchpin usually asks for a premium price. At the same time this ring had encircled Osram, causing

²⁷ *Ibid.*, 1.

²⁸ Jensen Report to Siemens, 24 Sept. 1920 (SAA 27/LA 877). It seems that Blanken took the American suggestions for granted; also the dates he gives seem not entirely correct when compared with archive material (file: see above, Blanken, pp. 22ff.).

²⁹ IGEC announced they had contracts with firms in the UK, France, Belgium, Holland, Italy, USA, Japan, China, Brazil and were preparing a contract for Russia. (*Ibid.*, p. 8).

a threat to the firm. But Osram was not intimidated. Secondly, although IGEC promised that it would not deliver in Osram's home-territory, it would not promise anything for its licensees. Theoretically, the French could dump re-exported US bulbs into Germany, and this could not be stopped because of the Versailles Treaty. Consequently this paragraph meant a lot for IGEC but offered little to Osram. Thirdly, unilaterally-set minimum prices in third markets would have guaranteed IGEC's profitability, but Osram could easily undercut these prices during the continuous German inflation. Lastly, what the Americans regarded as a nice piece of artillery in the enemy's country – their participation in Philips – the Germans regarded as a liability, since Philips relied entirely on AEG's patents, the contract for which was to be renewed in the following year.

Consequently the talks broke down. Some negotiating letters were still sent until the end of 1920. Then the exchange petered out - but not the intentions and a first step towards establishing mutual trust was the revival of the pre-war patent-pool *Drabtvertrag* in October 1921.

The Germans gathered strength by organizing the IGP-cartel in 1921, a year which was extremely difficult in the states of the former Entente. IGEC retaliated by signing contracts with Austrian and German firms (see above). Philips played a minor role in this tug-of-war. Its position was vulnerable as it relied on others' patents and had large manufacturing facilities, mainly for exports, but commanded only a small distribution network abroad. Philips, therefore, did not rush to side with one or the other but kept its position open. The Germans assembled as much power as they could after the heavy losses of the war but were simply dwarfed by IGEC and its preparations. Considering this imbalance of power, it is remarkable what the Germans still achieved – a linchpin is precious indeed!

Though Philips entered GE's orbit, it was not considered a safe part of it. From the early winter of 1920 until 1922 Philips and Osram discussed several possibilities of close cooperation, from a profit-pool to a total merger. The Germans asked for too much: for instance, they suggested a ratio of 62.5: 37.5 (Osram: Philips). The political and financial unrest in Germany finally terminated negotiations in 1922.

However, in March 1923 both sides signed a licence contract. Philips was to pay 2.5% of its turnover for all lamps sold in countries where Osram's patents prevailed. This contract had an enormous importance for Philips. Thanks to its production plants, the company was not only a solid number three on the world market but now it had solved its principal problem by acquiring licences from both IGEC and Osram. The threatening position between the two "millstones" was terminated. Philips' shrewd negotiations with both sides had paid off: the company now could exert pressure not only on Osram but on GE as well. Again, this had to do with the industry's Achilles' heel, the patent-situation. Since the end of the first World War, all companies questioned one another's patents in large markets, although the principal owners were GE and Osram. In spring 1924 a situation arose whereby GE's patents were threatened throughout the American continent. GE's considerations concerning Philips were: 'Should our patent protection at any time become weak in all or parts of America, he (Philips - H.G.S.) will be our greatest menace, the least vulnerable and most resourceful of our competitors.'³⁰ Although Swope had a seat on Philips' board, GE was not able to govern the company.

The threats and counter-threats did not represent a war, but rather a show of weaponry to achieve a good position for future negotiations. All sides were definitely in favour of the cartel. In 1922 IGEC and Osram signed a contract on markets and the exchange of patents, which paved the way to the subsequent global agreement. On 14 May 1924, IGEC, Osram and Philips signed a preliminary contract. In October they underwrote an additional 'Special Agreement' on good relations.³¹ The new factor was that this deal was not struck merely between IGEC and Osram, but also with Philips. The inclusion demonstrated Philips' new weight as a premium firm within the power-play which preceded Phoebus. The next step was to include all minor producers in the planned global cooperation. Finally, the 'General Patent and Business

³⁰ Quoted after Blanken, p. 95.

³¹ Facsimile with signatures in Blanken, p. 108.

