CHANGES IN THE STRUCTURE OF COAL AND STEEL INDUSTRIES UNDER THE ECSC (1952-1967): WAS WEST GERMANY KEPT "SMALL"?

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In 1951, six Western European countries founded the European Coal and Steel Community (ECSC), which they hoped would be a first step towards more European integration and which they hoped would provide a common legal framework for their coal and steel industries. The main aim of the ECSC was to make sure that the West German coal and steel industries would never again reach their pre-war capacities, which according to many had played a part in the coming of World War II. Another important aim was to forestall any attempt of the USSR to conquer West Germany. This article constitutes a case study of the regional concentration of the coal and steel industries in the six ECSC countries, and it investigates whether the importance of certain coal and steel producing regions within the ECSC changed between 1952 and 1967. Furthermore, an analysis is conducted of how the concentration ratios of the ECSC's industries differed among the six countries, whether these differences changed over time, how this influenced the size and number of coal and steel firms and whether the ECSC succeeded in its initial aim of keeping West Germany small.

The coal and steel industry was very important for the post World War II (WWII) rebuilding of the European economy. However, the postwar political situation led to major conflicts about who would own and control the production of coal and steel, as these two important industrial products potentially could be used to start another war. The main cause for concern was the German coal and steel industry, which had been the dominant economic force in prewar Europe. In the immediate aftermath of WWII, Germany, especially

the Western part, still had the technological knowledge and experience to regain quickly its prewar position. Therefore, the allies were understandably initially not inclined to give back to Germany its economic independence.[1]

The German problem and the emergence of the ECSC

In September 1944, U.S. Secretary of the Treasury Henry Morgenthau proposed his Morgenthau Plan for the postwar occupation of Germany, which was mainly aimed at keeping Germany "small," thereby hopefully preventing it from ever starting another war. Germany had to be divided into several states; all heavy industry had to be destroyed or dismantled; and centers of industry and mining had to be internationalized or annexed by neighboring countries.[2] At the Potsdam Conference (16th July-2nd August 1945) the allies also decided to rearrange Europe's boundaries, including the division of Germany into three western occupation zones (controlled by the US, the UK and France), and one eastern occupation zone (controlled by the USSR).[3]

Rather quickly (even before the formal creation of West Germany in 1949), the Western allies' attitude towards the western part of Germany changed considerably: increasingly, they realized that hampering economic expansion in this region would be unwise, as it would be much easier for the USSR to control the area. The US, France, and the UK did not want the German population, starving due to food shortages and in economic misery, to be tempted to look to the USSR for immediate help, despite their fear of Soviet communism.[4] Pleas to completely rethink the allied policy for the (West) German region also emanated from growing worries about the generally slow recovery of the European economy, which before WWII had been driven by and been dependent on strong German industry.[5] In response to these concerns, the US raised the upper production limits of West Germany's industries in 1947.[6] This loosening of the restrictions on West Germany came at a time when the idea of the Marshall Plan (formally known as the "European Recovery Program") had already been proposed. This US reconstruction plan was aimed at creating a liberal economic system in Western Europe as opposed to the communist system in Eastern Europe.[7] The Marshall plan also stipulated that, in order to get financial aid, Western European nations had to work together economically and politically.[8] Marshall aid would strengthen economic growth in the western part of Germany and, it was believed, bring about the integration of the region into the Western European and international economy.[9] Moreover, this plan would also encourage some kind of *European integration*, making the outbreak of another war much less likely.[10] In this respect, Western Europeans started thinking about some kind of political—or if not feasible—economic cooperation among their respective countries.

To make sure that the allies would retain some kind of control over the Western part of Germany, a common, bi-partite law (law no. 75) came into being on November 10, 1948 and was implemented in the "bizone" that had been formed by merging the UK and US occupation zones in January 1947. The main aim of law no. 75 was the elimination of the remaining Nazi

influence through the liquidation of all the still existing *Konzerne* (i.e. large agreements and concentrations) in the bizone and the reorganization of the coal, iron and steel industries in the same zone. On April 28, 1949, the US, the UK, France and the Benelux countries also founded the International Authority for the Ruhr (IAR) to supervise and control the coal and steel production in Germany's Ruhr region.[11] Furthermore, on April 10, 1949, the three western Allies implemented an Occupation Statute for Germany (or Besatzungsstatut). Finally, on May 23, 1949, the West German occupation zones merged in order to create the Federal Republic of Germany *(Bundesrepublik Deutschland* or BRD), which subsequently accepted the Occupation Statute.[12]

In the meantime, French diplomat Jean Monnet, who had to take measures to rebuild the French economy, had devised the Monnet plan, which was aimed at keeping West Germany small while also strengthening the French economy. Indeed, the plan aimed to provide the French steel industry with a continuous coal supply from the coal-rich Ruhr region that was under British control. In this respect, as long as the industrial disarmament plans for West Germany remained stringent, the French steel industry could grow.[13]

However, as political tensions between the East and West grew at the end of the 1940s, the US wanted to increase West Germany's upper limits for steel production even more. In addition, France realized that with the establishment of a new state, the West Germans would gain more self-government. In September 1949, during a "conference on West Germany" in Washington among the Western allied powers, France was tasked with devising a definitive solution for West Germany's coal and steel industries and presenting this at a conference scheduled for London on May 10, 1950. Monnet realized that if France were to go to this conference empty-handed, the Americans would probably increase or even completely abolish the German steel upper production limits.[14] Therefore, Monnet, together with French Foreign Minister Robert Schuman, proposed a French-West German "community" of coal and steel industries.[15] France could hope, thereby, to retain at least some access to the raw materials necessary for its steel industry. West Germany quickly joined the proposal because it still felt humiliated by the continuous and persisting control measures to which its industry was subjected. Moreover, the BRD government wanted to acquire all the rights of a sovereign state.[16]

After further negotiations among France, West Germany and also Belgium, The Netherlands, Luxembourg and Italy, the European Coal and Steel Community (ECSC) was founded in 1951.[17] The ECSC foundation treaty contained several measures to "keep West Germany small," such as a considerable reduction of West German *Konzerne*, the dissolution of the *Deutsche Kohlen-Verkaufgesellschaft* (a coal cartel that organized coal selling in the Ruhr region and that essentially regulated the whole German coal industry) and two legal articles with regard to a "joint" competition policy for the coal and steel industries in the ECSC's member countries. Furthermore, through the foundation of the ECSC, the ambitions of the USSR were deterred and France kept some access to the coal of the Ruhr region. Finally, the ECSC could be seen as a first attempt to come to some kind of a "united" Europe:

through an economic unity, some form of political unity might be achieved. In this respect, Monnet wanted to put an apolitical organ of technicians in charge of the ECSC, and this High Authority would assume part of the national governments' sovereignty and decision power. In addition, Monnet coined the idea of establishing a legal court and a parliament to which the High Authority would be accountable, although he wanted the power of these "regulatory organs" to be comparably small.[18] However, Monnet also knew that it would be very difficult to almost impose this High Authority on the ECSC's member states, if it would have too much power and essentially could not be held accountable for its actions.[19] Eventually, after months of negotiations, four supranational organs were included in the ECSC's foundation treaty: a High Authority, a Court, a Parliament and a Council of Ministers.[20] In 1967, the High Authority was abolished and its role was largely taken over by the newly established European Commission of the European Economic Community (EEC), through the so-called "Merger Treaty."[21]

Most of the research about the ECSC has focused on its origins (analyzing the negotiations of the Schuman Plan) and political aspects (mainly studying how decision power had to be shared between the High Authority and the six governments of the ECSC's countries).[22] Relatively little research has been done into the economic aspects of the ECSC, and this research either only focused on one of the ECSC's industries[23] or was conducted during the first years of the ECSC's existence.[24]

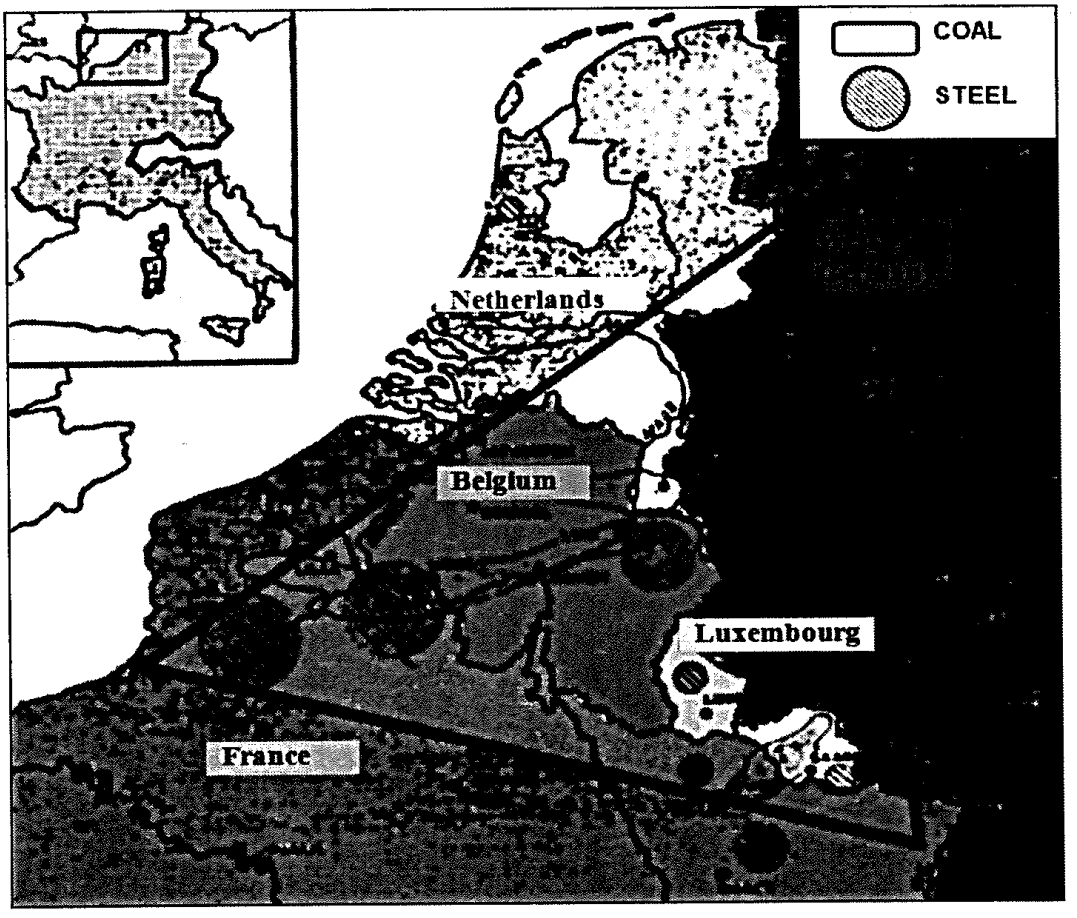
In this paper, we investigate whether the first and essentially political aim of the ECSC—keeping West Germany "small"—was indeed achieved. We first look at the importance and hence industrial concentration of both industries in all six member states and whether this changed over time. Subsequently, we analyze the evolution in the number, size and concentration of coal and steel firms in the ECSC as a whole and--if possible--in each country. Furthermore, we study the share of each country's production in the total ECSC and world production during the period under examination (from 1952 to 1967). Lastly, we assess whether the rules of the ECSC had a long-lasting influence on the size and importance of West German coal and steel industries and hence, whether West Germany could be kept small.

The industrial triangle and the regional concentration of the coal, iron ore and steel firms in the ECSC (1952-1967)

From the moment the ECSC was founded, most publications and sources about the ECSC regarded participating countries as a whole or even designated the ECSC as being "one" economic entity.[25] However, the six countries could not simply be seen as one entity because huge differences existed with regard to their socio-economic, historical, institutional and political conditions. In addition, similar differences existed between both industries in the ECSC countries and among different regions within each country and hence, the coal, iron ore and steel industries in these countries

may be characterized by so-called regional concentration. Before WWII, the region formed by Lorraine and Northern France, the Saar region, Aachen and the German Ruhr region, Luxembourg, Belgium, and the southern part of The Netherlands was the industrial backbone of Western Europe.[26] Most of Western European coal, iron ore and steel production was produced in this relatively small geographical area, which had the shape of an inverted triangle and was therefore called the "industrial triangle" (Figure 1).

Figure 1. The ECSC and the Industrial Triangle [27]



Source: adapted from: Voorlichtingsdienst van de H.A., "De toekomst van de steenkool en de concurrentie op het gebied van de energie in de gemeenschap", EGKS, *Europese Gemeenschap voor Kolen en Staal,* (Amsterdam: D.Y. Alta, 1959), 62-67, 62.

In 1952, all six ECSC countries (of which only Italy was entirely outside the industrial triangle) produced steel, and all but Luxembourg produced coal.[28] The location of a steel plant usually represented an attempt to strike a balance between the supply costs of raw materials and the freight or transport costs of the finished products.

Given the need to rebuild economies after WWII, the Western European demand for coal, iron ore, and steel was very high. However, the ECSC's coal producing countries mainly produced coal for their own national markets, with only a very small portion of the coal production destined for export.[29] Moreover, the booming demand for coal, iron ore and steel was expected to continue for the foreseeable future. Therefore, the coal and steel-producing firms of Western Europe had ample reason to increase their supply both by increasing their own production and by importing coal, iron ore and steel.

From 1952 to 1967, the Western European coal, iron ore and steel industries underwent considerable changes, with regard to both the production and regional location of the firms. Therefore, the regional concentration of these industries, and hence the relative importance of the industrial triangle, changed as well.

As for the ECSC's coal production, the worldwide demand for energy after WWII increased while coal remained the most common energy source in Western Europe. Until 1957, many people (including Jean Rey, the Belgian minister for economic affairs) were convinced that ECSC coal would continue to be in demand.[30] However, by 1958, a worldwide overproduction of energy coincided with a gradual decrease in demand for the ECSC coal. There were three main reasons. First, through improvements in the techniques used in the steel industry, less coal was needed to produce the same amount of end product. Second, statistical data indicate that between 1952 and 1967, coal was increasingly imported from the United States and the United Kingdom and, from the 1960s onwards, the USSR, Australia, South Africa, and Poland.[31] Moreover, even taking into account the higher transportation costs, imported coal was often cheaper than locally-sourced coal because it was dug in so-called "open pit" mines. As the European coal mines became exhausted, miners also had to find increasingly deeper layers to satisfy the need for coal of a satisfactory quality, which again led to higher production costs.[32] Third, coal became increasingly substituted by more efficient and cheaper energy sources (such as oil) that were available worldwide.[33]

In essence, the European coal industry of the post-war years was an old, obsolete industry, and it was struggling to adjust to the new, competitive situation of a market with a stagnating demand. Moreover, the European coal industry was large enough for the outcome of any adjustment to its structure and production methods to influence greatly the economic development of Europe as a whole.[34] The ECSC's coal production boomed until 1957, and then markedly decreased from 1958 to 1967.[35] Some Belgian coal mines exemplified the ill health of the ECSC's coal industry. Although these mines systematically operated at a loss, it was not easy to close them, as this would lead to enormous social problems including unemployment and strikes, as well as huge costs such as the retraining of miners to work in other industries.