Development Agreement' was signed in Paris on 20 December 1924. It covered the entire world and all major producers, except the USA. This cartel was called "Phoebus"³². For US-antitrust legal reasons GE could not be included, but took part without a written contract. All important lamp producers, except those of Soviet Russia, were included, representing up to 90% of global output. Compared to IGEC's initial suggestion, Osram had managed to make several changes: firstly, the exchange of all existing and future patents on payment of a fee, and access to all facilities (as before the first World War) for all participants; secondly, decisions on minimum prices on common markets were taken not by IGEC alone but jointly with representatives from each country for the respective territory; thirdly, the US "domestic market" was reduced to Canada and the USA; and fourthly, a permanent court of arbitration was set up in Switzerland. But Philips achieved even more: Phoebus became Philip's backbone for growth in the interwar period. Philips was a low-cost producer and made a great deal of profit from its lamps. Philips' light bulbs became the company's cash cow, providing the necessary means for its expansion in its traditional field (lamps), as well as in its new field, radio-equipment. Without this cartel, Philips, based in a small, open country with scant diplomatic weight, could probably not have overcome the protection barriers which were set up everywhere during this period. Phoebus mobilized its participants in all countries in order to knock these barriers down.

As previously suggested by IGEC, Phoebus defined three different types of territory: domestic markets (closed to others), undefined markets (the British Empire Overseas), and common markets (the rest of the world). In domestic and common markets, only those enterprises which had sold (not necessarily produced) there in 1924 received quotas. These quotas could be traded among Phoebus-members, an instrument which later turned out to be extremely useful when trade barriers increased. Over-selling on each national market was fined, using a flexible scale – low fines for small over-sales, and high fines for large

³² Phoebus is another name for Helios, the sun god.

over-sales. The cartel was to expire in 1934, but its contented members already in 1931 prolonged it until 1955!

Phoebus SA was set up as an enterprise in Geneva to oversee the lamp-cartel's business. US law prevented IGEC from signing the contract, but it honoured it, and its representative, Jesse Woodward, alternated with Osram's Walter Levy in chairing Phoebus' annual meetings. Day-to-day decisions were made by its chief executive William Meinhardt, aided by his deputy M. Saurel of the French Compagnie des Lampes. Phoebus was active in four departments: sales direction, accounting, test laboratory, and the exchange of techniques. Its aims – rationalization, standardization and maintaining a price level high enough for good profits and low enough not to attract newcomers – were to a large extent achieved. Phoebus also kept a war chest. It successfully supplied the whole world and tried to discourage possible investment by third parties. Many organisational principles were taken over from IGP, indicating, not only the influence of Osram, but the German management's know-how in cartel construction. The lawyer William Meinhardt, '*der Glühlampen-Imperator*'³³ who remained President of Osram, suggested that Phoebus was one of the best cartels ever constructed.

If, impressed by so much German influence, we presume that Osram fared well within the cartel, this is not entirely true: although Osram expanded at the same growth rates as Phoebus,³⁴ it gradually lost its export market. Whereas in 1925/26 about two thirds of its production was sold in Germany, four years later German sales accounted for 95% of its production.³⁵ What about the other nations? Unfortunately Phoebus never published any statistics and so the League of Nations and Hess's publications are the best we have. Though it varied in years, and Hess's

³³ "Bulb emperor", quote from Blanken, p. 117.

³⁴ Günther Luxbacher, *Massenproduktion im globalen Kartell*, (Berlin and Diepholz 2003), p. 371.

³⁵ Osram's exports 1925/26: 35.3%; 1926/27: 28.0; 1927/28: 10.9%; 1928/29: 5.5% (calculated from: Antonio Benni, *et al.*, (League of Nations), *Review of the Economic Aspects of Several Industrial Agreements*, (Geneva 1930) German edition, p. 116.

figures cannot be related to those of the League of Nations, Table 4 gives an impression of the relative importance of the different countries.³⁶

Once agreed upon, the Phoebus quotas were not subject to change. However, they could be bought or sold. This was why there was some movement, as shown in *Table 5*. Between the first and the last full year of the cartel (1925 and 1938), Philips augmented its quota from 20.2% to 23.7% by buying, among others, a Belgium company. Osram took over Bergmann's lamp production and thus raised its quota from 28.2% to 31.0%.