These social reasons, together with more technical and economic reasons, made it effectively impossible for the ECSC to adapt coal production to the short-term fluctuations of coal demand; instead, the ECSC could only follow the general trends in the demand. The coal suppliers reacted

similarly to each contraction of the coal market after 1957. Initially, they stockpiled unsalable coal, which led to huge excess supplies, after which they introduced part-time work to reduce the capacity utilization rate, and only as a last measure, did they resort to closing mines.[36] Therefore, the ECSC's coal production kept rising until 1957, after which the excess supply led to a real "coal crisis." From 1958 onwards, production clearly decreased because ECSC coal could no longer compete with cheaper imported coal. In addition, it became increasingly expensive to source coal locally, and continued stockpiling seemed worse than decreasing the local coal production and eventually closing down some mines.[37]

The demand for ECSC iron ore also decreased between 1952 and 1967, for several reasons. First, cheaper and higher quality iron ore was increasingly imported from countries outside the ECSC, such as Sweden and South America, and, to a lesser extent, the USSR, Canada and North Africa.[38] Second, other steel-making processes emerged that no longer needed iron ore as raw material to produce steel, but used cheaper iron scrap instead. The decreased demand for the ECSC iron ore, combined with the realizations that this trend would not be reversed in the short term and that the ECSC's iron ore mines were becoming exhausted, led to a marked decrease in the ECSC's iron ore production from 1961 onwards.[39]

In contrast, the demand for ECSC steel kept rising during the 1950s and 1960s, especially because of the increasing desire of the emerging modern consumer society for durable consumer goods (many of which contained a lot of steel) and the increasing need for steel for building purposes. This increased demand for ECSC steel caused steel prices to rise.[40] Moreover, the Korean War, beginning on June 25, 1950, led to a huge increase in the world demand for steel for the production of war materials.[41]

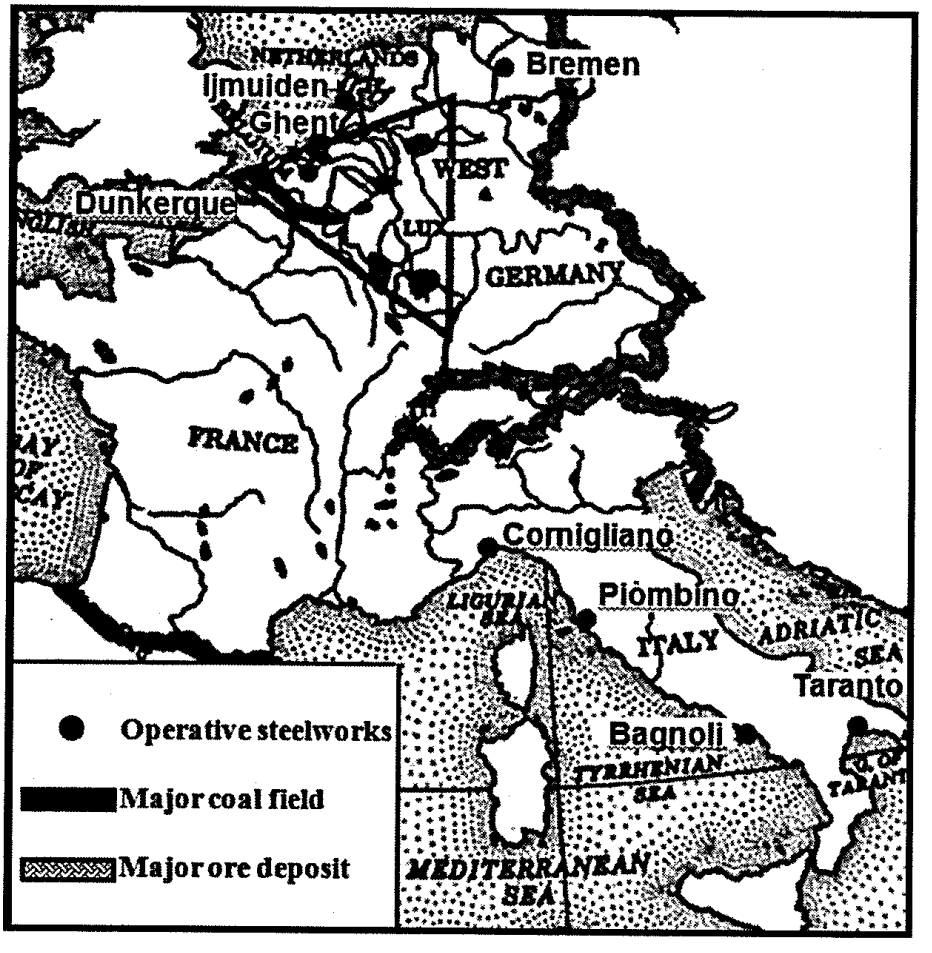
Between 1952 and 1967, five different steel production methods were in use resulting in five different types of crude steel: Bessemer steel, Thomas steel, Siemens-Martin steel, Electric steel and L.D. steel. The choice of a particular steel production method was intrinsically linked to the availability of the necessary resources (coal or electricity) as fuels, and iron ore or iron scrap as raw materials.[42] According to ECSC data for the period 1952-1967, some production methods were increasingly used while others were used less.[43] In accordance with these factor endowments, each of the ECSC countries preferred to use certain steel production methods. Therefore, analysis of the steel production methods for the ECSC as a whole would yield very different results for each country separately.

Cheap imports of coal and iron ore from outside the ECSC, as well as the emergence of new energy sources, had to be considered when making decisions about establishing new steel firms. Between 1952 and 1967, the industrial triangle remained responsible for more than 90 percent of the ECSC's total coal and iron ore production.[44] However, for several reasons, the relative importance of this triangle decreased from 91 percent of the ECSC's total steel production in 1952 to 73 percent in 1967.[45] This decrease coincided with the steel industry shifting from a *"raw material" orientation* in which steel firms

were established in the vicinity of fuel supplies (coal) and raw material (iron ore) to a *"market" orientation* in which the choice of the location for a new steel firm was linked to the proximity of local markets.[46]

Lastly, the newly-established steel plants were increasingly located in the vicinity of tidewater, preferably with a direct connection to the sea, which allowed for the use of cheap overseas supplies as well as the transport of finished steel products over water. Thus, these new steel plants were called coastal steelworks.[47] By 1963, the ECSC had already realized that coastal regions, accessible to ships with a high tonnage, were the most suitable places to establish new plants.[48] According ECSC data for 1961, 90 percent of the ECSC's iron ore output and 80 percent of the ECSC's steel output came from totally integrated steel firms.[49] A map of the ECSC in 1964 (Figure 2) provides several examples of coastal steelworks, some of which were already established before the ECSC's existence, but only grew extensively during the 1950s and 1960s.

Figure 2. Location of the ECSC's integrated coastal steelworks (1964)



Source: adapted from Douglas Fleming, "Coastal Steelworks in the Common Market Countries", *Geographical Review*, 57, no. 1 (1967): 48-72, 50.

Examples are: the *Hoogovens Ijmuiden* in the Netherlands and *Usinor* in Dunkerque, France, with access to the North Sea, the Italian steel firms in Piombino, Bagnoli, Cornigliano and Taranto (which were all established by *Italsider,* the steel branch of the government economic development agency I.R.I.), with access to the Bay of Genua, the Piombino canal, the Bay of Naples and the Mediterranean Sea[50], *Klöckner* in Bremen, West Germany, with access to the North Sea through the Weser river and *Sidmar* in Belgium, with access to the North Sea through the canal Ghent-Terneuzen. The "old" *Arbed* in Luxembourg was not located near the sea, but in 1962, it obtained a share in *Sidmar.*[51]

During the period studied, the steel plants also increasingly became vertically integrated steelworks, comprising a number of firms that were usually located within meters of each other on the same site. Together, they not only controlled the mills where the steel was manufactured, but also the mines where the coal or iron ore was extracted, the ships or railroads that transported both products to the factory, the ovens that produced the cokes, the processing of the steel, and so forth.[52] For the aforementioned reasons, such integrated steelworks were often established on new or "greenfield" sites in the vicinity of tidewater.[53]

The number and size of the ECSC's firms (1952-1967)

As a result of the decrease in the ECSC's coal production, the overall number of coal-producing companies in the ECSC markedly decreased between 1952 and 1967, from 149 to 73. However, the coal companies were not equally distributed among ECSC countries, and they differed greatly in size.[54] The number of steel producing firms increased between 1955 and 1965 (from 185 to 213), and decreased afterwards, to 197 in 1970. However, although we found virtually no information about the geographical location of the ECSC's steel firms, this meant that the ECSC as a whole had in 1970 more steel firms than in 1955.[55]

Tables 1 and 2 (page 14) indicate how the share of differently sized ECSC's coal mines[56] and steel firms in the total number of mines and firms changed, and linked to this, how the relative importance of these differently sized mines/firms for the total coal/steel production changed during the period studied.

Between 1952 and 1967, there was an evolution towards fewer small coal mines (i.e. with a total yearly coal production below 250,000 tons) and more large to very large coal mines (i.e. with a total yearly coal production of 1 million tons coal or more) (Table 1).

Between 1955 and 1970, a similar evolution took place in the size of the ECSC's steel firms. The number of (very) large steel firms increased (which also led to an increased share of these steel plants in the ECSC's total steel production) while the number of small to medium size steel firms decreased (Table 2).

Table 1. The share of differently sized coal mines throughout time and their share in the total ECSC production

Category (Production by firm)	Number of mines (in % of the total number)					Production (in % of the total ECSC production)				
	1952	1959	1963	1965	1967	1952	1959	1963	1965	1967
75 000 – 250 000	41.8	27.5	18.8	17.7	17.6	11.3	5.9	3.6	2.9	3.0
250 000 – 500 000	22.9	21.2	22.3	20.3	17.7	16.4	11.0	9.1	7.7	6.7
500 000 – 1 million	20.2	24.7	23.5	22.8	22.8	29.6	26.6	18.7	17.4	17.4
1 – 2 million	14.1	23.3	27.7	29.7	32.6	37.4	44.5	45.9	45.6	48.1
2 million or more	1.0	3.3	7.7	9.5	9.3	5.3	12.0	22.7	26.4	24.8
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

(a) These figures are exclusive Italy, the non-nationalized French mines and the small mines in West Germany- The figures for West Germany and the Netherlands have been converted.
(b) There were no data available for '58, '60, '61 and '62. So we used the data for '59 and '63.

Source: Calculated with data from: Eurostat, *Coal and Other Energy Sources* (Luxembourg: Eurostat, 1962), no. 1, 4; (1964), no. 1, 25; (1969), no. 1, 40 and Eurostat, *Energy statistics, Yearbook 1966: 1950-1965*, 76-77 (Luxembourg: Eurostat, 1966) and *Yearbook, 1971: 1960 – 1970*, 104-105.

Table 2. The share of differently sized steel firms throughout time and their share in the total ECSC production

Category (Production by firm)	Number of steel firms (in % of the total number)				Production (in % of the total ECSC production)			
	1955	**1960**	**1965**	**1970**	**1955**	**1960**	**1965**	**1970**
< 1 million	91.4	89.2	86.9	86.8	47.5	33.2	20.7	21.0
1 – 3 million	8.6	9.9	11.3	8.1	52.5	56.8	57.1	23.7
3 – 6 million	0	0.9	1.4	3.0	0	10.0	14.8	22.8
≥ 6 million	0	0	0.4	2.1	0	0	7.4	32.5
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Source: Eurostat. *Iron and steel, 1952-1982* (Luxembourg, 1983), 7.

The concentration of the ECSC's industries (1952-1967)

Using various methods, we have analyzed the changes in the concentration of the ECSC's industries during the studied period. The *Herfindahl-Hirschman Index* or HHI can be seen as a measure of the size of firms in relationship to the industry concerned. It is defined as: $HHI = \sum_{i=1}^{n} M_i^2$ (The sum of the squares of the market shares of each individual firm (M), with n being the number of firms in a given industry.) The HHI ranges in value between 0 (a very large number of very small firms) and 1 (a single monopolistic producer), so the higher the

HHI, the more concentrated is the industry under examination. The HHI can also be used as a measure of how competitive a given industry is within the market. However, during the studied period the coal and steel market was a global one. Based on our data alone, we cannot conclude anything about how competitive the ECSC's industries were in the global market.

To calculate the HHI for a particular industry and year, it is necessary to know the market shares of all firms for that industry and year. For the coal industry, we could only determine the market shares of all coal-producing companies in Belgium and West Germany; consequently, we could only calculate the HHIs for those countries. As for the steel industry, we could only determine the market shares of all steel-producing firms for the ECSC as a whole and not for the different countries separately.

Table 3. HHI for coal and steel firms

	Coal firms		**Steel firms**
	Belgium	West Germany	ECSC as a whole
1952	0.029	0.032	0.019
1957	0.080	0.043	0.039

Source: Calculated using data from Eurostat, *Energy Statistics, Yearbook 1966: 1950-1965* (Luxembourg: Eurostat, 1966), 68-69 and 108-109; *Yearbook 1968: 1958-1967*, 75 and 100-101; Eurostat, *Coal and Other Energy Sources* (Luxembourg: Eurostat, 1962), no. 1, 4; (1964), no. 1, 25 and (1969), no. 1, 40; Eurostat, *Iron and Steel* (Luxembourg: Eurostat, 1964), no. 1, 4-7, 24-25 and 33 and (1970), no. 1, 40-41 and Eurostat, *Iron and Steel, 1952-1982* (Luxembourg: Eurostat, 1983), 7.

Between 1952 and 1967, the coal industry in both Belgium and West Germany became more concentrated, which means that during this period, the mean size of the coal-producing companies in Belgium and West Germany increased (Table 3). For the ECSC's steel industry as a whole, the HHI increased, which indicates that this industry became more concentrated.

To determine the changes in concentration in the coal industries in the ECSC as a whole, France, Italy and the Netherlands (the other three coal-producing countries), as well as in the ECSC's six steel producing countries, we used three concentration ratios, other than the HHI: the *three-firm, four-firm* and *ten-firm concentration ratio* (or C3, C4 and C10), which represent the market share (as a percentage of the total production) generated by the three, four and ten largest firms in the industry.

We first looked at the C4 and C10 of the coal and steel industries in the ECSC as a whole (Table 4). Subsequently and in an attempt to extract more information from the data, we calculated C3s of the coal and steel industries in each ECSC country (Tables 5 and 7), after which we analyzed more specific data about both industries (Tables 6 and 8).

Table 4. Largest ECSC coal firms/steel groups and their share in ECSC production [57]

Share in the ECSC (percentage of total ECSC coal / steel production of that year)								
	Coal firms				Steel groups			
	1952	1961	1965	1967	1952	1957	1965	1967
Largest	12.3	11.7	11.4	12.4	-	8.2	7.9	11.4
4 largest	28.4	30.4	28.9	31.9	-	27.9	27.6	34.5
10 largest	42.4	48.9	45.6	49.0	-	54.9	56.0	60.5

Source: calculated with data from Eurostat, *Energy Statistics, yearbook 1966: 1950-1965*, 76-77 (Luxembourg: Eurostat, 1966); *Yearbook 1968: 1958-1967*, 74 and 101-102; EGKS: HA. EGKS 1952-1962: *Resultaten, grenzen, perspectieven* (Luxembourg: EGKS, 1963), 55 and 60-61 and Anthony Cockerill, *The steel industry: International comparisons of industrial structure and performance*, Occasional Paper, vol. 42 (University of Cambridge, Department of Applied Economics, 1974), 39-49.

Between 1952 and 1967, the C10 of the ECSC's coal industry increased from 42.4 to 49.0 percent of the total coal production, which indicates a more concentrated coal industry in the ECSC as a whole: fewer firms became responsible for a larger share of the ECSC's total coal production. For the steel industry, we could not find any data about the size and proportional share of the individual steel firms after 1961. Therefore, we used data about so-called "steel groups" instead. A "steel group" doesn't represent the largest steel firms as such, but rather the largest combinations of several of these firms that "worked together." Therefore, the proportional production share of each steel group was larger than that of each of the individual steel firms in the same year. The first year with available data for the largest steel groups in the ECSC was 1957, and the largest steel group increased in size between 1957 and 1969. In addition, the C10 increased from 54.9 percent in 1957 to 60.5 percent in 1969, which implies that the ECSC's steel industry had become more concentrated by 1969 (Table 4).