Most countries produced mainly for their own consumption. The outstanding exception was the Netherlands. It was not surprising that Philips became a faithful agent for Phoebus. When, in 1927, some French outsiders started to "disturb" the market, Phoebus suggested Philips intervene by means of its plant in France. Philips did not lower its prices but gave huge rebates to wholesalers, provided they agreed not to sell the outsider's products. The plan functioned perfectly.³⁷ Except for a similar case in Austria, literature mentions no special benefits or losses regarding other countries. Of course, customers in all nations probably had to pay a higher price than in a situation of open competition. While the cartel, until 1931, covered 90% of world production, outsiders were able to expand their 10% share to about 25%. This was due to several factors: increasing production in the Soviet Union, the specialisation of niche producers needing no cartel, but also, according to Van Walsem, one of Philips' principal officials, the level of prices maintained by the cartel.³⁸ The price level fell, but only slowly.

Compared to 1914, price levels were halved in 1929, which is a notable change.³⁹ However, it must be taken into account that in the mid-1920s, just when the cartel went into operation, incandescent light-bulbs no longer represented high technology but "ripe" technology.

³⁶ Benni *et al.* p. 115; Eugen Hess, *Elektropolitik und Weltvertristung*, (Amsterdam 1931) p. 42.

³⁷ Luxbacher, pp. 384ff.

³⁸ See Van Walsem quotation in Blanken, p. 122.

³⁹ More exactly 54% (Luxbacher, p. 373).

Consequently prices could be expected to fall substantially. But, as *Table 6* shows, prices fell only moderately during the first 10 years of the cartel. Not even the world economic crisis is reflected in the price-level! Phoebus was strong enough to keep prices up during the depression – a remarkable fact and an indicator of the strength of the cartel. Rationalization and standardization organized through Phoebus would have made falling prices possible. It seems that the companies preferred to keep this money for themselves. And so Phoebus was not totally good for the consumers. However, our question is not about cartels as such, but about the differences between small and large countries. To this end, we have to show that the smaller countries suffered no more than the large ones.

It seems that Philips turned out to be a major winner in the cartel. Light bulbs remained the cash cow which allowed Philips to branch out into radio-tubes and later into radio equipment. They represented the firm's financial backbone. Within a couple of years, Philips expanded not only at home, but became a major transnational enterprise (*Table 7*). It outgrew all its competitors by wide margins. We argue that Philips could have done so only under Phoebus' protective umbrella. The company was much more export-oriented than all the others, Osram included. It consequently had a market share in most countries, while most of its competitors had little or no exports in the all-decisive benchmark year of 1924. Consequently, these markets were closed to them but open to Philips. When, as a consequence of the world economic crisis, trade-barriers grew everywhere, Philips secured its chances by establishing local production abroad. Within a couple of years its workforce abroad was much larger than at home.¹⁰

The contemporary expert Eugen Hess suggested that Phoebus did not limit Philips' expansion.¹¹ We would like to go one step further: Phoebus tried to keep customs barriers low in all countries in order to remain

¹⁰ These numbers are all the more remarkable as Osram, although cutting its workforce by about a half between 1920 and 1929, doubled its production, (Luxbacher, p. 373).

¹¹ Hess, p. 44.

flexible internationally. Its members did not make such suggestions to their respective governments. This gave Philips a unique chance to grow, a chance which would not have existed without the cartel. Philips' success story in the interwar period is closely connected with the Phoebus cartel. In this case it was a small nation which made best use of a large international cartel.

3. Conclusion

We have examined two cases of cartels. Both were important, if not vital, to core European countries, both small and large. Two case studies are surely not enough to falsify a well-established thesis. However, the thesis 'small states suffer more from cartels than large ones' is not founded on certified facts, but is more of an assumption. But the impact of two important cases is large enough to question the assumption seriously. More studies, however, need to be carried out. Our idea was to throw a stone into still water to shatter the surface, and look at the ripples; more of these 'stones' and measurements are required for a final verification of the thesis. As far as methodology is concerned, we confirm the impression stated in the introduction: qualitative evidence was of decisive influence, whereas quantitative evidence was only able to confirm this.

We have reached the following results. Firstly, as far as President Roosevelt's thesis and the subsequent publications assuming a political implementation of cartels for political use are concerned, our results endorse those of Alice Teichova: although this thesis requires more in-depth investigations, there is very little evidence for it. This result is even more striking because, in the case of the key continental European states examined, the imbalance of power was more extreme than in most others.

Secondly, our contribution concentrated mainly on economic issues, more precisely on competition on the supply side. In both our cases the cartel did not damage small countries, at least no more than it did others. At the same time, we could not detect discrimination against consumers in small states compared to large ones. Though more

exposed in power-plays, small countries did not suffer more from large international cartels than large ones did. Consequently, our initial thesis, that large international cartels exploited small states more easily than large ones, cannot be upheld. The result needs to be substantiated by corresponding research, but the indication is evident.