However, this increase in C10 of both the ECSC's coal and steel industries reflects the general evolution of the ECSC's total coal and steel production, and the point of departure in 1952 was very different in the six ECSC countries. For example, the importance of both industries differed among the six countries and the quality of coal and steel produced differed greatly among countries. Moreover, the different countries underwent a variable degree of governmental influence (such as the nationalization of firms). For example, partially or completely nationalized firms (more frequently found in the French, Italian and Dutch coal industries) were often larger than privately-owned firms that were more prevalent in the Belgian and West German coal industries. Therefore, for each of the six countries, we calculated the market share, as a percentage of the *three largest coal/steel companies' market output.*

The coal industry

For the coal industry, we found large differences between the five coal-producing countries with mainly nationalized coal industries and those with limited or no nationalization. Moreover, we investigated how these different degrees of coal industry concentration in 1952 had changed by 1967 (Table 5).

Generally, in countries with a partially or completely nationalized coal industry (France, Italy and the Netherlands), the three largest coal companies (which were all completely nationalized companies) produced at least 80 percent of the country's total coal production in 1952. In each of these countries, there were also many very small companies, each responsible for a small or very small percentage of the total coal production. Therefore, the 1952 coal industry in France, Italy, and the Netherlands was very concentrated. From 1952 to 1967, these industries remained very concentrated as the total market share generated by the three largest firms barely changed. In Italy, by 1967, only one firm produced all the country's coal (Table 5).

Table 5. Market share, as percentage of market output of the three largest coal firms

Country	1952	1961	1965	1967
France	82.0	83.2	84.4	85.3
Italy	99.1	99.4	100.0	100.0
Netherlands	92.7	92.1	91.5	85.4
Belgium	14.2	19.9	28.1	35.2
West Germany	18.8	17.3	22.8	25.8

Source: Calculated with data from Eurostat, *Energy Statistics, Yearbook 1966: 1950-1965* (Luxembourg: Eurostat, 1966), 68, 69, 108, and 109 and *Yearbook 1968: 1958-1967*, 75, 100, and 101.

In the countries with little to no nationalization (Belgium and West Germany), there were many more small to medium-size companies, and relatively few large or very small companies. In 1952, the coal industry in these countries was not so concentrated. However, the proportional share of the coal production by the three largest companies in Belgium and West Germany increased from approximately 15 percent in 1952 to approximately 30 percent in 1967, indicating that the coal industries in these countries also became more concentrated.

That said, it would be difficult to draw the same, overall conclusion from these data that we did for the ECSC countries with a higher degree of nationalization. One important reason for this is that, even in 1967, the three largest coal-producing companies of Belgium and West Germany accounted

for only a small percentage of the total coal production. Moreover, between 1952 and 1967, the size of the coal companies in these two countries changed much more than in the countries with mainly nationalized coal industries. During the period studied, the three biggest coal companies in Belgium and West Germany changed places.[58] Hence, we further analyzed the coal-producing companies in Belgium and West Germany to determine the change in concentration of the entire coal industry, rather than only the change in the coal production of the three largest firms (Table 6).

Table 6. Absolute number and share in total number of Belgian/West German coal firms, by size (in 1,000 tons)

Firm size	Belgium		West Germany	
	1952	1967	1952	1967
Small: 0-250	28 (45.2%)	8 (32.0%)	20 (28.2%)	0 (0%)
Medium: 250-1,000	26 (41.9%)	12 (48.0%)	8 (11.3%)	2 (5.9%)
Large: ≥ 1,000	8 (12.9%)	5 (20.0%)	38 (53.6%)	27 (79.4%)
Large: ≥ 5,000	-	-	5 (7.0%)	5 (14.7%)
Totals	62 (100%)	25 (100%)	71 (100%)	34 (100%)

Source: Calculated with data from Eurostat, *Energy Statistics Yearbook 1966: 1950-196* (Luxembourg: Eurostat, 1966), 68-69, 108-109 and *Yearbook 1968: 1958-1967*, 75, 100-101.

In contrast with the situation in France, Italy, and the Netherlands (characterized by many very large companies and a few smaller firms), there was a more equal division into differently sized companies in Belgium and West Germany. In 1952, Belgium and West Germany had many small and medium sized coal firms and a few larger ones. By 1967, however, the total number of coal-producing firms had markedly decreased (from 62 to 25 in Belgium, and from 71 to 34 in West Germany). Moreover, the share of some size groups in the production changed, in that the number of small-sized coal firms and their share in the total production decreased, especially in West Germany where no small coal firms were left by 1967. As for the medium-sized firms, which also decreased in number, their share of the total production increased in Belgium and decreased in West Germany. Lastly, the number of large coal firms in both countries decreased, although their share in the overall coal production increased. Although there was a similar evolution in Belgium and West Germany (from very small firms in 1952 to relatively large firms in 1967), this happened for different reasons.

In Belgium, there were 62 coal-producing firms in 1952 but only 25 in 1967, which means a net loss of 37 firms (or nearly 60 percent).[59] We also discovered that in the 1950s, 31 coal firms were closed down (16 in 1959 and 15 in 1960) and from further archival research, we know that between 1952

and 1967, 8 concentrations within the Belgian coal and steel industry were established (2 coal-coal and 6 coal-steel concentrations). The first of these coal concentrations occurred in 1959, with the merger of several coal-producing firms to create one large company in the southern coalfield of Belgium, the *Charbonnages du Borinage.*[60]

In an attempt to reduce and alleviate the effects of the coal crisis, five coal-fired power stations started operating between 1952 and 1960. In addition, specialized organizations were set up to help overcome the crisis. For instance, in 1961, the *Directoire de l'Industrie Charbonnière* was founded, a public body that had to regulate Belgian coal production, sales, imports and exports, and, more importantly, decide about the closure of unprofitable mines or "rationalizations" and mergers of coal companies.[61] In 1966, Zwartberg, the main coal mine in the Campines region, closed. In 1967, the second coal concentration was formed, when the Belgian government regrouped all the Campines mines and combined them into one firm, the *Kempense Steenkoolmijnen.*[62] This clearly demonstrates that although officially, there were no nationalized coal mines in Belgium, the Belgian government repeatedly took a variety of measures (including giving substantial subsidies) to keep the Belgian coal industry in business until the market had recovered, or until a solution had been found for the social problems that would inevitably follow the closure of coal mines. It has been argued that these governmental protection measures were wrong, in that they prolonged the survival of some Belgian coal firms much longer than would have been the case in a truly free market.[63] The government became the *de facto* owner, although it did not own any shares of the Belgian mines. Thus, the decrease observed in Belgian coal firms between 1952 and 1967 was due to the closure of inefficient and unprofitable mines, but only after the Belgian government had exhausted all possible life-support measures.

The starting point in 1952 was completely different in the BRD. Because of the previously mentioned de-concentration measures that had been undertaken by the allies in the immediate post-war years, West Germany still had a large number of relatively small coal firms in 1952. However, between 1952 and 1967, a huge "re-concentration wave" of the West German coal and steel industries took place. Therefore, in contrast to Belgium, the methods used most to re-establish concentrations were the acquisition of shares and the creation of new, larger firms by combining several old firms. In the period under examination, 63 concentrations were established in the West German coal and steel industry. Of this total, 13 were coal-coal concentrations and 8 were coal-steel concentrations that were mainly formed during the first years of the ECSC's existence. 42 out of the 63 concentrations were steel-steel processing concentrations that were mostly established during the later years of this study.[64] Lastly, two cross-border coal concentrations were formed, in 1957 (with a coal firm from Luxembourg) and in 1966 (with the American—non-ECSC—petrochemical industry).

The steel industry

For our analysis of the steel industry, we only calculated market shares for the three largest steel firms in 1952 and 1961 and for the three largest steel groups in 1969. Because we have only found data for these three years, we cannot simply compare the data for 1952 and 1961 with that for 1969. Nevertheless, all the data shows more or less the same trend—an increase of the market shares—as time progressed (Table 7).[65]

Table 7. The market share, as a percentage of the market output generated by the three largest steel firms by country

	steel firms			steel groups
Country	**1952**	**1961**		**1969**
West Germany	30.0	24.5		51.4
Belgium	46.7	56.0		70.0
France	40.2	40.6		72.0
Italy	48.0	55.6		71.1
Luxembourg	100.0	100.0		90.7
The Netherlands	99.0	99.7		100.0

Source: EGKS: HA. *EGKS 1952-1962: Resultaten, grenzen, perspectieven,* 54 and Anthony Cockerill, *The steel industry: International comparisons of industrial structure and performance,* 39-49.

A similar analysis to the one for the coal industry (see Table 6) was not possible for the steel industry, because we could not find data about the steel firms by country.

To obtain a more detailed idea of the size of the separate steel firms in the ECSC as a whole, throughout time, we conducted an additional analysis of the evolution of the ECSC's crude steel production, i.e. before the ECSC's existence (<WW II and in 1949), in 1957, 1961 and 1969. We then analyzed how many firms were responsible for which part of the production totals (Table 8).

Before WWII, the largest steel group accounted for 23.5 percent of the combined total steel production of the countries that would later form the ECSC. The next four largest steel groups combined (only) represented a share of 23.7 percent of the future ECSC's steel production. In other words, one steel group (i.e. the *Vereinigte Stahlwerke*)—that was both horizontally and vertically integrated—dominated the steel production in the later ECSC countries. In 1949, the three largest steel groups combined accounted for a smaller share of the future ECSC's steel production than the Vereinigte Stalhwerke had on its own before WWII (21.4 versus 23.5 percent).[66] Between 1949 and 1957, more large steel groups emerged, and together, six very large steel groups accounted for 38.5 percent of the (future) ECSC's total steel

production. During the period of the ECSC's existence for which we have more detailed data (from 1957 to 1969), the steel groups became larger again, which resulted, in 1969, in the West German steel group *Thyssen* being responsible for 27 percent of the West German and 11.4 percent of the ECSC's total steel production for that year.

Table 8. The ECSC's steel production at different moments in time

Group production in percentage of the ECSC's steel production										
	< WW II		**1949**		**1957**		**1961**		**1969**	
	#	**%**	**#**	**%**	**#**	**%**	**#**	**%**	**#**	**%**
20 to 25 %	1	23.5	/	/	/	/	/	/	/	/
15 < 20 %	/	/	/	/	/	/	/	/	/	/
10 < 15 %	/	/	/	/	/	/	/	/	1	11.4
5 < 10 %	4	23.7	3	21.4	6	38.5	7	43.2	3	29.3
2,5 < 5 %	9	30.2	11	41.6	9	31.8	8	28.3	5	22.7
1,5 < 2,5 %	.	5.9	.	37.0	.	29.7	7	12.8	5	8.7
Others	.	16.7	.		.		.	15.7	. (> 10)	27.9
Total	.	100.0	.	100.0	.	100.0	.	100.0		100.0
ECSC's steel production (in 1 000 ton)	39,100		28,300		59,800		73,244		107,319	

Source: EGKS: HA. *EGKS 1952-1962: Resultaten, grenzen, perspectieven*, 60 and Anthony Cockerill, *The steel industry*, 39-49.

Share of each country's production in the total ECSC and world production during the studied period.

Table 9. The ECSC's coal production by country as a percentage of total ECSC production (1952-1967)

Year	**West Germany**	**France**	**Italy**	**The Netherlands**	**Belgium**	**Total ECSC**
1952	58.9	22.8	0.5	5.3	12.5	**100**
1957	60.0	22.5	0.5	5.0	12.0	**100**
1958	60.8	22.1	0.4	4.8	11.9	**100**
1961	60.3	22.9	0.4	4.7	11.7	**100**
1962	60.5	23.4	0.3	4.8	11.0	**100**
1967	62.9	22.2	0.3	5.5	9.1	**100**

Source: Calculated with data from: Eurostat, *Coal and Other Energy Sources* (Luxembourg: Eurostat, 1962), no. 1, 4; 1964, no. 1, 25; (1969), no. 1, 40 and Eurostat, *Energy statistics, Yearbook 1966: 1950-1965* (Luxembourg: Eurostat, 1966), 68 and *Yearbook, 1969: 1958 – 1968*, 74.

All but two ECSC countries (i.e. Luxembourg and Italy) produced substantial quantities of coal. West Germany and France were the biggest producers of coal, followed by Belgium and the Netherlands. West Germany especially gained market share within the ECSC's coal industry between 1952 and 1967 (from 58.9 percent to 62.9 percent), whereas, in the same period, France and Belgium lost market share (respectively from 22.8 percent to 22.2 percent and from 12.5 percent to 9.1 percent).

Table 10. Changes in the coal production of the ECSC, USA, UK, USSR as a percentage of the total world production of coal (1952-1967)

Year	ECSC	USA	UK	USSR	World (a)
1952	16.5	31.4	15.8	14.7	**100**
1957	15.6	29.2	14.2	20.6	**100**
1958	16.2	25.0	14.1	16.3	**100**
1961	15.1	24.2	12.4	24.1	**100**
1962	14.5	24.6	12.5	24.0	**100**
1967	10.3	28.5	9.5	25.8	**100**
(a) world = without the Republic of China					

Source: Calculated with data from: Ingvar Svennilson, *Growth and Stagnation in the European Economy* (Geneva: Economic Commission for Europe, 1954), 252; OEEC. *Industrial Statistics, 1900-1955* (Paris, 1955); EGKS: HA. EGKS 1952-1962: *Resultaten, grenzen, perspectieven, volume I* (Luxembourg, 1963), 27-28; Louis Lister, *Europe's Coal and Steel Community* (New York, 1960), 444-445 and Eurostat, *Energy statistics, Yearbook 1966: 1950-1965* (Luxembourg: Eurostat, 1966), 68 and *Yearbook, 1969: 1958 – 1968*, 75 and *Yearbook, 1971: 1960-1970*, 354 and 362.

Between 1952 and 1967, the "share in the world's total coal production" of all studied "countries" (ECSC, USA, UK and the USSR) combined decreased from 78.4 percent in 1952 to 74.1 percent in 1967. Moreover, the ECSC's importance in the world's total coal production decreased from a share of 16.5 percent in 1952 to a share of 10.3 percent in 1967. In addition and in the same period, the similar share of the other studied countries decreased from 31.4 percent to 28.5 percent (USA) and from 15.8 percent to 9.5 percent (UK), and increased from 14.7 percent to 25.8 percent (USSR). In summary, this means that, apart from an increase in the USSR's importance in the world's total coal production, the joint share of all the other studied countries in the world's total coal production decreased between 1952 and 1967. This indicates that gradually, other countries became more important in the world's total coal production.

Table 11. The ECSC's steel production by country as a percentage of total ECSC production (1952-1967)

Year	West Germany	France	Italy	The Netherlands	Belgium	Luxembourg	Total ECSC
1952	44.4	26.0	8.4	1.6	12.4	7.2	**100**
1957	46.8	23.6	11.4	2.0	10.6	5.6	**100**
1958	45.3	25.2	10.9	2.4	10.3	5.9	**100**
1961	45.8	24.0	12.4	2.6	9.6	5.6	**100**
1962	44.8	23.7	13.5	2.9	10.0	5.1	**100**
1967	40.8	21.9	17.7	3.8	10.8	5.0	**100**

Source: Calculated with data from Eurostat, *Iron and Steel* (Luxembourg: Eurostat, 1964), no. 1, table 3, table 22 and table 44, 6 – 7, 29 and 56 and (1969), no. 1, table 3, table 22 and table 44, 6–7, 29 and 56.