Thirdly, small countries were often connected with small firms in an international cartel and vice versa. But, again, here we could not detect an element which was especially directed against small members. If we argue that small nations represented small members within cartels, our thesis is even reversed: in the two cases examined, small participants in cartels could exploit their position to a greater extent than large ones. They were able to do so, because, for large producers, the whole of the market mattered more than a few percentages or other advantages small players requested in a cartel. This result certainly needs confirmation. It is, however, in line with findings for British cartelization after the second World War.⁴²

Lastly, our initial thesis was not only proved false but rather turned upside-down. Based on our research, it could even be suggested that there were structural advantages for small countries, as well as an advantage for small cartel-members (although neither of these are of significant economic importance): it was the small countries whose representatives were chosen as presidents of international cartels; it was the small countries which were chosen as locations for the administration and arbitration of cartels; it was the small countries that had had better capabilities for business diplomacy and manoeuvre in times of stress.⁴³

⁴² George Symeonidis, *The Effects of Competition: Cartel Policy and the Evolution of Strategy and Structure in British Industry*, (Cambridge 2002).

⁴³ See also: Harm G. Schröter, 'On the specific freedom of manoeuvre of small states and their businessmen. Economic mediation between Great Britain and Soviet Russia in 1921', in Carsten Due-Nielsen *et al.* (eds.), *Konflikt og samarbejde*, (Copenhagen 1993) pp.53-66.

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Appendix

Losers in power-plays?

Small States and International Cartelization

Year	Germany	Saar	Luxembourg	France	Belgium
1926	32.2	10.3	7.8	13.2	32.3
1927	-11	8.8	10	-1.5	9
1928	11.9	9.7	4.1	14.3	6.1
1929	10.6	6.4	5.1	2.1	5.2
1930	-29	-12	-15.8	-2.3	-18.3
1931	-28.2	-20.9	-10.7	-17.5	-7.3
1932	-30.4	-4.6	-3.5	-27.9	-10.1
1933	31.9	13.9	-5.7	15.9	-2.2
1934	56.6	16.4	4.4	-5.4	7.8
1935	18.6	in Germany	-4.7	1.6	2.8
1936	16.8	in Germany	7.7	6.8	4.7
1937	3.3	in Germany	26.7	18.2	22.1
1938	17.1	in Germany	-42.9	-22.1	-40.9

Source: calculated from Hexner, Steel, Appendix VI.

million. Tons	Germany	Saar	Luxembourg	France	Belgium
up to 25.3	40.45	6.54	8.55	31.89	12.57
from 29.3	43.18	5.78	8.3	31.18	11.56

Source: Hexner, Steel, Appendix III A.

TABLE 3. EIA: 1933 Export Quotas in Percentages

million. Tons	Germany and Saar	Luxemburg	France	Belgium
to 6,8	29.2	21.2	20.6	29
from 11,5	33.7	16.8	23.5	26

Source: Hexner, Steel, 84, Fn. 40.

TABLE 4. World Production of Bulbs (in Million RM)

Country	Year	Value (Benni)	Mio bulbs (Hess)
USA	1927	530	
USA + Canada		550	
Germany	1929	150	150
Netherlands	1927	65	90
UK	1924	50	42
France			40
Japan	1926	32	24
Hungary			30
Italy	1930	20	22
Austria			10
Switzerland			6
Belgium			3
Rest		130	
Total		1000	1019

Source: Benni *et al*; 115, Hess, 42
(Hess, writing for his time in 1931, provided no years).

TABLE 5. Quotas in Phoebus		
Name	Percentage	
	1925	1938
Osram	28.2	31
Phillips	20.2	23.7
British group	11.5	11.1
French group	9.1	6.9
IGEC3.8	5	
Switzerland	0.9	1
Belgium	0.5	0

Source: Blanken p. 121.

TABLE 6. Indexes of prices				
Phoebus standard lamp, 1927 = 100				
Year	Netherlands	Germany	France	Italy
1925	93	100	85	91
1927	100	100	100	100
1929	99	102	94	99
1931	96	99	86	93
1933	83	83	80	80
1934	81	83	76	80

Source: Blanken p. 129.

TABLE 7. Philips Number of Employees

Year	The Netherlands	Abroad
11900	400	
1915	3100	
1923	8000	
1926	8500	
1928	18000	
1929	27000	13000
1932	11500	
1934	18500	18000
1935	16500	18500
1936	15000	19500
1939	19000	26000

Source: van den Berg and Karel, 13, 18, 19.
Bouman, 137, 176, 196.