The share of West Germany (from 44.4 percent to 40.8 percent), France (from 26.0 percent to 21.9 percent) and Luxembourg (from 7.2 percent to 5.0 percent) in the total ECSC's steel production decreased between 1952 and 1967, but those first two countries were still the largest providers of the ECSC in 1967. The share of The Netherlands, which was very small, increased (from 1.6 percent to 3.8 percent). The Belgian share decreased (from 12.4 percent to 10.8 percent). Italy's share in the total ECSC's steel production increased remarkably (from 8.4 percent to 17.7 percent). This was mainly due to the emergence of the large coastal—and mostly integrated—steelworks (see above).

Table 12. Changes in the crude steel production of the ECSC, USA, UK, USSR as a percentage of the total world production of crude steel (1952-1967)

Year	ECSC	USA (a)	UK	USSR	World (b)
1952	19.6	41.1	7.8	16.1	**100**
1957	20.6	36.1	7.6	17.6	**100**
1958	21.6	29.5	7.4	20.5	**100**
1961	21.3	26.3	6.5	20.6	**100**
1962	20.8	25.9	5.9	21.7	**100**
1967	19.1	23.7	5.1	20.6	**100**

(a) USA = inclusive the production of the independent steel foundries that weren't surveyed by the American Iron and Steel Institute.
(b) World = without the People's Republic of China

Source: Calculated with data from: EGKS, *Een eeuw lang ontwikkeling van de staalproductie.* (Luxembourg, 1957), 22-23; Eurostat, *Iron and Steel* (Luxembourg: Eurostat, 1964), no. 1, table 3, 6–7; (1969), no. 1, table 3, 6-7 and EGKS, *Zesde algemeen Verslag van de Werkzaamheden van de Gemeenschap, Deel II,* table 26, 400.

The "share in the world's total steel production" of all studied countries (ECSC, USA, UK and the USSR) combined decreased from 84.6 percent in 1952 to 68.5 percent in 1967. Moreover, the ECSC's importance in the world's total steel production stayed more or less the same between 1952 (19.6 percent) and 1967 (19.1 percent). In addition and in the same period, the similar share of the other studied countries decreased from 41.1 percent to 23.7 percent (USA) and from 7.8 percent to 5.1 percent (UK), and increased from 16.1 percent to 20.6 percent (USSR). In summary, this means that, apart from an increase in the USSR's importance in the world's total steel production and more or less a status quo for the ECSC, the importance of all other studied countries in the world's total steel production decreased between 1952 and 1967. This indicates that gradually, other countries became more important in the world's total crude steel production, which led to an increased competition between the original steel producers (to which the ECSC countries belonged as well) and the new players on the world steel market.

Did the ECSC succeed in keeping West Germany small?

Did the ECSC succeed in its primary aim of keeping (West) Germany small? In West Germany, as in the other member states, there was a shift from very small coal and steel firms in 1952 to relatively large firms by 1967. Moreover, by 1967 and just like before WWII, one large West German steel consortium (i.e. the Thyssen Group) was again dominating the Western European coal and steel market. In this respect, the ECSC (and especially the French) seems to have not succeeded in keeping the size of the West German coal and steel firms small. However, although this essentially meant that, by 1969, a large (West) German firm was again responsible for a substantial part of the ECSC's total steel production, the situation was not comparable to the dominant position occupied by the Vereinigte Stahlwerke before the war. With West Germany now embedded in a European structure, the political context was fundamentally different. Moreover, by allowing West Germany to gain political and economic independence—both monitored internationally by the ECSC—it had become much less likely that (West) Germany would ever again feel the need to start another war. Lastly, as is also currently the case for the European Union, it seems that by allowing West Germany to rebuild its economy, the country again became the driving force of Europe's economic revival.

General Conclusion

In conclusion, between 1952 and 1967, the regional concentration of the ECSC's coal and especially steel industries shifted from the industrial triangle to the coasts in order to take advantage of sea transport. Although the ECSC was seen as "one" economic entity from the beginning, the differences in the structure and concentration ratio of the coal and steel industries in

the six ECSC countries were considerable when it was founded in 1952. However, by 1967, all the countries' coal and steel industries had become more concentrated, and especially in West Germany, there had been a shift towards fewer firms of all sizes with the larger firms accounting for a greater share of the total production. That being said, especially in two countries (Belgium and West Germany), there was an evolution from very small firms in 1952 to relatively large firms by 1967. This happened for different reasons in each country, although we only found more detailed information for the coal industry.

We could ask the question whether the ECSC was beneficial to the economic development and prosperity of its member countries. It is difficult to predict how the economic situation would have turned out without the ECSC, and the period we studied is probably too short from which to draw any real conclusions. Nevertheless, by 1967, the total coal and especially steel production of the ECSC countries had increased considerably in comparison to the total production of these countries before WWII. Moreover, cross-border collaborations between firms from different countries, made possible through the foundation of the ECSC, seem to have especially benefitted the smaller ECSC economies such as Belgium and Italy, in that they could establish very large integrated steel firms through joint investments. With regard to the question whether the ECSC succeeded in its primary aim of keeping West Germany "small," the answer is no. By allowing West Germany to gain political and economic independence, war in Western Europe had also become much less likely, and in this way, (West) Germany became the motor of Europe's economic revival.

NOTES

1. Dirk Spierenburg and Raymond Poidevin, *Histoire de la Haute Autorité de la Communauté Européenne du Charbon et de l'Acier* (Brussels: Bruylant, 1993), 4.
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3. Derek Aldcroft, *The European Economy 1914-1990* (London: Routledge, 1996), 115.
4. Anthony Sutcliffe, *An Economic and Social History of Western Europe Since 1945* (New York: Longman, 1996), 54-55.
5. Desmond Dinan, *Europe Recast: A History of European Union* (London, 2004), 29.
6. "US policy in Germany: our objectives and basic principles defined by state-war navy departments," *Weekly Information Bulletin*, no. 102 (July 1947), 3-4.
7. Dinan, 26.
8. Gunther Mai, "American Policy toward Germany and the Integration of Europe," in Jeffrey Diefendorf, ed., *American Policy and the Reconstruction of West Germany, 1945-1955* (Cambridge University Press, 1994), 91.
9. Harry Braun, *The German Economy in the Twentieth Century* (Routledge, 1990), 153-154.
10. Barry Eichengreen, *The European Economy Since 1945* (Princeton University Press, 2007), 64-70.
11. Dinan, 34.
12. Sima Lieberman, *The Growth of European Mixed Economies, 1945-1970*, (Cambridge, Mass: Schenkman, 1977), 47 and Isabel Warner, *Steel and sovereignty: The deconcentration of the West German steel industry, 1949 –1954*, (Mainz: Verlag Philipp von Zabern, 1996), 3.
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14. Dinan, 32.
15. This became known as the Schuman Plan proposal of May 9, 1950.
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17. Gerhard Bebr, "The European Coal and Steel Community," *Yale Law Review* Vol. 63 (Nov. 1953): 1-43, 6; and David Gerber, *Law and Competition in Twentieth Century Europe* (Oxford: Oxford University Press, 1998), 336.
18. Jean Monnet, "*Traité CECA: document de travail d'experts français en vue d'élaborer le projet de traité pour la mise en oeuvre de la déclaration Schuman.*" Archives of the European Commission, Brussels: BAC 233/1980 2 (1950).
19. François Dûchene, *Jean Monnet, the first statesman of interdependence* (New York: W. W. Norton & Company, 1994), 210.
20. Jean Monnet, *Mémoires*, 388.
21. Gordon Weil, "The Merger of the Institutions of the European Communities," *American Journal of International Law*, Vol. 61, no. 1 (January 1967): 57-65. For a detailed account of the role, tasks, and policy of the High Authority (HA), see Spierenburg and Poidevin, *Histoire de la Haute Autorité de la CECA*. The authors focus on the High Authority between 1952 and 1967, and illustrate that

very often, the national governments of the ECSC member countries opposed or at least postponed decisions of the HA.

22. See, for instance, Ernst Haas, *The Uniting of Europe: Political, Social and Economic Forces, 1950-1957* (Stanford: Stanford University Press, 1958); Klaus Schwabe, ed., *Die Anfänge des Schuman-plans 1950/51* (Baden-Baden: Nomos, 1988); Alan Milward, *The European rescue of the nation state*, 5th edition (London: MacMillan, 1992); Spierenburg and Poidevin, *Histoire de la Haute Autorité de la Communauté Européenne du Charbon et de l'Acier*; Matthias Kipping, *Zwischen Kartellen und Konkurrenz: Der Schuman-Plan und die Ursprünge der europäischen Einigung 1944-1952* (Berlin: Duncker & Humblot, 1996).
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24. William Diebold, *The Schuman Plan: a study in economic cooperation, 1950-1959* (New York: Praeger, 1959) and Louis Lister, *Europe's Coal and Steel Community* (New York: Twentieth Century Fund, 1960).
25. E.g.: Ingvar Svennilson, *Growth and Stagnation in the European Economy* (Geneva: Economic Commission for Europe, 1954), William Diebold, *The Schuman Plan: A study in Economic Cooperation 1950-1959* (New York: Praeger, 1959); Spierenburg and Poidevin, *Histoire de la Haute Autorité de la CECA* and EGKS, Bureau voor de Statistiek der Europese Gemeenschappen, *Ijzer en Staal.*
26. "Economic Reconstruction in Europe," *International Affairs* Vol. 20 (Oct. 1944): 527-241, 535.
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30. *Ibid.*, 386.
31. Eurostat, *Energy Statistics, Yearbook 1966* (Luxembourg, 1966), 77 and 92 and *Yearbook 1968*, 77, and 92.
32. Kredietbank, "De steenkolen in de V.S.A.," *Weekbericht*, 12, no. 40 (12 Oct. 1957): 405.
33. Svennilson, 105 and Georges Brondel, "The Sources of Energy 1920-1970" *The Fontana Economic History of Europe, vol. 5: The Twentieth Century*, ed. Carlo Cipolla (Sussex: Harvester Press, 1977), 219-300, 227.
34. Svennilson, 105.

35. Eurostat, *Coal and Other Energy Sources*, (1962), 4, (1964), 25, (1969), 40.
36. Commission of the European Communities, *Twenty-five Years of the Common Market in Coal, 1953-1978* (Brussels: ECSC/EEC/EAEC, 1979), 36.
37. Eurostat, *Energy Statistics, Yearbook 1966: 1950-1965*, 68 and *Yearbook 1968: 1958-1967*, 74.
38. Eurostat, *Iron and Steel* (1964), 84, 108, and 191, (1966), 84, 108, and 191 and (1969), 85, 108, 192; and UN, *The World Market for Iron Ore* (New York: UN, 1968), 52-63.
39. Eurostat, *Iron and Steel* (1964) no. 1, Table 1, 3-4 and (1969), no. 1, Table 1, 3-4.
40. Erik Buyst, Antoon Soete and Hans Verhoosel, *Sidmar 1962-2002:* (Ghent: Lannoo, 2002), 35, 39, and 61.
41. Dinan, 49 and Philippe Mioche, *Les cinquante années de l'Europe du charbon et de l'acier: 1952-2002* (Luxembourg, 2004), 10.
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45. Eurostat, *Iron and Steel* (1964) no. 1, 6-7 and 29 and (1969), no. 1, 6-7 and 29.
46. Douglas Fleming, "Coastal Steelworks in the Common Market Countries," *Geographical Review* Vol. 57 (Jan., 1967): 48-72, 48 and Svennilson, 133.
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50. IRI = Institutio per la Reconstruzione Industriale. Kenneth Warren, "The Changing steel industry of the European Common Market," *Economic Geography*, Vol. 43, no. 4 (1967), 314-332, 324 and Matthias Kipping *et al.*, "The emergence of new competitor nations in the European steel industry," *Business History*, Vol. 43, no. 1 (2001), 69-96, 74.
51. Erik Buyst, Antoon Soete and Hans Verhoosel, *Sidmar 1962-2002* (Ghent: Lannoo, 2002), 64-72.
52. Bernadette Mérenne-Schoumaker, *La localisation des industries*, 71.

53. Lister, 47-48.
54. Most of these companies were found in West Germany (71 in 1952; 34 in 1967) and Belgium (62 in 1952; 25 in 1967). France had 8 large coal companies during the studied period; The Netherlands had 5, while Italy had 3 companies in 1952 and only 1 in 1967. Eurostat, *Energy Statistics, Yearbook 1966*, 108-109; and *Yearbook 1968*, 101-102; Fédération charbonnière de Belgique, *L'industrie Charbonnière belge* (Bruxelles, 1959), 19 and CECA, *Les entreprises de la communauté: I. Charbon, état* (Luxembourg: CECA 1959), 1-147.
55. 1955 is the first year with available data and there were no data available for 1967. Eurostat. *Iron and steel, 1952-1982* (Luxembourg: Eurostat, 1983), 7.
56. Data for coal firms was not available.
57. The French Houillères de basin were counted as independent firms and not as part of one firm, the large Charbonnages de France.
58. In 1965, the three largest Belgian coal firms were *Zolder en Houthalen* in Zolder, *Beeringen* in Beeringen, and *Limbourg-Meuse* in Eisden. *Espérance-Longdoz* in Genk was the fourth largest coal-producing firm. In 1967, this fourth firm had nearly passed the third in size, and did so in 1968. In 1965, the three largest West German coal firms were *Saarbergwerk* in Saarbrücken, *Hibernia AG* in Herne, and *Rheinelbe Bergbau A.G.* in Gelsenkirchen. In 1967, the second and third firms had changed places in terms of size. Eurostat, *Energy Statistics, Yearbook 1969*, 100.
59. Eurostat, *Energy Statistics, Yearbook 1966*, 108-109 and *Yearbook 1968*, 101-102; Fédération charbonnière de Belgique, *L'industrie Charbonnière belge*, 19; and CECA, *Les entreprises de la communauté,* 1-147.
60. Sources: Archives of the European Commission in Brussels: *CEAB 2, 5 and 13*, CECA, *Journal Officiel de la CECA,* (1952 -1958); Communautés européennes, *Journal Officiel des Communautés européennes*, (1958-1967); EGKS, HA., *Algemeen Verslag over de Werkzaamheden van de Gemeenschap*, (1952-1967); Europese Gemeenschappen, *Eerste Algemeen Verslag over de Werkzaamheden van de Gemeenschappen*, 1967.
61. Brion and Moreau, 409-11.
62. Our research into the agreements and concentrations of the ECSC (1952-1967).
63. For example, Max Nokin, director of the Société Générale de Belgique between 1961 and 1974. Brion and Moreau, 386 and 409-11.
64. Sources: Archives of the European Commission in Brussels: *CEAB 2, 5 and 13*; CECA, *Journal Officiel de la CECA,* (1952-1958); Communautés européennes, *Journal Officiel des Communautés européennes* (1958-1967); EGKS, *Algemeen Verslag over de Werkzaamheden van de Gemeenschap* (1952-1967); Europese Gemeenschappen, *Eerste Algemeen Verslag over de Werkzaamheden van de Gemeenschappen*, 1967.
65. EGKS: HA. *EGKS 1952-1962*, 54.
66. Some facilities of *Vereinigte Stahlwerke* had been destroyed by bombing during WWII, and the company itself was completely dismantled into several firms after the war, such as e.g. *Hörder Bergwerks- und Hütten-Verein* and *August Thyssen-Hütte AG*. Alfred Reckendrees, *Das "Stahltrust"-Projekt* (Munich, 2000), 433.